

COMMONWEALTH OF MASSACHUSETTS



CONTRACT DOCUMENTS AND SPECIAL PROVISIONS

PROPOSAL NO.	609440-134070
P.V. =	\$6,515,000.00
PLANS	YES

FOR

**Federal Aid Project No. STP-0035(067)X
Intersection Improvements at Hancock Street and Chestnut Street**

in the Town of

ABINGTON

In accordance with the STANDARD SPECIFICATIONS
for HIGHWAYS and BRIDGES dated 2026

This Proposal to be opened and read:

WEDNESDAY, MAY 27, 2026 at 2:00 P.M.

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DOCUMENT 00010

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*** END OF DOCUMENT ***

DOCUMENT 00104

**NOTICE TO CONTRACTORS**

Electronic proposals for the following project will be received through the internet using www.bidx.com until the date and time stated below and will be posted on www.bidx.com forthwith after the bid submission deadline. No paper copies of bids will be accepted. All Bidders must have a valid vendor code issued by MassDOT in order to bid on projects. Bidders need to apply for a Digital ID at least 14 days prior to a scheduled bid opening date with www.bidx.com.

WEDNESDAY, MAY 27, 2026 at 2:00 P.M. ****ABINGTON****Federal Aid Project No. STP-0035(067)X****Intersection Improvements at Hancock Street and Chestnut Street******Date Subject to Change**PROJECT VALUE = \$6,515,000.00

Bidders must be pre-qualified by the Department in the HIGHWAY - CONSTRUCTION category to bid on the above project. An award will not be made to a Contractor who is not pre-qualified by the Department prior to the opening of Proposals.

All prospective Bidders who intend to bid on this project must obtain "Request Proposal Form (R109)". The blank "Request Proposal Form (R109)" can be obtained at:
<https://www.mass.gov/prequalification-of-horizontal-construction-firms>.

All prospective Bidders must complete and e-mail an electronic copy of "Request Proposal Form (R109)" to the MassDOT Director of Prequalification for approval:
prequal.r109@dot.state.ma.us.

Proposal documents for official bidders are posted on www.bidx.com. Other interested parties may receive informational Contract Documents containing the Plans and Special Provisions, free of charge.

Bids will be considered, and the contract awarded in accordance with statutes governing such contracts in accordance with Massachusetts General Laws Chapter 30 § 39M.

The Project Bids File Attachments folder for proposals at www.bidx.com shall be used for submitting at the time of bid required information such as the Bid Bond required document, and other documents that may be requested in the proposal.

NOTICE TO CONTRACTORS (Continued)

All parties who wish to have access to information plans and specification must send a "Request for Informational Documents" to MassDOTBidDocuments@dot.state.ma.us.

A Proposal Guaranty in the amount of 5% of the value of the bid is required.

This project is subject to the schedule of prevailing wage rates as determined by the Commissioner of the Massachusetts Department of Labor and Workforce Development, and the Division of Occupational Safety, and the United States Department of Labor.

The Massachusetts Department of Transportation, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby affirmatively ensures that for any contract entered into pursuant to this advertisement, all bidders, including disadvantaged business enterprises, will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin in consideration for an Award.

This Proposal contains the "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)". The goals and timetables applicable to this proposal for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all work, are contained in Appendices A and B-80 of the above specifications.

The Contractor (hereinafter includes consultants) will comply with the Acts and Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this Contract as contained in Appendices C and D of the above specifications.

NOTICE TO CONTRACTORS (Continued)**PRICE ADJUSTMENTS**

This Contract contains price adjustments for hot mix asphalt and Portland cement mixtures, diesel fuel, and gasoline. For reference the base prices are as follows: liquid asphalt \$670.00 per ton, Portland cement \$452.13 per ton, diesel fuel \$4.452 per gallon, and gasoline \$2.955 per gallon, and Steel Base Price Index 354.8. MassDOT posts the **Price Adjustments** on their Highway Division's website at

<https://www.mass.gov/massdot-contract-price-adjustments>

This Contract contains Price Adjustments for steel. See Document 00813 - PRICE ADJUSTMENT FOR STRUCTURAL STEEL AND REINFORCING STEEL for their application and base prices.

MassDOT projects are subject to the rules and regulations of the Architectural Access Board (521 CMR 1.00 et seq.)

Prospective bidders and interested parties can access this information and more via the internet at WWW.COMMBUYS.COM.

BY: Phillip Eng, Interim MassDOT Secretary
Jonathan L. Gulliver, Undersecretary and Highway Administrator
SATURDAY, APRIL 18, 2026

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DOCUMENT 00210

REQUIREMENTS OF MASSACHUSETTS GENERAL LAWS
CHAPTER 30, SECTION 39R;
CHAPTER 30, SECTION 39O

July 1, 1981, updated October 2016

M.G.L. c. 30, § 39R. Award of Contracts; Accounting Statements; Annual Financial Statements; Definitions.

(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 A1/2 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 A1/2 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 its subsidiaries reasonably assures that:

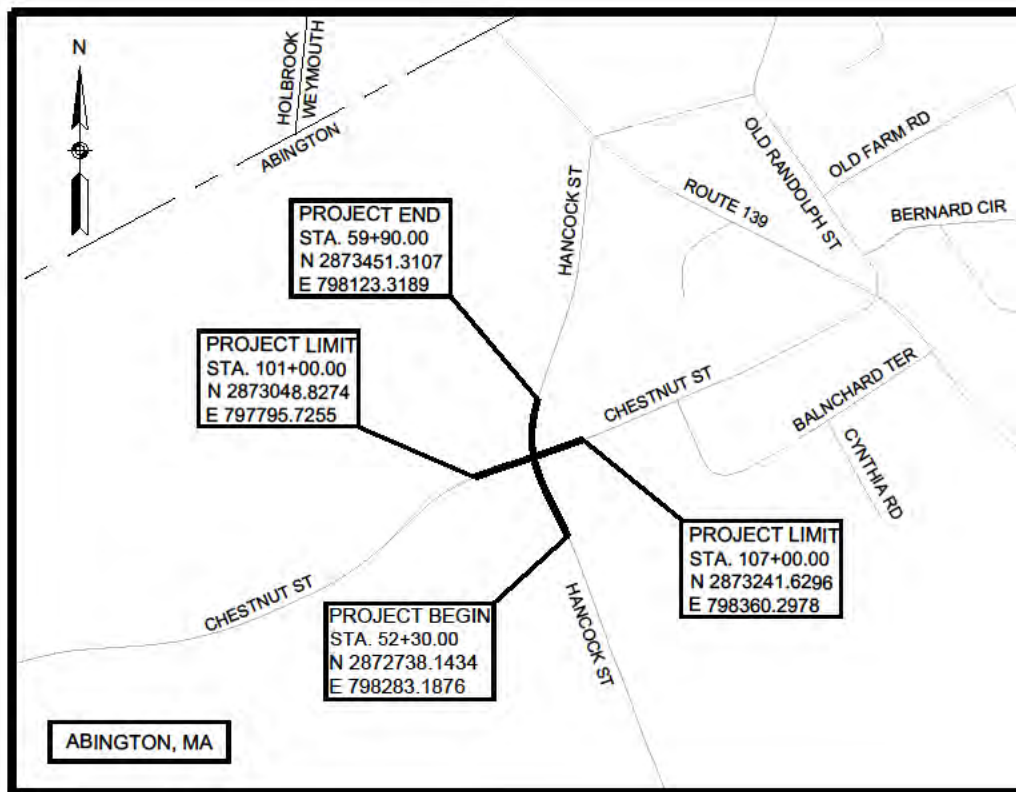
- (1) transactions are executed in accordance with management's general and specific authorization;
- (2) transactions are recorded as necessary
 - i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and
 - ii. to maintain accountability for assets;
- (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.

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DOCUMENT 00331

LOCUS MAP**ABINGTON****Federal Aid Project No. STP-0035(067)X****Intersection Improvements at Hancock Street and Chestnut Street**

NOT TO SCALE

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DOCUMENT 00439

Final Report ☐Interim Report ☐**CONTRACTOR PROJECT EVALUATION FORM***For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010*

Date: _____

City/Town: _____

Contractor: _____

Project: _____

Address: _____

F.A. No. _____

Contract Number: _____

Bid Price: _____

Notice to Proceed: _____

Funds: State: _____ Fed Aid: _____

Current Contract Completion Date: _____

Date Work Started: _____

Date Work Completed*: _____

Contractor's Superintendent: _____

Division: (indicates class of work) Highway: _____ Bridge: _____ Maintenance: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1=
5. Subcontractors Performance								x 1=
6. Field Supervision/ Superintendent								x 1=
7. Contract Compliance								x 0.5=
8. Equipment								x 0.5=
9. Payment of Accounts								x 0.5=
(use back for additional comments)								
							Overall Rating:	

*(Give explanation of items 1 through 9 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)*_____
District Construction Engineer's Signature/Date_____
Resident Engineer's Signature/Date_____
Contractor's Signature Acknowledging Report/DateContractor Requests Meeting with the District: No ☐Yes ☐

Date Meeting Held: _____

Contractor's Comments/Meeting Notes (extra sheets may be added to this form and noted here if needed): __________



DOCUMENT 00440

Final Report ☐Interim Report ☐**SUBCONTRACTOR PROJECT EVALUATION FORM***For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010*

Date: _____

City/Town: _____

Subcontractor: _____

Project: _____

Address: _____

F.A. No.: _____

Contract Number: _____

Prime Contractor _____

Current Contract Completion Date: _____

Date Work Started: _____

Date Work Completed*: _____

Subcontractor's Superintendent: _____

Type of Work Performed by Subcontractor: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1.5=
5. Field Supervision/ Superintendent								x 1=
6. Contract Compliance								x 1=
7. Equipment								x 0.5=
8. Payment of Accounts								x 0.5=
(use back for additional comments)							Overall Rating:	

(Give explanation of items 1 through 8 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)

District Construction Engineer's Signature/Date _____

Resident Engineer's Signature/Date _____

Contractor Signature Acknowledging Report/Date _____

Subcontractor Signature Acknowledging Report/Date _____

Subcontractor Requests Meeting with the District: No ☐ Yes ☐ Date Meeting Held: _____

Subcontractor's Comments / Meeting Notes (extra sheets may be added to this form and noted here if needed): _____

Contractor's Comments: _____

DOCUMENT 00710
GENERAL CONTRACT PROVISIONS
Revised: 03-31-26

NOTICE OF AVAILABILITY

The STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES dated 2026, the SUPPLEMENTAL SPECIFICATIONS, the 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS; the 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING and the CONSTRUCTION STANDARD DETAILS are available online at <https://www.mass.gov/massdot-highway-division-manuals-and-publications>

SPECIAL PROVISIONS FOR RIGHT-TO-KNOW ACT REQUIREMENTS

The Contractor's attention is directed to Massachusetts General Laws, Chapter 111F, commonly known as the Right-To-Know Act, and to the regulations promulgated pursuant thereto. Among the provisions of the Right-To-Know Act is a requirement that employers make available to employees Materials Safety Data Sheets (MSDS) for any substance on the Massachusetts Substance List (MSL) to which employees are, have been, or may be exposed.

To ensure prompt compliance with these regulations and legislation, the Contractor shall:

1. Deliver to the Department, prior to the start of any work under this contract, copies of MSDS for all MSL substances to be used, stored, processed or manufactured at the worksite by the Contractor.
2. Train employees of the Department, who may be exposed to MSL substances as a result of the Contractor's work under this contract, with regard to those specific substances in accordance with requirements of the Right-To-Know Act.
3. Observe all safety precautions recommended on the MSDS for any MSL substance to be used, stored, processed, or manufactured at the worksite by the Contractor.
4. Inform the Department in writing regarding specific protective equipment recommended in the MSDS for MSL substances to which employees of the Department may be exposed as a result of the Contractor's work under this contract.

The Department shall not be liable for any delay or suspension of work caused by the refusal of its employees to perform any work due to the Contractor's failure to comply with the Right-To-Know Act. The Contractor agrees to hold the Department or the Commissioner of the Department harmless and fully indemnified for any and all claims, demands, fines, actions, complaints, and causes of action resulting from or arising out of the Contractor's failure to comply with the requirements of the Right-To-Know Act.

ALTERNATIVE DISPUTE RESOLUTION

Forum, Choice of Law and Mediations:

Any actions arising out of a contract shall be governed by the laws of Massachusetts and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. MassDOT and the Contractor may both agree to mediation of any claim and will share the costs of such mediation pro rata based on the number of parties involved.

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DOCUMENT 00715



SUPPLEMENTAL SPECIFICATIONS

MARCH 31, 2026

The 2026 *Standard Specifications for Highways and Bridges* are amended by the following modifications, additions and deletions. These Supplemental Specifications prevail over those published in the Standard Specifications.

The Specifications Committee has issued these Supplemental Specifications for inclusion into each proposal until such time as they are updated or incorporated into the next Standard Specifications.

Contractors are cautioned that these Supplemental Specifications are dated and will change as they are updated.

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION 5.00: CONTROL OF WORK

Subsection 5.03: Conformity with Plans and Specifications

Change the MGL reference in the first sentence to Chapter 30, Section 39I (from Section 39L).

DIVISION II

CONSTRUCTION DETAILS

SECTION 600: HIGHWAY GUARD, FENCES AND WALLS

SUBSECTION 628: IMPACT ATTENUATORS

Subsection 628.82: General

Replace this subsection with the following:

Item number	Description	Unit
628.302	Permanent Impact Attenuator, Non-Redirective, TL-2	Each
628.303	Permanent Impact Attenuator, Non-Redirective, TL-3	Each
628.304	Temporary Impact Attenuator, Non-Redirective, TL-2	Each
628.305	Temporary Impact Attenuator, Non-Redirective, TL-3	Each
628.312	Permanent Impact Attenuator, Redirective, TL-2	Each
628.313	Permanent Impact Attenuator, Redirective, TL-3	Each
628.314	Temporary Impact Attenuator, Redirective, TL-2	Each
628.315	Temporary Impact Attenuator, Redirective, TL-3	Each
628.322	Permanent Impact Attenuator, Low-Maintenance, TL-2	Each
628.323	Permanent Impact Attenuator, Low-Maintenance, TL-3	Each

SECTION 800: TRAFFIC CONTROL DEVICES

SUBSECTION 813: WIRING, GROUNDING AND SERVICE CONNECTIONS

Subsection 813.20: Payment Items

Replace this subsection with the following:

This work shall consist of furnishing and installing wire and cable of the type and size indicated for traffic signals and other traffic control devices, ITS systems, highway lighting and related electrical systems, equipment grounding systems, new ground electrodes or connections to existing ground electrodes, power pedestals, and all materials and equipment necessary to deliver power to such systems.

Service points shown on the plans are approximate only. The Contractor shall determine exact locations for both overhead and underground service access points. The Contractor shall determine riser elevations or connections/routing to manhole facilities from the serving utility, and arrange to complete the service connections.

All work under this Subsection shall comply with the MEC and the National Electrical Safety Code.

Subsection 813.41: Grounding and Bonding Conductions

Replace this subsection with the following:

Grounding and bonding conductors shall conform to M8.16.10: Type 10 Grounding and Bonding Conductors (Solid or Stranded, Insulated or Bare).

Subsection 813.42: Ground Rods

Replace this subsection with the following:

Ground rods shall consist of driven rod(s) conforming to M8.17.0: Ground Rod or other devices approved for the purpose.

Subsection 813.44: Power Pedestal

Add this subsection in numerical order:

A Power Pedestals shall consist of a side-of-post mounted lockable load center enclosure, a load center with circuit breakers, an exterior-mounted electrical meter, signal post and base, equipment bonding, ground rod(s) conforming to 813.42: Ground Rods, and a cement concrete foundation. The enclosure, lock, circuit breakers, signal post and base, and foundation shall all be included in the Shop Drawing submission.

The enclosure shall be rated to meet or exceed NEMA 3R and be suitable for post-mounting and shall be sized appropriately to house the load center. The enclosure shall be capable of being secured with an integrated locking mechanism or by a Contractor-supplied padlock; regardless of locking mechanism, it shall be operated with a #2 key.

The circuit breakers shall be designed for single-phase, 3-wire, 120/240 VAC. Circuit breakers shall provide a means to manually operate a circuit and/or automatically open a circuit that is in overload or short circuit conditions. All circuit breakers shall be UL listed and have CSA certification.

The enclosure shall be furnished with a meter socket installed. The meter socket shall be approved by the servicing electrical utility.

The signal post and base shall conform to M10.05.1: Signal Posts and Bases and the Plans. The Contractor shall supply a square aluminum base with a natural or anodized finish and a Schedule 80 aluminum post with a brushed or spun finish, unless otherwise indicated in the Plans.

The Contractor shall supply mounting equipment recommended by the enclosure manufacturer to side-mount the cabinet to the post.

Bonding for the Power Pedestal shall utilize a #8 AWG or larger ASTM-B3 wire.

The cement concrete foundation shall conform to the Plans and M4.02.0: Concrete Produced by Stationary and Truck Mixers, M4.03.0: Concrete Produced by Volumetric Mixers, M4.06.1: Conventional Concrete, M4.09.0:

Precast, Prestressed, and Prefabricated Concrete Products, M4.11.0: Evaporation Reducing Materials, and M4.12.0: Curing Materials, as applicable.

Subsection 813.64: Power Pedestal

Add this subsection in numerical order:

No work shall commence until Shop Drawings have been approved.

The Power Pedestal Cabinet shall be mounted side-of-post to the Signal Post, per the manufacturer's recommendations. The Power Pedestal Cabinet should be installed directly below the meter socket, per the Plans. If dissimilar metals are present, they shall be electrically insulated to prevent galvanic corrosion.

The Contractor shall supply the appropriate type (single pole or double pole) and number of circuit breakers included within the Power Pedestal Cabinet to provide the recommended AC power to each device receiving power from the Cabinet. The circuit breakers shall be clearly labeled as to which device they are powering (e.g. RRFB-1, RRFB-2, Warning Beacon, Speed Feedback Sign, etc.).

The Power Pedestal shall be grounded and bonded per 813.61: Equipment Grounding and Bonding and 813.62: Grounding Electrodes.

Subsection 813.80.E: Power Pedestal

Add this subsection in numerical order:

Power Pedestals will be measured on the basis of the number of Power Pedestals each furnished and installed.

Subsection 813.81.E: Power Pedestal

Add this subsection in numerical order:

Power Pedestals will be paid for at the contract unit price for each installed in place. This includes all labor and materials required for a working system.

All costs associated with grounding and bonding of Power Pedestals shall be considered incidental to the item.

All costs associated with providing service connections to Power Pedestals shall be paid for under their respective pay items.

Subsection 813.82: Payment Items

Change the unit of measure for items 813.80 and 813.81 to Each and add the following pay item:

813.90	Power Pedestal	Each

DIVISION III

MATERIALS SPECIFICATIONS

SECTION M10: TRAFFIC CONTROL DEVICES

Subsection M10.03.1: Field Monitoring Unit

Add this new subsection:

All Field Monitoring Units (FMU) shall be compatible with the MassDOT Critical Operations Multi-jurisdictional Modular System (MCOMMS), cloud-based management system.

FMUs shall be capable of operating independently from the brand of traffic signal controller, vehicle and pedestrian detection systems, battery backup system (BBS), and any other Ethernet-based, web accessible device present in the traffic signal controller cabinet.

M10.03.1.A: Hardware

The FMU shall communicate via an Ethernet port with an RJ45 connector and have an integrated Ethernet switch with a minimum of four ports.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: 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, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials

and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

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

(ii) The classification is used in the area by the construction industry; and

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

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

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

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

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

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

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

DOCUMENT 00811

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES
Revised: 02/03/2023

This provision applies to all projects using greater than 100 tons 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 <https://www.mass.gov/service-details/massdot-current-contract-price-adjustments> 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.

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 approved Job Mix Formula.

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.

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DOCUMENT 00812

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE –
ENGLISH UNITS
Revised: 02/01/2021

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 <https://www.mass.gov/service-details/massdot-current-contract-price-adjustments> 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:

ITEMS COVERED	FUEL FACTORS	
	Diesel	Gasoline
Excavation: and Borrow Work: 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)	0.29 Gallons / CY.	0.15 Gallons / CY
Surfacing Work: All Items containing Hot Mix Asphalt	2.90 Gallons / Ton	Does Not Apply

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DOCUMENT 00813

SPECIAL PROVISIONS

PRICE ADJUSTMENTS FOR STRUCTURAL STEEL AND REINFORCING STEEL

April 16, 2026

This special provision applies to all projects containing the use of structural steel and/or reinforcing steel as specified elsewhere in the Contract work. It applies to all structural steel and all reinforcing steel, as defined below, 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 reinforcing steel bars and unfabricated structural steel material, consisting of rolled shapes, plate steel, sheet piling, pipe piles, steel castings and steel forgings.

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 on a project by the index factor calculated as shown below under Example of a Period Price Calculation.

Price adjustments will not include guardrail panels or 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 table below. While it is the intention of the Department to make this table comprehensive, some of a project’s unfabricated structural steel and/or unfabricated reinforcing steel may be inadvertently omitted. Should this occur, the Contractor shall bring the omission to the Department’s attention so that a contract alteration may be processed that adds the missing steel to the table and its price adjustments to the Contract.

The Base Price Date is the month and year of the most recent finalized period price index at the time that MassDOT opened bids for the project. The Base Price Index for this contract is the Steel PPI listed in the Notice to Contractors.

Period Prices of unfabricated structural steel and unfabricated reinforcing steel on a project are variable prices that have been calculated using the Period Price Date and 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. Department of Labor Bureau of Labor Statistics 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 = $\$0.82/\text{Pound} \times 0.950 = \$0.78/\text{Pound}$

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 X \$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://data.bls.gov/cgi-bin/srgate>

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.

TABLE

Steel Type		Price per Pound
1	ASTM A615/A615M Grade 60 (AASHTO M31 Grade 60 or 420) Reinforcing Steel	\$0.55
2	ASTM A27 (AASHTO M103) Steel Castings, H-Pile Points & Pipe Pile Shoes (See Note below.)	\$0.76
3	ASTM A668 / A668M (AASHTO M102) Steel Forgings	\$0.76
4	ASTM A108 (AASHTO M169) Steel Forgings for Shear Studs	\$0.78
5	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Plate	\$0.82
6	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Shapes	\$0.77
7	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Plate	\$0.82
8	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Shapes	\$0.77
9	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Plate	\$0.85
10	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Shapes	\$0.78
11	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W 345W Structural Steel Plate	\$0.85
12	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W or 345W Structural Steel Shapes	\$0.78
13	ASTM A709/A709M Grade HPS 50W / AASHTO M270M/M270 Grade HPS 50W or 345W Structural Steel Plate	\$0.89
14	ASTM A709/A709M Grade HPS 70W / AASHTO M270M/M270 Grade HPS 70W or 485W Structural Steel Plate	\$0.96
15	ASTM A514/A514M-05 Grade HPS 100W / AASHTO M270M/M270 Grade HPS 100W or 690W Structural Steel Plate	\$1.47
16	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Plate	\$0.85
17	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Shapes	\$0.78
18	ASTM A276 Type 316 Stainless Steel	\$4.42
19	ASTM A240 Type 316 Stainless Steel	\$4.42
20	ASTM A148 Grade 80/50 Steel Castings (See Note below.)	\$1.52
21	ASTM A53 Grade B Structural Steel Pipe	\$0.96
22	ASTM A500 Grades A, B, 36 & 50 Structural Steel Pipe	\$0.96
23	ASTM A252, Grades 240 (36 KSI) & 414 (60 KSI) Pipe Pile	\$0.76
24	ASTM 252, Grade 2 Permanent Steel Casing	\$0.76
25	ASTM A36 (AASHTO M183) for H-piles, steel supports and sign supports	\$0.80
26	ASTM A328 / A328M, Grade 50 (AASHTO M202) Steel Sheetpiling	\$1.45
27	ASTM A572 / A572M, Grade 50 Sheetpiling	\$1.45
28	ASTM A36/36M, Grade 50	\$0.82
29	ASTM A570, Grade 50	\$0.80
30	ASTM A572 (AASHTO M223), Grade 50 H-Piles	\$0.82
31	ASTM A1085 Grade A (50 KSI) Steel Hollow Structural Sections (HSS), heat-treated per ASTM A1085 Supplement S1	\$0.96
32	AREA 140 LB Rail and Track Accessories	\$0.50

NOTE: Steel Castings are generally used only on moveable bridges. Cast iron frames, grates and pipe are not “steel” castings and will not be considered for price adjustments.

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DOCUMENT 00814

SPECIAL PROVISIONS
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES

January 12, 2009

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 MassDOT 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.

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DOCUMENT 00820

**THE COMMONWEALTH OF MASSACHUSETTS
SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY,
NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM**

I. Definitions

For purposes of this contract,

"Minority" means a person who meets one or more of the following definitions:

- (a) American Indian or Native American means: all persons having origins in any of the original peoples of North America and who are recognized as an Indian by a tribe or tribal organization.
- (b) Asian means: All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian sub-continent, or the Pacific Islands, including, but Not limited to China, Japan, Korea, Samoa, India, and the Philippine Islands.
- (c) Black means: All persons having origins in any of the Black racial groups of Africa, including, but not limited to, African-Americans, and all persons having origins in any of the original peoples of the Cape Verdean Islands.
- (d) Eskimo or Aleut means: All persons having origins in any of the peoples of Northern Canada, Greenland, Alaska, and Eastern Siberia.
- (e) Hispanic means: All persons having their origins in any of the Spanish-speaking peoples of Mexico, Puerto Rico, Cuba, Central or South America, or the Caribbean Islands.

"State construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility, or a contract for the construction, reconstruction, alteration, remodeling or repair of a public work undertaken by a department, agency, board, or commission of the commonwealth.

"State assisted construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility undertaken by a political subdivision of the commonwealth, or two or more political subdivisions thereof, an authority, or other instrumentality and whose costs of the contract are paid for, reimbursed, grant funded, or otherwise supported, in whole or in part, by the commonwealth.

II. Equal Opportunity, Non-Discrimination and Affirmative Action

During the performance of this Contract, the Contractor and all subcontractors (hereinafter collectively referred to as "the Contractor") for a state construction contract or a state assisted construction contract, for him/herself, his/her assignees and successors in interest, agree to comply with all applicable equal employment opportunity, non-discrimination and affirmative action requirements, including but not limited to the following:

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, sex, sexual orientation, genetic information, military service, age, ancestry or disability, shall not discriminate in the selection or retention of subcontractors, and shall not discriminate in the procurement of materials and rentals of equipment.

The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising, layoff or termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship or on-the-job training opportunity. The Contractor shall comply with the provisions of chapter 151B of the Massachusetts General Laws, as amended, and all other applicable anti-discrimination and equal opportunity laws, all of which are herein incorporated by reference and made a part of this Contract.

The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Massachusetts Commission Against Discrimination setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter 151 B).

In connection with the performance of work under this contract, the Contractor shall undertake, in good faith, affirmative action measures to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. Such affirmative action measures shall entail positive and aggressive measures to ensure nondiscrimination and to promote equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, apprenticeship and on-the-job training programs. A list of positive and aggressive measures shall include, but not be limited to, advertising employment opportunities in minority and other community news media; notifying minority, women and other community-based organizations of employment opportunities; validating all job specifications, selection requirements, and tests; maintaining a file of names and addresses of each worker referred to the Contractor and what action was taken concerning such worker; and notifying the administering agency in writing when a union with whom the Contractor has a collective bargaining agreement has failed to refer a minority or woman worker. These and other affirmative action measures shall include all actions required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. One 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.

III. Minority and Women Workforce Participation

Pursuant to his/her obligations under the preceding section, the Contractor shall strive to achieve on this project the labor participation goals contained herein. Said participation goals shall apply in each job category on this project including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers and those classes of work enumerated in Section 44F of Chapter 149 of the Massachusetts General Laws. The participation goals for this project shall be 15.3% for minorities and 6.9% for women. The participation goals, as set forth herein, shall not be construed as quotas or set-asides; rather, such participation goals will be used to measure the progress of the Commonwealth's equal opportunity, non-discrimination and affirmative action program. Additionally, the participation goals contained herein should not be seen or treated as a floor or as a ceiling for the employment of particular individuals or group of individuals.

IV. Liaison Committee

At the discretion of the agency that administers the contract for the construction project there may be established for the life of the 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 the contract for the construction project, hereinafter called the administering agency, a representative from the Office of Affirmative action, and such other representatives as may be designated by the administering agency. The Contractor (or his/her agent, if any, designated by him/her 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.

V. Reports and Records

The Contractor shall prepare projected workforce tables on a quarterly basis when required by the administering agency. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also, when updated, to the administering agency and the Liaison Committee when required.

The Contractor shall prepare weekly reports in a form approved by the administering agency, unless information required is required to be reported electronically by the administering agency, the number of hours worked in each trade by each employee, identified as woman, minority, or non-minority. Copies of these shall be provided at the end of each such week to the administering agency and the Liaison Committee.

Records of employment referral orders, prepared by the Contractor, shall be made available to the administering agency on request.

The Contractor will provide all information and reports required by the administering agency on instructions issued by the administering agency and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the administering agency to effect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth's supplementary non-discrimination, equal opportunity and access and opportunity 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 and shall set forth what efforts he has made to obtain the information.

VI. Access to Work Site

A designee of the administering agency and a designee of the Liaison Committee shall each have a right to access the work site.

VII. Solicitations for Subcontracts, 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 equal opportunity.

VIII. Sanctions

Whenever the administering agency believes the General or Prime Contractor or any subcontractor may not be operating in compliance with the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter 151B), the administering agency may refer the matter to the Massachusetts Commission Against Discrimination ("Commission") for investigation.

Following the referral of a matter by the administering agency to the Massachusetts Commission Against Discrimination, and while the matter is pending before the MCAD, the administering agency may withhold payments from contractors and subcontractors when it has documentation that the contractor or subcontractor has violated the Fair Employment Practices Law with respect to its activities on the Project, or if the administering agency determines that the contractor has materially failed to comply with its obligations and the requirements of this Section. The amount withheld shall not exceed a withhold of payment to the General or Prime Contractor of 1/100 or 1% of the contract award price or \$5,000, whichever sum is greater, or, if a subcontractor is in non-compliance, a withhold by the administering agency from the General Contractor, to be assessed by the General Contractor as a charge against the subcontractor, of 1/100 or 1% of the subcontractor price, or \$1,000 whichever sum is greater, for each violation of the applicable law or contract requirements. The total withheld from anyone General or Prime Contractor or subcontractor on a Project shall not exceed \$20,000 overall. No withhold of payments or investigation by the Commission or its agent shall be initiated without the administering agency providing prior notice to the Contractor.

If, after investigation, the Massachusetts Commission Against Discrimination finds that a General or Prime Contractor or subcontractor, in commission of a state construction contract or state-assisted construction contract, violated the provisions of the Fair Employment Practices Law, the administering agency may convert the amount withheld as set forth above into a permanent sanction, as a permanent deduct from payments to the General or Prime Contractor or subcontractor, which sanction will be in addition to any such sanctions, fines or penalties imposed by the Massachusetts Commission Against Discrimination.

No sanction enumerated under this Section shall be imposed by the administering agency except after notice to the General or Prime Contractor or subcontractor and an adjudicatory proceeding, as that term is used, under Massachusetts General Laws Chapter 30A, has been conducted.

IX. 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.

X. Contractor's Certification

After award and prior to the execution of any contract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall certify that it will comply with all provisions of this Document 00820 Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, by executing Document 00859 Contractor/Subcontractor Certification Form.

XI. Subcontractor Requirements

Prior to the award of any subcontract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall provide all prospective subcontractors with a complete copy of this Document 00820 entitled "Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program" and will incorporate the provisions of this Document 00820 into any and all contracts or work orders for all subcontractors providing work on the Project. In order to ensure that the said subcontractor's certification becomes a part of all subcontracts under the prime contract, the Prime or General Contractor shall certify in writing to the administering agency that it has complied with the requirements as set forth in the preceeding paragraph by executing Document 00859 Contractor/Subcontractor Certification Form.

Rev'd 03/07/14

*** END OF DOCUMENT ***

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DOCUMENT 00821

ELECTRONIC REPORTING REQUIREMENTS
CIVIL RIGHTS PROGRAMS AND CERTIFIED PAYROLL

Implemented on March 2, 2009

Revised June 04, 2019

The Massachusetts Department Of Transportation (MassDOT) has replaced the CHAMP reporting system with Equitable Business Opportunity Solution (EBO), a new web-based civil rights reporting software system. This system is capable of handling both civil rights reporting requirements and certified payrolls. The program's functions include the administration of Equal Employment Opportunity (EEO) requirements, On-The-Job Training requirements (OJT), Disadvantage Business Enterprise (DBE) and/or Minority / Women's Business Enterprise (M/WBE) subcontracting requirements, and the electronic collection of certified payrolls associated with MassDOT projects. In addition, this system is used to generate various data required as part of the American Recovery and Reinvestment Act (ARRA). Contractors are responsible for all coordination with all sub-contractors to ensure timely and accurate electronic submission of all required data.

Contractor and Sub-Contractor EBO User Certification

All contractors and sub-contractors must use the EBO software system. The software vendor, Internet Government Solutions (IGS), has developed an online EBO Training Module that is available to contractors and sub-contractors. This module is a self-tutorial which allows all users in the company to access the training, complete the tutorial, and become certified as EBO users for a one time fee of \$75.00. This is the only cost to contractors and sub-contractors associated with the EBO software system. The online EBO Training Module can be accessed at www.ebotraining.com. Click the "Register My Company" button on the login page to begin your training registration. Questions regarding EBO online training should be directed to Gerry Anguilano, IGS at (440) 238-1684.

MassDOT will track contractors and sub-contractors who have successfully completed the on-line training module. All persons performing civil rights program and/or certified payroll functions should be EBO certified.

Vetting of Firms and Designated Firm Individuals

Contractors must authorize a Primary Log-In ID Holder who has completed EBO on-line training to have access to the EBO system by completing and submitting the "Request For EBO System Log-In/Password Form" located on the MassDOT website at: <https://www.mass.gov/how-to/how-to-get-an-ebo-login>. Contractors must also agree to comply with the EBO system user agreement located on the MassDOT website.

All subcontracts entered into on a project must include language that identifies the submission and training requirements that the sub-contractor must perform. Sub-contractors will be approved by the respective District Office of MassDOT through the existing approval process. When new sub-contractors, who have not previously worked for MassDOT, are initially selected by a general contractor, the new sub-contractor must be approved by the District before taking the EBO on-line training module.

Interim Reporting Requirements

Until MassDOT is satisfied that the EBO system is fully operational and functioning as designed, contractors and sub-contractors will be required to submit certified payrolls manually. There will be a transition period where dual reporting, through manual and electronic submission, will be required. MassDOT, however, will notify contractors and sub-contractors when they may cease manual submission of certified payrolls.

*** END OF DOCUMENT ***

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DOCUMENT 00859

CONTRACTOR/SUBCONTRACTOR CERTIFICATION FORM #*The contractor shall submit this completed document 00859 to MassDOT for each subcontract.*_____
(Contractor) Date: __________
(Subcontractor) ☐ District Approved SubcontractorContract No: 134070 Project No. 609440 Federal Aid No.: STP-0035(067)XLocation: ABINGTONProject Description: Intersection Improvements at Hancock Street and Chestnut Street

PART 1 CONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that to the best of my knowledge, information and belief, the company is in compliance with all applicable federal and state laws, rules, and regulations governing fair labor and employment practices, that the company will not discriminate in their employment practices, that the company will make good faith efforts to comply with the minority employee and women employee workforce participation ratio goals and specific affirmative action steps contained in Contract Document 00820 The Commonwealth of Massachusetts Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, and that the company will comply with the special provisions and documentation indicated below (as checked).

I further hereby certify, as an authorized official of this company, that the special provisions and documentation indicated below (as checked) have been or are included in, and made part of, the Subcontractor Agreement entered into with the firm named above.

☐ **This is not a Federally-aided construction project****Document #**

- ☐ 00718 –Participation By Minority Or Women's Business Enterprises and SDVOBE†
- ☐ 00761 –Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
- ☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination, and Affirmative Action Program
- ☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs, and Certified Payroll
- ☐ 00859 – Contractor/Subcontractor Certification Form (this document)
- ☐ 00860 – MA Employment Laws
- ☐ 00861 – Applicable State Wage Rates in the Contract Proposal**
- ☐ B00842 – MA Schedule of Participation By Minority or Women Business Enterprises (M/WBEs)†
- ☐ B00843 – MA Letter of Intent – M/WBEs†
 - ** Does not apply to Material Suppliers, unless performing work on-site
 - † Applies only if Subcontractor is a M/WBE; only include these forms for the particular M/WBE Entity
- ☐ B00844 - Schedule of Participation By SDVOBE
- ☐ B00845 - Letter of Intent – SDVOBE
- ☐ B00846 – M/WBE or SDVOBE Joint Check Arrangement Approval Form
- ☐ B00847 – Joint Venture Affidavit

☐ **This is a Federally-aided construction project (Federal Aid Number is present)****Document #**

- ☐ 00719 – Special Provisions for Participation by Disadvantaged Business Enterprises†
- ☐ 00760 - Form FHWA 1273 - Required Contract Provisions for Federal-Aid Construction Contracts
- ☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program
- ☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs and Certified Payroll
- ☐ 00859 – Contractor/Subcontractor Certification Form (this document)
- ☐ 00860 – MA Employment Laws
- ☐ 00870 – Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246, (41 CFR Parts 60-4.2 and 60-4.3 (Solicitations and Equal Opportunity Clauses))*
- ☐ 00875 – Federal Trainee Special Provisions

- ☐ B00853 – Schedule of Participation by Disadvantaged Business Enterprise†
☐ B00854 – Letter of Intent – DBEs†
☐ B00855 – DBE Joint Check Arrangement Approval Form
☐ B00856 – Joint Venture Affidavit
☐ 00861/00880 - Applicable state and federal wage rates from Contract Proposal**

*Applicable only to Contracts or Subcontracts in excess of \$10,000

**Does not apply to Material Suppliers, unless performing work on-site

† Applies only if Subcontractor is a DBE; only include these forms for the particular DBE Entity

Signed this _____ Day of _____, 20____ Under The Pains And Penalties Of Perjury.

(Print Name and Title)

(Authorized Signature)

PART 2

PART 2. SUBCONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that the required documents in Part 1 above were physically incorporated in our Agreement/Subcontract with the Contractor and give assurance that this company will fully comply or make every good faith effort to comply with the same. I further certify that:

1. This company recognizes that if this is a Federal-Aid Project, then this Contract is covered by the equal employment opportunity laws administered and enforced by the United States Department of Labor (“USDOL”), Office of Federal Contract Compliance Programs (“OFCCP”). By signing below, we acknowledge that this company has certain reporting obligations to the OFCCP, as specified by 41 CFR Part 60-4.2.
2. This company further acknowledges that any contractor with fifty (50) or more employees on a Federal-aid Contract with a value of fifty-thousand (\$50,000) dollars or more must annually file an EEO-1 Report (SF 100) to the EEOC, Joint Reporting Committee, on or before September 30th, each year, as specified by 41 CFR Part 60-1.7a.
3. For more information regarding the federal reporting requirements, please contact the USDOL, OFCCP Regional Office, at 1-646-264-3170 or EEO-1, Joint Reporting Committee at 1-866-286-6440.
4. This company ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity clauses set forth in 41 CFR Part 60-4 and Executive Order 11246, and where required, has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs or the EEO Commission all reports due under the applicable filing requirements.
5. This company is in full compliance with applicable Federal and Commonwealth of Massachusetts laws, rules, and regulations and is not currently debarred or disqualified from bidding on or participating in construction contracts in any jurisdiction of the United States. See : <https://www.mass.gov/service-details/contractors-and-vendors-suspended-or-debarred-by-massdot>
6. This company is properly registered and in good standing with the Office of the Secretary of the Commonwealth.

Signed this _____ Day of _____, 20____, Under The Pains And Penalties Of Perjury.

Firm: _____

Address: _____

(Print Name and Title)

Telephone Number: _____

Federal I.D. Number: _____

Estimated Start Date: _____

Estimated Completion Date: _____

Estimated Dollar Amount: _____

(Authorized Signature)

(Date)

DOCUMENT 00860

COMMONWEALTH OF MASSACHUSETTS PUBLIC EMPLOYMENT LAWS

Revised February 20, 2019

The Contractor's attention is directed to Massachusetts General Laws, Chapter 149, Sections 26 through 27H, and 150A. This contract is considered to fall within the ambit of that law, which provides that in general, the Prevailing Rate or Total Rate must be paid to employees working on projects funded by the Commonwealth of Massachusetts or any political subdivision including Massachusetts Department of Transportation (MassDOT).

A Federal Aid project is also subject to the Federal Minimum Wage Rate law for construction. When comparing a state minimum wage rate, monitored by the Massachusetts Attorney General, versus federal minimum wage rate, monitored by the U.S. Department of Labor Wage and Hour Division, for a particular job classification the higher wage is at all times to be paid to the affected employee.

Every contractor or subcontractor engaged in this contract to which sections twenty-seven and twenty-seven A apply will keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on this contract, and the hours worked by, and the wages paid to, each such employee, and shall furnish to the MassDOT's Resident Engineer, on a weekly basis, a copy of said record, in a form approved by MassDOT and in accordance with M.G.L. c. 149, § 27B, signed by the employer or his/her authorized agent under the penalties of perjury.

Each such contractor or subcontractor shall preserve its payroll records for a period of three years from the date of completion of the contract.

The Prevailing Wage Rate generally includes the following:

Minimum Hourly Wage + Employer Contributions to Benefit Plans = Prevailing Wage Rate or Total Rate

Any employer who does not make contributions to Benefit Plans must pay the total Prevailing Wage Rate directly to the employee.

Any deduction from the Prevailing Wage Rate or Total Rate for contributions to benefit plans can only be for a Health & Welfare, Pension, or Supplementary Unemployment plan meeting the requirements of the Employee Retirement Income Security Act (ERISA) of 1974. The maximum allowable deduction for these benefits from the prevailing wage rate cannot be greater than the amount allowed by Executive Office of Labor (EOL) for the specified benefits. Any additional expense of providing benefits to the employees is to be borne by the employer and cannot be deducted from the Minimum Hourly Wage. If the employer's benefit expense is less than that so provided by EOL the difference will be paid directly to the employee. The rate established must be paid to all employees who perform work on the project.

When an employer makes deductions from the Minimum Hourly Wage for an employee's contribution to social security, state taxes, federal taxes, and/or other contribution programs, allowed by law, the employer shall furnish each employee a suitable pay slip, check stub or envelope notifying the employee of the amount of the deductions.

No contractor or subcontractor contracting for any part of the contract week shall require or permit any laborer or mechanic to be employed on such work in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

Apprentice Rates are permitted only when there is an Apprentice Agreement registered with the Massachusetts Division of Apprentice Training in accordance with M.G.L. c. 23, § 11E-11L.

The Prevailing Wage Rates issued for each project shall be the rates paid for the entire project. The Prevailing Wage Rates must be posted on the job site at all times and be visible from a public way.

In addition, each such contractor and subcontractor shall furnish to the MassDOT's Resident Engineer, within fifteen days after completion of its portion of the work, a statement, executed by the contractor or subcontractor or by any authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

Date: _____

I, _____ do hereby state:
(Name of signatory party) (Title)

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

(Contractor or Subcontractor)

on the _____
(MassDOT Project Location and Contract Number)

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

Signature _____

Title _____

The above-mentioned copies of payroll records and statements of compliance shall be available for inspection by any interested party filing a written request to the MassDOT's Resident Engineer for such inspection and copying.

Massachusetts General Laws c. 149, §27, requires annual updates to prevailing wage schedules for all public construction contracts lasting longer than one year. MassDOT will request the required updates and furnish them to the Contractor. The Contractor is required to pay no less than the wage rates indicated on the annual updated wage schedules.

MassDOT will request the updates no later than two week before the anniversary of the Notice to Proceed date of the contract to allow for adequate processing by the Department of Labor Standards (DLS). The effective date for the new rates will be the anniversary date of the contract (i.e. the notice to proceed date), regardless of the date of issuance on the schedule from DLS.

All bidders are cautioned that the aforementioned laws require that employers pay to covered employees no less than the applicable minimum wages. In addition, the same laws require that the applicable prevailing wages become incorporated as part of this contract. The prevailing minimum wage law establishes serious civil and criminal penalties for violations, including imprisonment and exclusion from future public contracts. Bidders are cautioned to carefully read the relevant sections of the Massachusetts General Laws.

*** END OF DOCUMENT ***

DOCUMENT 00861

STATE PREVAILING WAGE RATES

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**THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS
Prevailing Wage Rates**

MAURA HEALEY
Governor
KIM DRISCOLL
Lt. Governor

**As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H**

LAUREN JONES
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority:	Massachusetts Highway	City/Town:	ABINGTON
Contract Number:	134070		
Description of Work:	ABINGTON - Federal Aid Project No. STP-0035(067)X Intersection Improvements at Hancock Street and Chestnut Street		
Job Location:	At Hancock Street and Chestnut Street		

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- 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 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, the 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. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- 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 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 a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons 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 DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must 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. For a sample payroll reporting form go to <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.
- Contractors must obtain the wage schedules from awarding authorities. 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 criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT	1/1/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$0.00	\$78.90
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$0.00	\$79.90
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$0.00	\$81.64
	1/1/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT	1/1/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$0.00	\$78.97
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$0.00	\$79.97
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$0.00	\$81.71
	1/1/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT	1/1/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$0.00	\$79.09
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$0.00	\$80.09
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$0.00	\$81.83
	1/1/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT	1/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.11	\$0.00	\$70.73
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.11	\$0.00	\$72.17
LABORERS - ZONE 2	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.11	\$0.00	\$73.61
	6/1/2027	\$45.55	\$10.65	\$9.75	\$9.11	\$0.00	\$75.06
	12/1/2027	\$47.00	\$10.65	\$9.75	\$9.11	\$0.00	\$76.51
	6/1/2028	\$48.50	\$10.65	\$9.75	\$9.11	\$0.00	\$78.01
	12/1/2028	\$50.00	\$10.65	\$9.75	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.21	\$0.00	\$70.83
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.21	\$0.00	\$72.27
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/1/2025	\$44.80	\$14.50	\$4.30	\$6.75	\$0.00	\$70.35
HEAT & FROST INSULATORS LOCAL 6							
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							
ASPHALT RAKER	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.11	\$0.00	\$70.73
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.11	\$0.00	\$72.17
LABORERS - ZONE 2	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.11	\$0.00	\$73.61
	6/1/2027	\$45.55	\$10.65	\$9.75	\$9.11	\$0.00	\$75.06
	12/1/2027	\$47.00	\$10.65	\$9.75	\$9.11	\$0.00	\$76.51
	6/1/2028	\$48.50	\$10.65	\$9.75	\$9.11	\$0.00	\$78.01
	12/1/2028	\$50.00	\$10.65	\$9.75	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.21	\$0.00	\$70.83
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.21	\$0.00	\$72.27
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
BOILER MAKER	1/1/2024	\$48.12	\$7.07	\$14.60	\$6.00	\$0.00	\$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

Apprentice: BOILER MAKER							
Effective Date: 1/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
2	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
3	70.00	\$33.68	\$7.07	\$10.03	\$4.20	\$0.00	\$54.98
4	75.00	\$36.09	\$7.07	\$10.74	\$4.50	\$0.00	\$58.40
5	80.00	\$38.50	\$7.07	\$11.45	\$4.80	\$0.00	\$61.82
6	85.00	\$40.90	\$7.07	\$12.18	\$5.10	\$0.00	\$65.25

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: BOILER MAKER Effective Date: 1/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
7	90.00	\$43.31	\$7.07	\$12.88	\$5.40	\$0.00	\$68.66
8	95.00	\$45.71	\$7.07	\$13.62	\$5.70	\$0.00	\$72.10
Apprentice to Journeyworker Ratio: 1:4							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	2/1/2026	\$67.95	\$12.84	\$15.57	\$8.02	\$0.00	\$104.38
BRICKLAYERS LOCAL 3	8/1/2026	\$70.15	\$12.84	\$15.57	\$8.02	\$0.00	\$106.58
BRICKLAYERS LOCAL 3 (QUINCY)	2/1/2027	\$71.55	\$12.84	\$15.57	\$8.02	\$0.00	\$107.98
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.98	\$12.84	\$15.57	\$8.02	\$0.00	\$70.41
2	60.00	\$40.77	\$12.84	\$15.57	\$8.02	\$0.00	\$77.20
3	70.00	\$47.57	\$12.84	\$15.57	\$8.02	\$0.00	\$84.00
4	80.00	\$54.36	\$12.84	\$15.57	\$8.02	\$0.00	\$90.79
5	90.00	\$61.16	\$12.84	\$15.57	\$8.02	\$0.00	\$97.59
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$35.08	\$12.84	\$15.57	\$8.02	\$0.00	\$71.51
2	60.00	\$42.09	\$12.84	\$15.57	\$8.02	\$0.00	\$78.52
3	70.00	\$49.11	\$12.84	\$15.57	\$8.02	\$0.00	\$85.54
4	80.00	\$56.12	\$12.84	\$15.57	\$8.02	\$0.00	\$92.55
5	90.00	\$63.14	\$12.84	\$15.57	\$8.02	\$0.00	\$99.57
Apprentice to Journeyworker Ratio: 1:5							
BULLDOZER/GRADER/SCRAPER	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN	12/1/2025	\$49.10	\$10.65	\$9.75	\$9.80	\$0.00	\$79.30
LABORERS	6/1/2026	\$50.65	\$10.65	\$9.75	\$9.80	\$0.00	\$80.85
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$52.15	\$10.65	\$9.75	\$9.80	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING TOP MAN	12/1/2025	\$48.28	\$10.65	\$9.75	\$9.80	\$0.00	\$78.48
LABORERS	6/1/2026	\$49.83	\$10.65	\$9.75	\$9.80	\$0.00	\$80.03
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.33	\$10.65	\$9.75	\$9.80	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"							
CARBIDE CORE DRILL OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
CARPENTER	3/1/2026	\$50.85	\$11.08	\$11.47	\$8.50	\$0.00	\$81.90
CARPENTERS	9/1/2026	\$52.10	\$11.08	\$11.47	\$8.50	\$0.00	\$83.15
CARPENTERS -ZONE 2 (Eastern Massachusetts)	3/1/2027	\$53.35	\$11.08	\$11.47	\$8.50	\$0.00	\$84.40

Apprentice: CARPENTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$22.88	\$11.08	\$0.00	\$1.73	\$0.00	\$35.69
2	45.00	\$22.88	\$11.08	\$0.00	\$1.73	\$0.00	\$35.69
3	55.00	\$27.97	\$11.08	\$0.00	\$3.40	\$0.00	\$42.45
4	55.00	\$27.97	\$11.08	\$0.00	\$3.40	\$0.00	\$42.45
5	70.00	\$35.60	\$11.08	\$11.41	\$5.10	\$0.00	\$63.19
6	70.00	\$35.60	\$11.08	\$11.41	\$5.10	\$0.00	\$63.19
7	80.00	\$40.68	\$11.08	\$11.44	\$6.80	\$0.00	\$70.00
8	80.00	\$40.68	\$11.08	\$11.44	\$6.80	\$0.00	\$70.00

Apprentice: CARPENTER							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$23.45	\$11.08	\$0.00	\$1.73	\$0.00	\$36.26
2	45.00	\$23.45	\$11.08	\$0.00	\$1.73	\$0.00	\$36.26
3	55.00	\$28.66	\$11.08	\$0.00	\$3.40	\$0.00	\$43.14
4	55.00	\$28.66	\$11.08	\$0.00	\$3.40	\$0.00	\$43.14
5	70.00	\$36.47	\$11.08	\$11.41	\$5.10	\$0.00	\$64.06
6	70.00	\$36.47	\$11.08	\$11.41	\$5.10	\$0.00	\$64.06
7	80.00	\$41.68	\$11.08	\$11.44	\$6.80	\$0.00	\$71.00
8	80.00	\$41.68	\$11.08	\$11.44	\$6.80	\$0.00	\$71.00

Apprentice to Journeyworker Ratio: 1:5

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	10/1/2025	\$27.37	\$7.38	\$4.47	\$1.00	\$0.00	\$40.22
CARPENTERS	10/1/2026	\$28.47	\$7.38	\$4.47	\$1.00	\$0.00	\$41.32
CARPENTERS-ZONE 3 (Wood Frame)							
All Aspects of New Wood Frame Work							

Apprentice: CARPENTER WOOD FRAME**Effective Date: 10/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$16.42	\$7.38	\$0.00	\$0.00	\$0.00	\$23.80
2	60.00	\$16.42	\$7.38	\$0.00	\$0.00	\$0.00	\$23.80
3	65.00	\$17.79	\$7.38	\$0.00	\$1.00	\$0.00	\$26.17
4	70.00	\$19.16	\$7.38	\$0.00	\$1.00	\$0.00	\$27.54
5	75.00	\$20.53	\$7.38	\$3.80	\$1.00	\$0.00	\$32.71
6	80.00	\$21.90	\$7.38	\$3.80	\$1.00	\$0.00	\$34.08
7	85.00	\$23.26	\$7.38	\$3.80	\$1.00	\$0.00	\$35.44
8	90.00	\$24.63	\$7.38	\$3.80	\$1.00	\$0.00	\$36.81

Apprentice: CARPENTER WOOD FRAME**Effective Date: 10/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$17.08	\$7.38	\$0.00	\$0.00	\$0.00	\$24.46
2	60.00	\$17.08	\$7.38	\$0.00	\$0.00	\$0.00	\$24.46
3	65.00	\$18.51	\$7.38	\$0.00	\$1.00	\$0.00	\$26.89
4	70.00	\$19.93	\$7.38	\$0.00	\$1.00	\$0.00	\$28.31
5	75.00	\$21.35	\$7.38	\$3.80	\$1.00	\$0.00	\$33.53
6	80.00	\$22.78	\$7.38	\$3.80	\$1.00	\$0.00	\$34.96
7	85.00	\$24.20	\$7.38	\$3.80	\$1.00	\$0.00	\$36.38
8	90.00	\$25.62	\$7.38	\$3.80	\$1.00	\$0.00	\$37.80

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	1/1/2026	\$53.24	\$13.35	\$16.43	\$7.78	\$1.80	\$92.60
PLASTERERS AND CEMENT MASONS LOCAL 534	7/1/2026	\$54.49	\$13.35	\$16.43	\$7.78	\$1.80	\$93.85
Plasterers and Cement Masons - Zone 1	1/1/2027	\$55.94	\$13.35	\$16.43	\$7.78	\$1.80	\$95.30
	7/1/2027	\$57.29	\$13.35	\$16.43	\$7.78	\$1.80	\$96.65
	1/1/2028	\$58.64	\$13.35	\$16.43	\$7.78	\$1.80	\$98.00

Apprentice: CEMENT MASONRY/PLASTERING**Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.62	\$13.35	\$16.43	\$0.00	\$0.00	\$56.40
2	60.00	\$31.94	\$13.35	\$16.43	\$7.78	\$1.80	\$71.30
3	65.00	\$34.61	\$13.35	\$16.43	\$7.78	\$1.80	\$73.97
4	70.00	\$37.27	\$13.35	\$16.43	\$7.78	\$1.80	\$76.63

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: CEMENT MASONRY/PLASTERING							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
5	75.00	\$39.93	\$13.35	\$16.43	\$7.78	\$1.80	\$79.29
6	80.00	\$42.59	\$13.35	\$16.43	\$7.78	\$1.80	\$81.95
7	90.00	\$47.92	\$13.35	\$16.43	\$0.00	\$0.00	\$77.70
Apprentice: CEMENT MASONRY/PLASTERING							
Effective Date: 7/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.25	\$13.35	\$16.43	\$0.00	\$0.00	\$57.03
2	60.00	\$32.69	\$13.35	\$16.43	\$7.78	\$1.80	\$72.05
3	65.00	\$35.42	\$13.35	\$16.43	\$7.78	\$1.80	\$74.78
4	70.00	\$38.14	\$13.35	\$16.43	\$7.78	\$1.80	\$77.50
5	75.00	\$40.87	\$13.35	\$16.43	\$7.78	\$1.80	\$80.23
6	80.00	\$43.59	\$13.35	\$16.43	\$7.78	\$1.80	\$82.95
7	90.00	\$49.04	\$13.35	\$0.00	\$7.78	\$0.00	\$70.17
Apprentice to Journeyworker Ratio: 1:5							
CHAIN SAW OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/1/2025	\$59.88	\$16.55	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.21	\$16.55	\$13.35	\$3.25	\$0.00	\$94.36
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.69	\$16.55	\$13.35	\$3.25	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
COMPRESSOR OPERATOR	12/1/2025	\$37.37	\$16.55	\$13.35	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.23	\$16.55	\$13.35	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.18	\$16.55	\$13.35	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE)	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: DELEADER (BRIDGE)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29
Apprentice to Journeyworker Ratio: 1:1							
DEMO: ADZEMAN	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 2	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
LABORERS - ZONE 2	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BURNERS	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 2	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: CONCRETE CUTTER/SAWYER	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
LABORERS - ZONE 2	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65

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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 2	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 2	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate							
DIVER TENDER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate							
DIVER TENDER (EFFLUENT)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT)	8/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction)	7/1/2020	\$26.77	\$6.67	\$3.93	\$0.00	\$0.16	\$37.53
DRAWBRIDGE - SEIU LOCAL 888							
DRAWBRIDGE - SEIU LOCAL 888							
ELECTRICIAN	9/1/2025	\$52.25	\$12.25	\$14.86	\$3.75	\$0.00	\$83.11
ELECTRICIANS LOCAL 223	9/1/2026	\$54.72	\$12.50	\$15.56	\$4.00	\$0.00	\$86.78
ELECTRICIANS LOCAL 223							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: ELECTRICIAN							
Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$20.90	\$12.25	\$0.63	\$0.00	\$0.00	\$33.78
2	45.00	\$23.51	\$12.25	\$0.71	\$0.00	\$0.00	\$36.47
3	50.00	\$26.13	\$12.25	\$0.78	\$0.00	\$0.00	\$39.16
4	55.00	\$28.74	\$12.25	\$6.61	\$2.50	\$0.00	\$50.10
5	60.00	\$31.35	\$12.25	\$7.21	\$2.50	\$0.00	\$53.31
6	65.00	\$33.96	\$12.25	\$7.82	\$2.50	\$0.00	\$56.53
7	70.00	\$36.58	\$12.25	\$8.41	\$2.50	\$0.00	\$59.74
8	75.00	\$39.19	\$12.25	\$9.02	\$2.50	\$0.00	\$62.96

Apprentice: ELECTRICIAN							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$21.89	\$12.50	\$0.66	\$0.00	\$0.00	\$35.05
2	45.00	\$24.62	\$12.50	\$0.74	\$0.00	\$0.00	\$37.86
3	50.00	\$27.36	\$12.50	\$0.82	\$0.00	\$0.00	\$40.68
4	55.00	\$30.10	\$12.50	\$6.92	\$2.75	\$0.00	\$52.27
5	60.00	\$32.83	\$12.50	\$7.54	\$2.75	\$0.00	\$55.62
6	65.00	\$35.57	\$12.50	\$8.18	\$2.75	\$0.00	\$59.00
7	70.00	\$38.30	\$12.50	\$8.81	\$2.75	\$0.00	\$62.36
8	75.00	\$41.04	\$12.50	\$9.43	\$2.75	\$0.00	\$65.72

Apprentice to Journeyworker Ratio: 2:3

ELEVATOR CONSTRUCTOR	1/1/2026	\$77.26	\$16.38	\$11.06	\$10.70	\$0.00	\$115.40
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$80.55	\$16.48	\$11.16	\$11.00	\$0.00	\$119.19
ELEVATOR CONSTRUCTORS LOCAL 4							

Apprentice: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$38.63	\$0.00	\$0.00	\$0.00	\$0.00	\$38.63
2	55.00	\$42.49	\$16.38	\$11.06	\$10.70	\$0.00	\$80.63
3	65.00	\$50.22	\$16.38	\$11.06	\$10.70	\$0.00	\$88.36
4	70.00	\$54.08	\$16.38	\$11.06	\$10.70	\$0.00	\$92.22
5	80.00	\$61.81	\$16.38	\$11.06	\$10.70	\$0.00	\$99.95

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: ELEVATOR CONSTRUCTOR Effective Date: 1/1/2027							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$40.28	\$0.00	\$0.00	\$0.00	\$0.00	\$40.28
2	55.00	\$44.30	\$16.48	\$11.16	\$11.00	\$0.00	\$82.94
3	65.00	\$52.36	\$16.48	\$11.16	\$11.00	\$0.00	\$91.00
4	70.00	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
5	80.00	\$64.44	\$16.48	\$11.16	\$11.00	\$0.00	\$103.08
Apprentice to Journeyworker Ratio: 1:1							
ELEVATOR CONSTRUCTOR HELPER	1/1/2026	\$54.08	\$16.38	\$11.06	\$10.07	\$0.00	\$91.59
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
ELEVATOR CONSTRUCTORS LOCAL 4							
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$53.56	\$16.05	\$13.25	\$3.25	\$0.00	\$86.11
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$55.00	\$16.05	\$13.25	\$3.25	\$0.00	\$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$56.29	\$16.05	\$13.25	\$3.25	\$0.00	\$88.84
	5/1/2027	\$57.72	\$16.05	\$13.25	\$3.25	\$0.00	\$90.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	11/1/2025	\$55.17	\$16.05	\$13.25	\$3.25	\$0.00	\$87.72
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$56.62	\$16.05	\$13.25	\$3.25	\$0.00	\$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$57.92	\$16.05	\$13.25	\$3.25	\$0.00	\$90.47
	5/1/2027	\$59.37	\$16.05	\$13.25	\$3.25	\$0.00	\$91.92
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$26.03	\$16.05	\$13.25	\$3.25	\$0.00	\$58.58
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$26.88	\$16.05	\$13.25	\$3.25	\$0.00	\$59.43
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$27.64	\$16.05	\$13.25	\$3.25	\$0.00	\$60.19
	5/1/2027	\$28.49	\$16.05	\$13.25	\$3.25	\$0.00	\$61.04
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/1/2025	\$52.25	\$12.25	\$14.86	\$3.75	\$0.00	\$83.11
ELECTRICIANS LOCAL 223	9/1/2026	\$54.72	\$12.50	\$15.56	\$4.00	\$0.00	\$86.78
ELECTRICIANS LOCAL 223							
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINTENANCE	9/1/2025	\$52.25	\$12.25	\$14.86	\$3.75	\$0.00	\$83.11
/ COMMISSIONING	9/1/2026	\$54.72	\$12.50	\$15.56	\$4.00	\$0.00	\$86.78
ELECTRICIANS LOCAL 223							
ELECTRICIANS LOCAL 223							
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FIREMAN (ASST. ENGINEER)	12/1/2025	\$47.09	\$16.55	\$13.35	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$48.15	\$16.55	\$13.35	\$3.25	\$0.00	\$81.30
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$49.33	\$16.55	\$13.35	\$3.25	\$0.00	\$82.48

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FLAGGER & SIGNALER (HEAVY & HIGHWAY)	12/1/2025	\$28.09	\$10.65	\$9.75	\$9.21	\$0.00	\$57.70
LABORERS	6/1/2026	\$29.21	\$10.65	\$9.75	\$9.21	\$0.00	\$58.82
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$29.21	\$10.65	\$9.75	\$9.21	\$0.00	\$58.82

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FLOORCOVERER	3/1/2026	\$59.24	\$10.33	\$11.47	\$8.80	\$0.00	\$89.84
FLOORCOVERERS LOCAL 2168	9/1/2026	\$60.74	\$10.33	\$11.47	\$8.80	\$0.00	\$91.34
FLOORCOVERERS LOCAL 2168 ZONE I	3/1/2027	\$62.24	\$10.33	\$11.47	\$8.80	\$0.00	\$92.84

Apprentice: FLOORCOVERER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
2	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
3	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
4	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
5	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
6	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
7	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23
8	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23

Apprentice: FLOORCOVERER

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
2	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
3	55.00	\$33.41	\$10.33	\$0.00	\$3.52	\$0.00	\$47.26
4	55.00	\$33.41	\$10.33	\$0.00	\$3.52	\$0.00	\$47.26
5	70.00	\$42.52	\$10.33	\$11.47	\$5.28	\$0.00	\$69.60
6	70.00	\$42.52	\$10.33	\$11.47	\$5.28	\$0.00	\$69.60
7	80.00	\$48.59	\$10.33	\$11.47	\$7.04	\$0.00	\$77.43
8	80.00	\$48.59	\$10.33	\$11.47	\$7.04	\$0.00	\$77.43

Apprentice Notes

Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

FORK LIFT/CHERRY PICKER	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS	12/1/2025	\$37.37	\$16.55	\$13.35	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.23	\$16.55	\$13.35	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.18	\$16.55	\$13.35	\$3.25	\$0.00	\$72.33

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	1/1/2026	\$49.06	\$10.35	\$12.00	\$12.60	\$0.00	\$84.01
GLAZIERS LOCAL 35							
GLAZIERS LOCAL 35 (ZONE 2)							

Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)**Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.53	\$10.35	\$0.00	\$0.00	\$0.00	\$34.88
2	55.00	\$26.98	\$10.35	\$0.00	\$6.88	\$0.00	\$44.21
3	60.00	\$29.44	\$10.35	\$0.00	\$7.50	\$0.00	\$47.29
4	65.00	\$31.89	\$10.35	\$0.00	\$8.13	\$0.00	\$50.37
5	70.00	\$34.34	\$10.35	\$12.00	\$8.75	\$0.00	\$65.44
6	75.00	\$36.80	\$10.35	\$12.00	\$9.38	\$0.00	\$68.53
7	80.00	\$39.25	\$10.35	\$12.00	\$10.00	\$0.00	\$71.60
8	90.00	\$44.15	\$10.35	\$12.00	\$11.25	\$0.00	\$77.75

Apprentice to Journeyworker Ratio: 1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS**Effective Date: 12/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.88	\$0.00	\$0.00	\$0.00	\$0.00	\$32.88
2	60.00	\$35.87	\$16.05	\$13.25	\$3.25	\$0.00	\$68.42
3	65.00	\$38.86	\$16.05	\$13.25	\$3.25	\$0.00	\$71.41
4	70.00	\$41.85	\$16.05	\$13.25	\$3.25	\$0.00	\$74.40
5	75.00	\$44.84	\$16.05	\$13.25	\$3.25	\$0.00	\$77.39
6	80.00	\$47.82	\$16.05	\$13.25	\$3.25	\$0.00	\$80.37
7	85.00	\$50.81	\$16.05	\$13.25	\$3.25	\$0.00	\$83.36
8	90.00	\$53.80	\$16.05	\$13.25	\$3.25	\$0.00	\$86.35

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS**Effective Date: 6/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: HOISTING ENGINEER/CRANES/GRADALLS Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.99	\$0.00	\$0.00	\$0.00	\$0.00	\$32.99
2	60.00	\$35.99	\$16.55	\$13.35	\$3.25	\$0.00	\$69.14
3	65.00	\$38.99	\$16.55	\$13.35	\$3.25	\$0.00	\$72.14
4	70.00	\$41.99	\$16.55	\$13.35	\$3.25	\$0.00	\$75.14
5	75.00	\$44.99	\$16.55	\$13.35	\$3.25	\$0.00	\$78.14
6	80.00	\$47.98	\$16.55	\$13.35	\$3.25	\$0.00	\$81.13
7	85.00	\$50.98	\$16.55	\$13.35	\$3.25	\$0.00	\$84.13
8	90.00	\$53.98	\$16.55	\$13.35	\$3.25	\$0.00	\$87.13
Apprentice to Journeyworker Ratio: 1:6							
HVAC (DUCTWORK)	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17							
SHEETMETAL WORKERS LOCAL 17 - A							
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS)	9/1/2025	\$52.25	\$12.25	\$14.86	\$3.75	\$0.00	\$83.11
ELECTRICIANS LOCAL 223	9/1/2026	\$54.72	\$12.50	\$15.56	\$4.00	\$0.00	\$86.78
ELECTRICIANS LOCAL 223							
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR)	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17							
SHEETMETAL WORKERS LOCAL 17 - A							
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	8/25/2025	\$55.24	\$10.80	\$16.80	\$4.60	\$0.00	\$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	8/25/2025	\$55.24	\$10.80	\$16.80	\$4.60	\$0.00	\$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.11	\$0.00	\$70.73
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.11	\$0.00	\$72.17
LABORERS - ZONE 2	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.11	\$0.00	\$73.61
	6/1/2027	\$45.55	\$10.65	\$9.75	\$9.11	\$0.00	\$75.06
	12/1/2027	\$47.00	\$10.65	\$9.75	\$9.11	\$0.00	\$76.51
	6/1/2028	\$48.50	\$10.65	\$9.75	\$9.11	\$0.00	\$78.01
	12/1/2028	\$50.00	\$10.65	\$9.75	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	12/1/2025	\$41.22	\$10.65	\$9.75	\$9.21	\$0.00	\$70.83
LABORERS	6/1/2026	\$42.66	\$10.65	\$9.75	\$9.21	\$0.00	\$72.27
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$44.10	\$10.65	\$9.75	\$9.21	\$0.00	\$73.71

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
INSULATOR (PIPES & TANKS)	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
HEAT & FROST INSULATORS LOCAL 6	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							

Apprentice: INSULATOR (PIPES & TANKS)**Effective Date: 9/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$30.17	\$14.75	\$9.27	\$5.05	\$0.00	\$59.24
2	60.00	\$36.20	\$14.75	\$9.32	\$6.05	\$0.00	\$66.32
3	70.00	\$42.24	\$14.75	\$9.37	\$7.06	\$0.00	\$73.42
4	80.00	\$48.27	\$14.75	\$9.42	\$8.07	\$0.00	\$80.51

Apprentice: INSULATOR (PIPES & TANKS)**Effective Date: 9/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$31.88	\$14.75	\$9.27	\$5.05	\$0.00	\$60.95
2	60.00	\$38.26	\$14.75	\$9.32	\$6.05	\$0.00	\$68.38
3	70.00	\$44.63	\$14.75	\$9.37	\$7.06	\$0.00	\$75.81
4	80.00	\$51.01	\$14.75	\$9.42	\$8.07	\$0.00	\$83.25

Apprentice to Journeyworker Ratio: 1:4

IRONWORKER/WELDER	9/16/2025	\$57.87	\$9.05	\$12.75	\$14.50	\$0.00	\$94.17
IRONWORKERS LOCAL 7							
IRONWORKERS LOCAL 7 (BOSTON AREA)							

Apprentice: IRONWORKER/WELDER**Effective Date: 9/16/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$34.72	\$9.05	\$12.75	\$4.50	\$0.00	\$61.02
2	75.00	\$43.40	\$9.05	\$12.75	\$4.50	\$0.00	\$69.70
3	85.00	\$49.19	\$9.05	\$12.75	\$4.50	\$0.00	\$75.49
4	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Apprentice to Journeyworker Ratio: 1:4

JACKHAMMER & PAVING BREAKER OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.11	\$0.00	\$69.98
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.11	\$0.00	\$71.42
LABORERS - ZONE 2	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.11	\$0.00	\$72.86
	6/1/2027	\$44.80	\$10.65	\$9.75	\$9.11	\$0.00	\$74.31
	12/1/2027	\$46.25	\$10.65	\$9.75	\$9.11	\$0.00	\$75.76
	6/1/2028	\$47.75	\$10.65	\$9.75	\$9.11	\$0.00	\$77.26
	12/1/2028	\$49.25	\$10.65	\$9.75	\$9.11	\$0.00	\$78.76

Apprentice: LABORER

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.03	\$10.15	\$9.50	\$9.11	\$0.00	\$53.79
2	70.00	\$29.20	\$10.15	\$9.50	\$9.11	\$0.00	\$57.96
3	80.00	\$33.38	\$10.15	\$9.50	\$9.11	\$0.00	\$62.14
4	90.00	\$37.55	\$10.15	\$9.50	\$9.11	\$0.00	\$66.31

Apprentice: LABORER

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.15	\$10.65	\$9.75	\$9.11	\$0.00	\$54.66
2	70.00	\$29.34	\$10.65	\$9.75	\$9.11	\$0.00	\$58.85
3	80.00	\$33.53	\$10.65	\$9.75	\$9.11	\$0.00	\$63.04
4	90.00	\$37.72	\$10.65	\$9.75	\$9.11	\$0.00	\$67.23

Apprentice to Journeyworker Ratio: 1:5

LABORER (HEAVY & HIGHWAY)	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.21	\$0.00	\$70.08
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.21	\$0.00	\$71.52
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.21	\$0.00	\$72.96

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.03	\$10.15	\$9.50	\$9.21	\$0.00	\$53.89
2	70.00	\$29.20	\$10.15	\$9.50	\$9.21	\$0.00	\$58.06
3	80.00	\$33.38	\$10.15	\$9.50	\$9.21	\$0.00	\$62.24
4	90.00	\$37.55	\$10.15	\$9.50	\$9.21	\$0.00	\$66.41

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: LABORER (HEAVY & HIGHWAY) Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.15	\$10.65	\$9.75	\$9.21	\$0.00	\$54.76
2	70.00	\$29.34	\$10.65	\$9.75	\$9.21	\$0.00	\$58.95
3	80.00	\$33.53	\$10.65	\$9.75	\$9.21	\$0.00	\$63.14
4	90.00	\$37.72	\$10.65	\$9.75	\$9.10	\$0.00	\$67.22
Apprentice to Journeyworker Ratio: 1:5							
LABORER: CARPENTER TENDER	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.11	\$0.00	\$69.98
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.11	\$0.00	\$71.42
LABORERS - ZONE 2	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.11	\$0.00	\$72.86
	6/1/2027	\$44.80	\$10.65	\$9.75	\$9.11	\$0.00	\$74.31
	12/1/2027	\$46.25	\$10.65	\$9.75	\$9.11	\$0.00	\$75.76
	6/1/2028	\$47.75	\$10.65	\$9.75	\$9.11	\$0.00	\$77.26
	12/1/2028	\$49.25	\$10.65	\$9.75	\$9.11	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: CEMENT FINISHER TENDER	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.11	\$0.00	\$69.98
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.11	\$0.00	\$71.42
LABORERS - ZONE 2	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.11	\$0.00	\$72.86
	6/1/2027	\$44.80	\$10.65	\$9.75	\$9.11	\$0.00	\$74.31
	12/1/2027	\$46.25	\$10.65	\$9.75	\$9.11	\$0.00	\$75.76
	6/1/2028	\$47.75	\$10.65	\$9.75	\$9.11	\$0.00	\$77.26
	12/1/2028	\$49.25	\$10.65	\$9.75	\$9.11	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/1/2025	\$40.56	\$10.65	\$9.75	\$9.65	\$0.00	\$70.61
LABORERS	6/1/2026	\$42.00	\$10.65	\$9.75	\$9.65	\$0.00	\$72.05
LABORERS - ZONE 2	12/7/2026	\$43.44	\$10.65	\$9.75	\$9.65	\$0.00	\$73.49
	6/7/2027	\$44.89	\$10.65	\$9.75	\$9.65	\$0.00	\$74.94
	12/6/2027	\$46.34	\$10.65	\$9.75	\$9.65	\$0.00	\$76.39
	6/5/2028	\$47.84	\$10.65	\$9.75	\$9.65	\$0.00	\$77.89
	12/4/2028	\$49.34	\$10.65	\$9.75	\$9.65	\$0.00	\$79.39
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY)	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
LABORER: MULTI-TRADE TENDER	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.11	\$0.00	\$69.98
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.11	\$0.00	\$71.42
LABORERS - ZONE 2	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.11	\$0.00	\$72.86
	6/1/2027	\$44.80	\$10.65	\$9.75	\$9.11	\$0.00	\$74.31
	12/1/2027	\$46.25	\$10.65	\$9.75	\$9.11	\$0.00	\$75.76
	6/1/2028	\$47.75	\$10.65	\$9.75	\$9.11	\$0.00	\$77.26
	12/1/2028	\$49.25	\$10.65	\$9.75	\$9.11	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.11	\$0.00	\$69.98
LABORERS	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.11	\$0.00	\$71.42
LABORERS - ZONE 2	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.11	\$0.00	\$72.86
	6/1/2027	\$44.80	\$10.65	\$9.75	\$9.11	\$0.00	\$74.31
	12/1/2027	\$46.25	\$10.65	\$9.75	\$9.11	\$0.00	\$75.76
	6/1/2028	\$47.75	\$10.65	\$9.75	\$9.11	\$0.00	\$77.26
	12/1/2028	\$49.25	\$10.65	\$9.75	\$9.11	\$0.00	\$78.76
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
MARBLE & TILE FINISHERS	2/1/2026	\$52.08	\$12.84	\$15.57	\$5.78	\$0.00	\$86.27
BRICKLAYERS LOCAL 3	8/1/2026	\$53.84	\$12.84	\$15.57	\$5.78	\$0.00	\$88.03
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2027	\$54.96	\$12.84	\$15.57	\$5.78	\$0.00	\$89.15

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$12.84	\$15.57	\$5.78	\$0.00	\$60.23
2	60.00	\$31.25	\$12.84	\$15.57	\$5.78	\$0.00	\$65.44
3	70.00	\$36.46	\$12.84	\$15.57	\$5.78	\$0.00	\$70.65
4	80.00	\$41.66	\$12.84	\$15.57	\$5.78	\$0.00	\$75.85
5	90.00	\$46.87	\$12.84	\$15.57	\$5.78	\$0.00	\$81.06

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: MARBLE & TILE FINISHERS Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.92	\$12.84	\$15.57	\$5.78	\$0.00	\$61.11
2	60.00	\$32.30	\$12.84	\$15.57	\$5.78	\$0.00	\$66.49
3	70.00	\$37.69	\$12.84	\$15.57	\$5.78	\$0.00	\$71.88
4	80.00	\$43.07	\$12.84	\$15.57	\$5.78	\$0.00	\$77.26
5	90.00	\$48.46	\$12.84	\$15.57	\$5.78	\$0.00	\$82.65
Apprentice to Journeyworker Ratio: 1:5							
MARBLE MASONS,TILELAYERS & TERRAZZO MECH	2/1/2026	\$67.97	\$12.84	\$15.57	\$7.99	\$0.00	\$104.37
BRICKLAYERS LOCAL 3	8/1/2026	\$70.17	\$12.84	\$15.57	\$7.99	\$0.00	\$106.57
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2027	\$71.57	\$12.84	\$15.57	\$7.99	\$0.00	\$107.97
Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.99	\$12.84	\$15.57	\$7.99	\$0.00	\$70.39
2	60.00	\$40.78	\$12.84	\$15.57	\$7.99	\$0.00	\$77.18
3	70.00	\$47.58	\$12.84	\$15.57	\$7.99	\$0.00	\$83.98
4	80.00	\$54.38	\$12.84	\$15.57	\$7.99	\$0.00	\$90.78
5	90.00	\$61.17	\$12.84	\$15.57	\$7.99	\$0.00	\$97.57
Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$35.09	\$12.84	\$15.57	\$7.99	\$0.00	\$71.49
2	60.00	\$42.10	\$12.84	\$15.57	\$7.99	\$0.00	\$78.50
3	70.00	\$49.12	\$12.84	\$15.57	\$7.99	\$0.00	\$85.52
4	80.00	\$56.14	\$12.84	\$15.57	\$7.99	\$0.00	\$92.54
5	90.00	\$63.15	\$12.84	\$15.57	\$7.99	\$0.00	\$99.55
Apprentice to Journeyworker Ratio: 1:5							
MECH, SWEEPER OPERATOR (ON CONST. SITES)	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MECHANICS MAINTENANCE	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MILLWRIGHT (Zone 2)	1/5/2026	\$46.86	\$10.58	\$11.47	\$10.00	\$0.00	\$78.91
MILLWRIGHTS LOCAL 1121							
MILLWRIGHTS LOCAL 1121 - Zone 2							

Apprentice: MILLWRIGHT (Zone 2)**Effective Date: 1/5/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$25.77	\$10.58	\$0.00	\$5.50	\$0.00	\$41.85
2	65.00	\$30.46	\$10.58	\$0.00	\$6.50	\$0.00	\$47.54
3	75.00	\$35.15	\$10.58	\$11.47	\$7.50	\$0.00	\$64.70
4	85.00	\$39.83	\$10.58	\$11.47	\$8.50	\$0.00	\$70.38

Apprentice Notes

Step 1&2 Appr. indentured after 1/6/2020 receive no pension,

Apprentice to Journeyworker Ratio: 1:4

MORTAR MIXER	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/1/2025	\$25.08	\$16.55	\$13.35	\$3.25	\$0.00	\$58.23
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$25.67	\$16.55	\$13.35	\$3.25	\$0.00	\$58.82
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$26.34	\$16.55	\$13.35	\$3.25	\$0.00	\$59.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/1/2025	\$31.05	\$16.55	\$13.35	\$3.25	\$0.00	\$64.20
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$31.77	\$16.55	\$13.35	\$3.25	\$0.00	\$64.92
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$32.57	\$16.55	\$13.35	\$3.25	\$0.00	\$65.72

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.50	\$0.00	\$94.41
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER (BRIDGES/TANKS)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	1/1/2026	\$50.46	\$10.35	\$12.00	\$12.60	\$0.00	\$85.41

* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used.

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$25.23	\$10.35	\$0.00	\$0.00	\$0.00	\$35.58
2	55.00	\$27.75	\$10.35	\$0.00	\$6.93	\$0.00	\$45.03
3	60.00	\$30.28	\$10.35	\$0.00	\$7.56	\$0.00	\$48.19
4	65.00	\$32.80	\$10.35	\$0.00	\$8.19	\$0.00	\$51.34
5	70.00	\$35.32	\$10.35	\$12.00	\$8.82	\$0.00	\$66.49
6	75.00	\$37.85	\$10.35	\$12.00	\$9.45	\$0.00	\$69.65
7	80.00	\$40.37	\$10.35	\$12.00	\$10.08	\$0.00	\$72.80
8	90.00	\$45.41	\$10.35	\$12.00	\$11.34	\$0.00	\$79.10

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	1/1/2026	\$48.52	\$10.35	\$12.00	\$12.60	\$0.00	\$83.47

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.26	\$10.35	\$0.00	\$0.00	\$0.00	\$34.61
2	55.00	\$26.69	\$10.35	\$0.00	\$6.93	\$0.00	\$43.97
3	60.00	\$29.11	\$10.35	\$0.00	\$7.56	\$0.00	\$47.02

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	65.00	\$31.54	\$10.35	\$0.00	\$8.19	\$0.00	\$50.08
5	70.00	\$33.96	\$10.35	\$12.00	\$8.82	\$0.00	\$65.13
6	75.00	\$36.39	\$10.35	\$12.00	\$9.45	\$0.00	\$68.19
7	80.00	\$38.82	\$10.35	\$12.00	\$10.08	\$0.00	\$71.25
8	90.00	\$43.67	\$10.35	\$12.00	\$11.34	\$0.00	\$77.36

Apprentice to Journeyworker Ratio: 1:1

PAINTER / TAPER (BRUSH, NEW) *	1/1/2026	\$49.06	\$10.35	\$12.00	\$12.60	\$0.00	\$84.01

* If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used.

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER / TAPER (BRUSH, NEW) *							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.53	\$10.35	\$0.00	\$0.00	\$0.00	\$34.88
2	55.00	\$26.98	\$10.35	\$0.00	\$6.93	\$0.00	\$44.26
3	60.00	\$29.44	\$10.35	\$0.00	\$7.56	\$0.00	\$47.35
4	65.00	\$31.89	\$10.35	\$0.00	\$8.19	\$0.00	\$50.43
5	70.00	\$34.34	\$10.35	\$12.00	\$8.82	\$0.00	\$65.51
6	75.00	\$36.80	\$10.35	\$12.00	\$9.45	\$0.00	\$68.60
7	80.00	\$39.25	\$10.35	\$12.00	\$10.08	\$0.00	\$71.68
8	90.00	\$44.15	\$10.35	\$12.00	\$11.34	\$0.00	\$77.84

Apprentice to Journeyworker Ratio: 1:1

PAINTER / TAPER (BRUSH, REPAINT)	1/1/2026	\$47.12	\$10.35	\$12.00	\$12.60	\$0.00	\$82.07

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$23.56	\$10.35	\$0.00	\$0.00	\$0.00	\$33.91
2	55.00	\$25.92	\$10.35	\$0.00	\$6.93	\$0.00	\$43.20
3	60.00	\$28.27	\$10.35	\$0.00	\$7.56	\$0.00	\$46.18
4	65.00	\$30.63	\$10.35	\$0.00	\$8.19	\$0.00	\$49.17
5	70.00	\$32.98	\$10.35	\$12.00	\$8.82	\$0.00	\$64.15
6	75.00	\$35.34	\$10.35	\$12.00	\$9.45	\$0.00	\$67.14
7	80.00	\$37.70	\$10.35	\$12.00	\$10.08	\$0.00	\$70.13

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER / TAPER (BRUSH, REPAINT) Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
8	90.00	\$42.41	\$10.35	\$12.00	\$11.34	\$0.00	\$76.10
Apprentice to Journeyworker Ratio: 1:1							
PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS	12/1/2025	\$40.47	\$10.65	\$9.75	\$9.21	\$0.00	\$70.08
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$41.91	\$10.65	\$9.75	\$9.21	\$0.00	\$71.52
	12/1/2026	\$43.35	\$10.65	\$9.75	\$9.21	\$0.00	\$72.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PANEL & PICKUP TRUCKS DRIVER	1/1/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$0.00	\$78.73
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$0.00	\$79.73
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$0.00	\$81.47
	1/1/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$0.00	\$82.07
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
PILE DRIVER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
Apprentice: PILE DRIVER Effective Date: 8/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.11	\$10.08	\$0.00	\$2.53	\$0.00	\$37.72
2	55.00	\$30.68	\$10.08	\$0.00	\$5.07	\$0.00	\$45.83
3	70.00	\$39.05	\$10.08	\$11.62	\$7.60	\$0.00	\$68.35
4	80.00	\$44.63	\$10.08	\$11.62	\$10.14	\$0.00	\$76.47
Apprentice to Journeyworker Ratio: 1:5							
PIPELAYER LABORERS	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

PLUMBER & PIPEFITTER	8/25/2025	\$55.24	\$10.80	\$16.80	\$4.60	\$0.00	\$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							

Apprentice: PLUMBER & PIPEFITTER**Effective Date: 8/25/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$22.10	\$10.15	\$2.50	\$0.00	\$0.00	\$34.75
2	50.00	\$27.62	\$10.15	\$2.50	\$0.00	\$0.00	\$40.27
3	60.00	\$33.14	\$10.15	\$8.40	\$0.50	\$0.00	\$52.19
4	70.00	\$38.67	\$10.15	\$13.44	\$0.80	\$0.00	\$63.06
5	80.00	\$44.19	\$10.15	\$16.80	\$1.00	\$0.00	\$72.14

Apprentice to Journeyworker Ratio: 1:3

PNEUMATIC CONTROLS (TEMP.)	8/25/2025	\$55.24	\$10.80	\$16.80	\$4.60	\$0.00	\$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

POWDERMAN & BLASTER	12/1/2025	\$41.47	\$10.65	\$9.75	\$9.11	\$0.00	\$70.98
LABORERS	6/1/2026	\$42.91	\$10.65	\$9.75	\$9.11	\$0.00	\$72.42
LABORERS - ZONE 2	12/1/2026	\$44.35	\$10.65	\$9.75	\$9.11	\$0.00	\$73.86
	6/1/2027	\$45.80	\$10.65	\$9.75	\$9.11	\$0.00	\$75.31
	12/1/2027	\$47.25	\$10.65	\$9.75	\$9.11	\$0.00	\$76.76
	6/1/2028	\$48.75	\$10.65	\$9.75	\$9.11	\$0.00	\$78.26
	12/1/2028	\$50.25	\$10.65	\$9.75	\$9.11	\$0.00	\$79.76

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER (HEAVY & HIGHWAY)	12/1/2025	\$41.47	\$10.65	\$9.75	\$9.21	\$0.00	\$71.08
LABORERS	6/1/2026	\$42.91	\$10.65	\$9.75	\$9.21	\$0.00	\$72.52
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$44.35	\$10.65	\$9.75	\$9.21	\$0.00	\$73.96

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
POWER SHOVEL/DERRICK/TRENCHING MACHINE	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE)	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER)	12/1/2025	\$37.37	\$16.55	\$13.35	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.23	\$16.55	\$13.35	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.18	\$16.55	\$13.35	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY-MIX CONCRETE DRIVER TEAMSTERS 653 TEAMSTERS 653 - Southeastern Concrete (Weymouth)	8/1/2023	\$25.00	\$13.91	\$6.90	\$0.00	\$0.00	\$45.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RECLAIMERS	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
ROLLER/SPREADER/MULCHING MACHINE	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing)	2/1/2026	\$53.53	\$14.53	\$12.67	\$9.03	\$0.00	\$89.76
ROOFERS LOCAL 33							
ROOFERS LOCAL 33							

Apprentice: ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing)**Effective Date: 2/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$14.53	\$6.52	\$9.03	\$0.00	\$56.85
2	60.00	\$32.12	\$14.53	\$12.67	\$9.03	\$0.00	\$68.35

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: ROOFER (Inc.Roofers Waterproofing &Roofers Damproofg) Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
3	65.00	\$34.79	\$14.53	\$12.67	\$9.03	\$0.00	\$71.02
4	75.00	\$40.15	\$14.53	\$12.67	\$9.03	\$0.00	\$76.38
5	85.00	\$45.50	\$14.53	\$12.67	\$9.03	\$0.00	\$81.73
Apprentice Notes ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1							
Apprentice to Journeyworker Ratio: 1:5							
ROOFER SLATE / TILE / PRECAST CONCRETE	2/1/2026	\$53.78	\$14.53	\$12.67	\$9.03	\$0.00	\$90.01
ROOFERS LOCAL 33							
ROOFERS LOCAL 33							
For apprentice rates see "Apprentice- ROOFER"							
SHEETMETAL WORKER	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17							
SHEETMETAL WORKERS LOCAL 17 - A							
Apprentice: SHEETMETAL WORKER Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
2	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
3	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
4	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
5	52.00	\$32.72	\$14.91	\$11.66	\$1.50	\$1.74	\$62.53
6	52.00	\$32.72	\$14.91	\$11.66	\$1.75	\$1.75	\$62.79
7	60.00	\$37.76	\$14.91	\$12.84	\$2.00	\$1.93	\$69.44
8	65.00	\$40.90	\$14.91	\$13.58	\$2.25	\$2.04	\$73.68
9	75.00	\$47.20	\$14.91	\$15.06	\$2.75	\$2.28	\$82.20
10	85.00	\$53.49	\$14.91	\$16.53	\$2.75	\$2.49	\$90.17
Apprentice to Journeyworker Ratio: 1:4							
SPECIALIZED EARTH MOVING EQUIP < 35 TONS	1/1/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$0.00	\$79.19
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$0.00	\$80.19
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$0.00	\$81.93
	1/1/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$0.00	\$82.53
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	1/1/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$0.00	\$79.48
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$0.00	\$80.48
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$0.00	\$82.22
	1/1/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$0.00	\$82.82

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
SPRINKLER FITTER	1/1/2026	\$72.05	\$13.45	\$7.45	\$18.25	\$0.00	\$111.20
SPRINKLER FITTERS LOCAL 550							
SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1							

Apprentice: SPRINKLER FITTER**Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.22	\$13.45	\$13.84	\$0.00	\$0.00	\$52.51
2	40.00	\$28.82	\$13.45	\$14.75	\$0.00	\$0.00	\$57.02
3	45.00	\$32.42	\$13.45	\$15.67	\$0.00	\$0.00	\$61.54
4	50.00	\$36.03	\$13.45	\$16.57	\$0.00	\$0.00	\$66.05
5	55.00	\$39.63	\$13.45	\$17.49	\$0.00	\$0.00	\$70.57
6	60.00	\$43.23	\$13.45	\$18.40	\$0.00	\$0.00	\$75.08
7	65.00	\$46.83	\$13.45	\$19.32	\$0.00	\$0.00	\$79.60
8	70.00	\$50.44	\$13.45	\$20.22	\$0.00	\$0.00	\$84.11
9	75.00	\$54.04	\$13.45	\$21.15	\$0.00	\$0.00	\$88.64
10	80.00	\$57.64	\$13.45	\$22.05	\$0.00	\$0.00	\$93.14

Apprentice Notes

Apprentice entered prior 9/30/10:

Apprentice to Journeyworker Ratio: 1:3

STEAM BOILER OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN	9/1/2025	\$42.52	\$12.00	\$12.05	\$3.25	\$0.00	\$69.82
TELECOMMUNICATION TECHNICIAN	9/1/2026	\$44.41	\$12.25	\$12.59	\$3.50	\$0.00	\$72.75
ELECTRICIANS LOCAL 223	9/1/2027	\$46.51	\$12.50	\$13.18	\$3.75	\$0.00	\$75.94

For apprentice rates and ratios see "Apprentice- ELECTRICIAN"

TERRAZZO FINISHERS	2/1/2026	\$66.89	\$12.84	\$15.57	\$8.02	\$0.00	\$103.32
BRICKLAYERS LOCAL 3	8/1/2026	\$69.09	\$12.84	\$15.57	\$8.02	\$0.00	\$105.52
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2027	\$70.49	\$12.84	\$15.57	\$8.02	\$0.00	\$106.92

Apprentice: TERRAZZO FINISHERS**Effective Date: 2/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: TERRAZZO FINISHERS							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.45	\$12.84	\$15.57	\$8.02	\$0.00	\$69.88
2	60.00	\$40.13	\$12.84	\$15.57	\$8.02	\$0.00	\$76.56
3	70.00	\$46.82	\$12.84	\$15.57	\$8.02	\$0.00	\$83.25
4	80.00	\$53.51	\$12.84	\$15.57	\$8.02	\$0.00	\$89.94
5	90.00	\$60.20	\$12.84	\$15.57	\$8.02	\$0.00	\$96.63
Apprentice: TERRAZZO FINISHERS							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$34.55	\$12.84	\$15.57	\$8.02	\$0.00	\$70.98
2	60.00	\$41.45	\$12.84	\$15.57	\$8.02	\$0.00	\$77.88
3	70.00	\$48.36	\$12.84	\$15.57	\$8.02	\$0.00	\$84.79
4	80.00	\$55.27	\$12.84	\$15.57	\$8.02	\$0.00	\$91.70
5	90.00	\$62.18	\$12.84	\$15.57	\$8.02	\$0.00	\$98.61
Apprentice to Journeyworker Ratio: 1:5							
TEST BORING DRILLER	12/1/2025	\$51.95	\$10.65	\$9.75	\$9.80	\$0.00	\$82.15
LABORERS	6/1/2026	\$53.50	\$10.65	\$9.75	\$9.80	\$0.00	\$83.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$55.00	\$10.65	\$9.75	\$9.80	\$0.00	\$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER	12/1/2025	\$48.07	\$10.65	\$9.75	\$9.80	\$0.00	\$78.27
LABORERS	6/1/2026	\$49.62	\$10.65	\$9.75	\$9.80	\$0.00	\$79.82
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.12	\$10.65	\$9.75	\$9.80	\$0.00	\$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.30	\$16.55	\$13.35	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.74	\$16.55	\$13.35	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	1/1/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$0.00	\$79.77
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$0.00	\$80.77
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$0.00	\$82.51
	1/1/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR	12/1/2025	\$60.18	\$10.65	\$9.75	\$10.25	\$0.00	\$90.83

Proposal No. 609440-134070

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$61.73	\$10.65	\$9.75	\$10.25	\$0.00	\$92.38
LABORERS (COMPRESSED AIR)	12/1/2026	\$63.23	\$10.65	\$9.75	\$10.25	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) LABORERS	12/1/2025	\$62.18	\$10.65	\$9.75	\$10.25	\$0.00	\$92.83
LABORERS	6/1/2026	\$63.73	\$10.65	\$9.75	\$10.25	\$0.00	\$94.38
LABORERS (COMPRESSED AIR)	12/1/2026	\$65.23	\$10.65	\$9.75	\$10.25	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR LABORERS	12/1/2025	\$52.25	\$10.65	\$9.75	\$10.25	\$0.00	\$82.90
LABORERS	6/1/2026	\$53.80	\$10.65	\$9.75	\$10.25	\$0.00	\$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$55.30	\$10.65	\$9.75	\$10.25	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE) LABORERS	12/1/2025	\$54.25	\$10.65	\$9.75	\$10.25	\$0.00	\$84.90
LABORERS	6/1/2026	\$55.80	\$10.65	\$9.75	\$10.25	\$0.00	\$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$57.30	\$10.65	\$9.75	\$10.25	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	1/1/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$0.00	\$79.19
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$0.00	\$80.19
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$0.00	\$81.93
	1/1/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$0.00	\$82.53
WAGON DRILL OPERATOR LABORERS	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.11	\$0.00	\$70.23
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.11	\$0.00	\$71.67
LABORERS - ZONE 2	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.11	\$0.00	\$73.11
	6/1/2027	\$45.05	\$10.65	\$9.75	\$9.11	\$0.00	\$74.56
	12/1/2027	\$46.50	\$10.65	\$9.75	\$9.11	\$0.00	\$76.01
	6/1/2028	\$48.00	\$10.65	\$9.75	\$9.11	\$0.00	\$77.51
	12/1/2028	\$49.50	\$10.65	\$9.75	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$40.72	\$10.65	\$9.75	\$9.21	\$0.00	\$70.33
LABORERS	6/1/2026	\$42.16	\$10.65	\$9.75	\$9.21	\$0.00	\$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	\$43.60	\$10.65	\$9.75	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
WASTE WATER PUMP OPERATOR	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.98	\$16.55	\$13.35	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.43	\$16.55	\$13.35	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
WATER METER INSTALLER	8/25/2025	\$55.24	\$10.80	\$16.80	\$4.60	\$0.00	\$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Outside Electrical

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CABLE TECHNICIAN (Power Zone)	8/31/2025	\$36.55	\$10.75	\$1.10	\$1.00	\$0.00	\$49.40
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$38.13	\$11.00	\$1.14	\$1.00	\$0.00	\$51.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$39.65	\$11.25	\$1.19	\$1.00	\$0.00	\$53.09
For apprentice rates see "Apprentice- LINEMAN"							
CABLEMAN (Underground Ducts & Cables)	8/31/2025	\$51.78	\$10.75	\$1.55	\$10.71	\$0.00	\$74.79
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$54.02	\$11.00	\$1.62	\$11.14	\$0.00	\$77.78
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$56.17	\$11.25	\$1.69	\$11.57	\$0.00	\$80.68
For apprentice rates see "Apprentice- LINEMAN"							
DRIVER / GROUNDMAN CDL	8/31/2025	\$42.64	\$10.75	\$1.28	\$10.45	\$0.00	\$65.12
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$44.49	\$11.00	\$1.33	\$10.80	\$0.00	\$67.62
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$46.26	\$11.25	\$1.39	\$11.15	\$0.00	\$70.05
For apprentice rates see "Apprentice- LINEMAN"							
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs)	8/31/2025	\$33.51	\$10.75	\$1.01	\$1.00	\$0.00	\$46.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$34.95	\$11.00	\$1.05	\$1.00	\$0.00	\$48.00
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$36.64	\$11.25	\$1.09	\$1.00	\$0.00	\$49.98
For apprentice rates see "Apprentice- LINEMAN"							
EQUIPMENT OPERATOR (Class A CDL)	8/31/2025	\$51.78	\$10.75	\$1.55	\$14.79	\$0.00	\$78.87
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$54.02	\$11.00	\$1.62	\$15.22	\$0.00	\$81.86
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$56.17	\$11.25	\$1.69	\$15.65	\$0.00	\$84.76
For apprentice rates see "Apprentice- LINEMAN"							
EQUIPMENT OPERATOR (Class B CDL)	8/31/2025	\$45.69	\$10.75	\$1.37	\$11.27	\$0.00	\$69.08
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$47.66	\$11.00	\$1.43	\$11.65	\$0.00	\$71.74
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$49.56	\$11.25	\$1.49	\$12.03	\$0.00	\$74.33
For apprentice rates see "Apprentice- LINEMAN"							
GROUNDMAN	8/31/2025	\$33.51	\$10.75	\$1.01	\$1.00	\$0.00	\$46.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$34.95	\$11.00	\$1.05	\$1.00	\$0.00	\$48.00
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$36.34	\$11.25	\$1.09	\$1.00	\$0.00	\$49.68
For apprentice rates see "Apprentice- LINEMAN"							
GROUNDMAN -Inexperienced (<2000 Hrs.)	8/31/2025	\$27.41	\$10.75	\$0.82	\$1.00	\$0.00	\$39.98
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$28.60	\$11.00	\$0.86	\$1.00	\$0.00	\$41.46
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$29.74	\$11.25	\$0.89	\$1.00	\$0.00	\$42.88
For apprentice rates see "Apprentice- LINEMAN"							
JOURNEYMAN LINEMAN	8/31/2025	\$60.92	\$10.75	\$1.83	\$18.00	\$0.00	\$91.50
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$63.55	\$11.00	\$1.91	\$18.50	\$0.00	\$94.96
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$66.08	\$11.25	\$1.98	\$19.00	\$0.00	\$98.31

Apprentice: JOURNEYMAN LINEMAN

Effective Date: 8/31/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Outside Electrical

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: JOURNEYMAN LINEMAN Effective Date: 8/31/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
3	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
4	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
7	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Apprentice: JOURNEYMAN LINEMAN Effective Date: 8/30/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
3	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
4	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
7	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Apprentice to Journeyworker Ratio: 1:2							
TELEDATA CABLE SPLICER OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	2/4/2019	\$30.73	\$4.70	\$0.92	\$2.25	\$0.00	\$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	2/4/2019	\$28.93	\$4.70	\$0.89	\$2.25	\$0.00	\$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	2/4/2019	\$28.93	\$4.70	\$0.89	\$2.25	\$0.00	\$36.77

Additional Apprentice Information

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

DOCUMENT 00870

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT
SPECIFICATIONS
(EXECUTIVE ORDER 11246)
Revised April 9, 2019

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted:
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$ 10,000 the provisions of the specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

- i. Direct its recruitment efforts both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
 10. The Contractor shall not use the goals and timetables of affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
 11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as many be required by the Government and keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

APPENDIX A

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of \$ 10,000. The goals are applicable to the Contractor's aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally-assisted construction contract or subcontract.

Area covered: Goal for Women apply nationwide

Goals and TimetablesTimetableGoals (percent)

From Apr. 1, 1980 until further notice

6.9

APPENDIX B-80

Until further notice, the following goals for minority utilization in each construction craft and trade shall included in all Federal or federally assisted construction contracts and subcontracts in excess of \$ 10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total on- site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related project, contract or subcontract.

Construction contractors participating in an approved Hometown Plan (see 41 CFR 6-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA or EA goal contained in this Appendix B-80.

Economic Areas

<u>STATE:</u>	<u>Goals (percent)</u>
MASSACHUSETTS	
004 Boston MA:	
SMSA Counties:	
1123 Boston-Lowell-Brockton-Lawrence-Haverhill, MA-NH	4.0
MA Essex, MA Middlesex, MA Norfolk, MA Plymouth, MA Suffolk, NH Rockingham.	
5403 Fall River- New Bedford MA, Bristol	1.6
9243 Worcester-Fitchburg-Leominster, MA	1.6
6323 Springfield-Chicopee-Holyoke MA-CT MA Hampden, MA Hampshire	4.8
Non-SMSA Counties: MA Barnstable, MA Dukes, MA Nantucket	3.6
Non-SMSA Counties: MA Franklin	5.9

APPENDIX C

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), age, sex, disability, or low-income status in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontractors, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to nondiscrimination on the grounds of race, color, national origin (including limited English proficiency), age, sex, disability, or low-income status.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Massachusetts Department of Transportation (MassDOT) or FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor will so certify to MassDOT or FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Nondiscrimination provisions of this contract, MassDOT will impose such contract sanctions as it or FHWA may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as MassDOT or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request MassDOT to enter into any litigation to protect the interests of MassDOT. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX D

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor,” which includes consultants) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

PERTINENT NON-DISCRIMINATION AUTHORITIES:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-Aid programs and projects)
- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 *et seq.*) (prohibits discrimination on the basis of sex)
- Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability) and 49 CFR Part 27
- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 *et seq.*) (prohibits discrimination on the basis of age)
- Airport and Airway Improvement Act of 1982 (49 U.S.C. § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex)
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of Federal-Aid recipients, sub-recipients, and contractors, whether such programs or activities are Federally funded or not)
- Titles II and III of the Americans with Disabilities Act (42 U.S.C. §§ 12131-12189), as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38 (prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities)
- The Federal Aviation Administration’s Non-Discrimination Statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations)
- Executive Order 13166, Improving Access to Services for People with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100)
- Title IX of the Education Amendments Act of 1972, as amended (20 U.S.C. 1681 *et seq.*) (prohibits discrimination on the basis of sex in education programs or activities)

*** END OF DOCUMENT ***

DOCUMENT 00880

Revised January 12, 2022



DEPARTMENT OF LABOR

Employment Standards Administration

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONTRACTS

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"General Decision Number: MA20260023 01/02/2026

Superseded General Decision Number: MA20250023

State: Massachusetts

Construction Type: Highway

County: Plymouth County in Massachusetts.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

CARP0330-003 09/01/2025

	Rates	Fringes
CARPENTER (Includes Form Work)...	\$ 50.10	31.45

ENGI0004-027 06/01/2025		

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1.....	\$ 57.83	33.70
Group 2.....	\$ 57.18	33.70

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday,
Labor Day, Memorial Day, Independence Day, Patriot's Day,
Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1: Backhoe/Excavator/Trackhoe; Bobcat/Skid Steer/Skid
Loader; Broom/Sweeper; Crane; Gradall; Loader; Post Driver
(Guardrail/Fences)
Group 2: Bulldozer; Grader/Blade; Milling Machine; Roller

	Rates	Fringes
IRONWORKER (ORNAMENTAL AND STRUCTURAL).....	\$ 57.87	37.67

IRON0007-026 09/16/2025		

LAB00133-001 12/01/2024

	Rates	Fringes
LABORER (Concrete Surfacers).....	\$ 46.20	29.85

LAB00385-002 12/01/2024

	Rates	Fringes
LABORER (Landscape).....	\$ 38.95	29.41

LAB00385-003 12/01/2024

	Rates	Fringes
LABORER (Fence Erection).....	\$ 38.95	29.41

LAB00721-002 12/01/2024

	Rates	Fringes
LABORER (Guardrail Installation).....	\$ 38.95	29.81

LAB00876-001 06/01/2018

	Rates	Fringes
LABORER (Common or General).....	\$ 33.25	22.92

PAIN0035-023 07/01/2024

	Rates	Fringes
PAINTER (Steel).....	\$ 56.76	36.00

SUMA2014-013 01/11/2017

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 56.70	21.08
ELECTRICIAN, Includes Traffic Signalization.....	\$ 45.13	13.86
IRONWORKER, REINFORCING.....	\$ 44.52	19.36

LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 34.32	17.35
LABORER: Concrete Saw (Hand Held/Walk Behind).....	\$ 44.43	14.18
LABORER: Jack Hammer.....	\$ 38.69	17.33
OPERATOR: Forklift.....	\$ 64.67	0.00
OPERATOR: Mechanic.....	\$ 48.74	11.79
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 41.63	23.04
OPERATOR: Piledriver.....	\$ 42.56	17.34
PAINTER: Spray (Linestriping)....	\$ 47.30	6.42
TRAFFIC CONTROL: Flagger.....	\$ 23.00	20.44
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 53.35	12.78
TRUCK DRIVER: Concrete Truck....	\$ 33.69	15.79
TRUCK DRIVER: Dump Truck.....	\$ 37.35	11.00
TRUCK DRIVER: Flatbed Truck.....	\$ 48.53	0.00

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA?", or "SC?" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

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END OF GENERAL DECISION

DOCUMENT A00801
SPECIAL PROVISIONS

ABINGTON
Federal Aid Project No. STP-0035(067)X

Intersection Improvements at Hancock Street and Chestnut Street

Labor participation goals for this project shall be 15.3% for minorities and 6.9% for women for each job category. The goals are applicable to both Contractor's and Subcontractor's on-site construction workforce. Refer to Document 00820 for details.

SCOPE OF WORK

All work under this Contract shall be done in conformance with the *2026 Standard Specifications for Highways and Bridges*, the *Supplemental Specifications* contained in this book, the *Construction Standard Details* in effect as of January 2026, the *1990 Standard Drawings for Signs and Supports*, the *2015 Overhead Signal Structure and Foundation Standard Drawings*, the *11th Edition of the Manual on Uniform Traffic Control Devices (MUTCD)* and the *January 2026 Massachusetts Amendments to the MUTCD*, the *1968 Standard Drawings for Traffic Signals and Highway Lighting*, the latest edition of *The American Standard for Nursery Stock*, the Plans and these Special Provisions.

Work to be done under this Contract consists of safety improvements and intersection reconstruction at Hancock Street and Chestnut Street.

Specific work items on this project include: constructing a roundabout at the intersection of Hancock Street and Chestnut Street, changing the roadway profile and improving topography at the intersection and its approaches, full depth roadway reconstruction, pavement standard milling and overlay, constructing cement concrete sidewalks and driveways, installing granite curbing, constructing cement concrete pedestrian curb ramps to meet current ADA/AAB/MASSDOT accessibility requirements, retaining walls, street lighting, drainage system improvement, water main replacement, landscaping, traffic signs and new pavement markings, safety signing for traffic management, and labor, materials and equipment necessary to complete the work shown on the plans and described hereinafter.

SUBSECTION 7.05 INSURANCE REQUIREMENTS

The insurance requirements set forth in this subsection are in addition to the requirements of the Standard Specifications.

7.05.B: Public Liability Insurance 4.

Asbestos Liability Insurance shall be obtained for this project.

CONTRACTOR QUESTIONS AND ADDENDUM ACKNOWLEDGEMENTS

Prospective bidders are required to submit all questions to the Construction Contracts Engineer by 3:00 P.M. on the Tuesday of the previous week before the scheduled bid opening date. Any questions received after this time will not be considered for review by the Department.

Contractors should email questions and addendum acknowledgements to the following email address massdotSpecifications@dot.state.ma.us The MassDOT proposal number and municipality is to be placed in the subject line.

NONCONFORMING COMPRESSIVE STRENGTH OF CEMENT CONCRETE

Concrete with compressive strength test results failing to attain the limits specified in Table 901.64-3 of 901.64.B: Acceptance Testing shall be evaluated for structural adequacy and serviceability at the Contractors' expense. The Department will review all production records, the concrete test records, petrographic analysis report, field notes, and the placement records for the concrete in question. If the Engineer determines the material is found to be adequate to remain in place, payment shall be adjusted in accordance with the following formula:

$$P = \frac{2(fc - f'c)(UP)(Q)}{f'c}$$

Where:

P = pay adjustment for substandard concrete

$f'c$ = specified minimum compressive strength at 28 days

fc = substandard concrete cylinder compressive strength at 56 days

Q = quantity of concrete represented by the acceptance cylinders tested

UP = unit contract price or the lump sum breakdown price per cubic yard
for the class of concrete involved complete in place

BIDDERS LIST

Pursuant to the provisions of 49 CFR 26.11 all official bidders will be required to report the names, addresses and telephone numbers of all firms that submitted bids or quotes in connection with this project. Failure to comply with a written request for this information within 15 business days may result in a recommendation to the Prequalification Committee that prequalification status be suspended until the information is received.

The Department will survey all firms that have submitted bids or quotes during the previous year prior to setting the annual goal and shall request that each firm report its age and gross receipts for the year.

BUILD AMERICA BUY AMERICA PREFERENCE

On Federally-aid projects the Buy America (23.CFR § 635.410) and Build America, Buy America Act. requires the following,

- (1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, must occur in the United States. Foreign steel and iron can be used if the cost of the materials does not exceed 0.1% of the total Contract cost or \$2,500, whichever is greater. The action of applying a coating to a covered material (i.e., steel and iron) is deemed a manufacturing process subject to Buy America. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to requirements of Build America, Buy America. Steel used for temporary support of excavation, including H piles, soldier piles, and sheeting when the steel is required to be left in place is subject to requirements of Build America, Buy America. Temporary steel, shall remain in place when it falls within the influence zone of the soil supporting any structure or railroad tracks.
- (2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States and
- (3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. “Construction materials” includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives—that is or consists primarily of:
 - non-ferrous metals,
 - plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
 - glass (including optic glass),
 - lumber; or
 - drywall.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

All articles, materials, and supplies should be classified as an iron or steel product, a manufactured product, or another product as specified by law or in 2 CFR part 184 (such other products specified by law or in 2 CFR part 184 include “excluded materials” and “construction materials”); an article, material, or supply must not be considered to fall into multiple categories.

MATERIALS FOR HIGHWAY LIGHT POSTS

All materials for highway lighting poles shall be Aluminum.

WORK SCHEDULE

Work on this Contract is restricted to a normal eight (8) hour day, five (5) day work week Monday through Friday, but not on Saturdays, Sundays or holidays without prior approval of the Engineer. Work requiring lane restrictions shall be done during off-peak hours, between 9:00 AM and 3:30 PM.

The Contractor shall give notice to the Engineer at least 48 hours in advance of beginning any work affecting the maintenance of traffic and shall not proceed with surfacing operations without specific notice to, and the approval of, the Engineer.

DRAINAGE STRUCTURES

Where new pipe is shown on the drawings to be connected into an existing drainage structure to remain, the existing structure shall be first cleaned to remove all mud, debris and other material. The existing structure wall shall be carefully and neatly cut to provide the minimum size opening required for the insertion of the new pipe. The proposed pipe end shall be set or cut off flush with the inside face of the existing structure wall and the remaining space around the pipe completely filled with red brick set in cement grout for the full thickness of the structure wall. Existing shaped inverts shall be reconstructed as necessary to provide a smooth and uniform flow channel from the new pipe through the existing structure.

Where new structures shown on the plans are to connect to existing pipes to remain, the remaining pipe shall be cleaned from the new structure to the next structure downstream. Test pits to locate and survey the existing pipe shall be performed prior to ordering structure. The existing pipe or pipes shall be carefully cut or removed to allow the installation of the new drainage system. The existing pipe end shall be cut off flush with the inside face of the proposed structure wall and the remaining space around the pipe completely filled with red brick set in cement grout for the full thickness of the structure wall.

No separate payment will be made for the cost of connecting existing pipes to new structures, but all costs in connection therewith shall be included in the unit price bid for the various structure items. If new pipe or pipe section are required to extend the existing line to and through the new structure wall, the new pipe will be paid for under the unit price per foot established under that item.

No separate payment will be made for the cost of connecting new pipes into existing structures and necessary alterations of existing structures, but all costs in connection therewith shall be included in the unit prices bid for the various pipe items.

No separate payment will be made for the cost of connecting new pipes to existing pipes, but all costs in connection therewith shall be included in the unit prices bid for the various pipe items.

All drainage castings shall be adjusted to finished grade and shall be completed before the top course is laid.

EQUIVALENT SINGLE AXLE LOADS (ESALS)

The estimated traffic level to be used for SUPERPAVE HMA mixture designs for this contract, expressed in Equivalent Single Axle Loads (ESALs) for the design travel lane over a 20-year period, is 0.6 Million 18-kip (80-kn) ESALs.

HOLIDAY WORK RESTRICTIONS

(Supplementing Subsection 7.09)

The District Highway Director (DHD) may authorize work to continue during these specified time periods if it is determined by the District that the work will not negatively impact the traveling public. DHD may allow work in those areas on a case by case basis and where work is behind barrier and will not impact traffic

Below are the holiday work restrictions:

New Years Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the DHD and the local police chief.

Martin Luther King's Birthday (Federal Holiday)

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

President's Day (Federal Holiday)

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

Evacuation Day (Suffolk County State Holiday)

No work restrictions due to traffic concerns.

Patriot's Day (State Holiday)

Work restrictions will be in place for Districts 3 and 6 along the entire Boston Marathon route and any other locations that the DHD in those districts determine are warranted so as to not to impact the marathon. All other districts work restrictions will be as per DHD.

Mother's Day

No work on Western Turnpike and Metropolitan Highway System from 5:00 AM on the Friday before, until the normal start of business on the following day.

Memorial Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

HOLIDAY WORK RESTRICTIONS (Continued)**Bunker Hill Day (Suffolk County State Holiday)**

No work restrictions due to traffic concerns.

Juneteenth

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

Independence Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the DHD and the local police chief.

Labor Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

Columbus Day (Federal Holiday)

No work on major arterials from 5:00 AM on the Friday before, until the normal start of business on the following day

Veterans' Day (Federal Holiday)

No work restrictions due to traffic concerns.

Thanksgiving Day (Federal Holiday)

No work on major arterials from 5:00 AM two days before until the normal start of business on the following Monday.

Christmas Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day.

2026 FIFA WORLD CUP – BOSTON, MASSACHUSETTS

The 2026 FIFA World Cup will be held at Gillette Stadium in Foxborough, related events, and significant tourist events such as Sail Boston and the 250th Anniversary of the United States will be held throughout the region. Matches and Fan Fest and other possible 250th Celebration activities are scheduled through June, July and August 2026. The District will be imposing work and/or traffic restrictions as necessary to minimize impacts during these periods when, as determined by MassDOT, the Contractor's operations could impact vehicular traffic, particularly on interstate highways and major arterials throughout the region and local roads near event sites. No additional compensation will be allowed for work restrictions except as determined under Subsection 8.10. nor will the Contractor have any claim for related costs, direct or indirect. The Contract time determinations have accounted for potential work restriction during this period and Contractor's should plan accordingly. Any necessary or emergency work required during this time will require District approval.

TRUCK SAFETY DEVICES

(Supplementing Subsection 7.04: Motor Vehicles)

All motor vehicles subject to Section 7 of Chapter 90 to be operated under this Contract shall be equipped with safety devices as provided therein and in 540 CMR 4.00.

By December 31, 2025, the Contractor shall certify to the Registry of Motor Vehicles, in a manner prescribed by the Registrar, that all applicable vehicles are equipped with Lateral Protective Devices, Convex Mirrors, Cross Over Mirror(s) and Back Up Cameras in accordance with the requirements of 540 CMR 4.00.

The Contractor shall provide evidence satisfactory to the Department to demonstrate compliance with the above certification requirement for all applicable vehicles operated under this Contract by the Contractor and its subcontractors and vendors in a manner set forth by the Department. Thereafter, the Contractor shall have an affirmative obligation to continue to provide such evidence of compliance on an ongoing basis and no later than 7 days after certification with the Registry of Motor Vehicles of any additional vehicles operated under this Contract by the Contractor and its subcontractors and vendors.

Non-compliance with respect to a vehicle that is subject to 540 CMR 4.00 may subject the Contractor to statutory fines as established in M.G.L. c. 90, § 7 and/or contractual remedies up to and including termination of the Contract.

SOIL STOCKPILING DIRECTIVE P-22-001

Any stockpiling of soil must be performed in compliance with Policy Directive P-22-001, Off- Site Stockpiling of Soil from MassDOT Construction Projects. This directive limits the allowable locations for off-site stockpiling of soil generated during MassDOT projects and includes various requirements that must be satisfied by the contractor prior to off-site stockpiling. The Contractor is responsible for identifying a suitable stockpile location.

CONTAMINATED SOIL

Soil to be removed from the project area shall not be assumed to be uncontaminated and must be evaluated prior to off-site management for potential contamination with hazardous materials. No soil may be disposed of off-site without proper assessment by the contractor and approval from the Resident Engineer (RE), District Environmental Engineer (DEE), or the project designee.

NOTICE TO OWNERS OF UTILITIES

(Supplementing Subsection 7.13)

District 5 Utility/Constructability Engineer

Christopher Lockett, P.E.

Phone: 508-245-8795

chris.lockett@dot.state.ma.us

The Contractor shall give written notice to all public service corporations or officials, owning or having charge of public or privately owned utilities, of his intention to commence operations affecting such utilities one week in advance of the commencement of such operations. The Contractor shall, at the same time, file a copy of such notice with the Engineer.

Before commencing work on service connections, the Contractor shall contact the serving utility to ensure that proper construction procedures are followed.

The following are the names and addresses of some of the agencies which may be affected and must be notified. Completeness of this list is not guaranteed by the Department. The Contractor shall assure that all affected agencies are notified.

NATIONAL GRID EMERGENCY TELEPHONE NUMBERS**GAS:**

Emergency: 1-800-233-5325

New Service: 1- 877-696-4743

Customer Support: 1-800-732-3400

ELECTRIC:

Outage/ Emergency: 1-800-465-1212

New Service: 1-800-375-7405

Customer Support: 1-800-322-3223

EVERSOURCE EMERGENCY TELEPHONE NUMBERS**GAS:**

Outage/ Emergency: 800-592-2000

New Service: 866-678-2744

Customer Support: 800-592-2000

ELECTRIC:

Outage/ Emergency: 800-592-2000 or 844-726-7562

New Service: 1-888-633-3797 (1-888-need pwr)

Customer Support: 1-800-340-9822

NOTICE TO OWNERS OF UTILITIES (Continued)**TOWN OF ABINGTON****POLICE**

David Majenski, Chief of Police
215 Central Street
Abington, MA 02351
Phone: 781-878-3232

FIRE

Jack Glynn, Fire Chief
1040 Bedford Street
Abington, MA 02351
Phone: 781-982-2117

DEPARTMENT OF PUBLIC WORKS

John F. Stone, DPW Director
350 Summer Street
Abington, MA 02351
Phone: 781-982-2122

WATER

Abington–Rockland Joint Water Department
Kristel Cameron, Water Superintendent
366 Centre Avenue
Rockland, MA 02370
Phone: 781-878-0901

OWNERS OF UTILITIES**ELECTRIC**

National Grid Electric
Noah Skole and Tochukwu Okafor
40 Sylvan Road
Waltham, MA 02451
Email: noah.skole@nationalgrid.com
Email: tochukwu.okafor@nationalgrid.com

CABLE

1- Comcast Cable Corporation
Wendy Brown
PO Box 6505 – 5 Omni Way
Chelmsford, MA 01824
Phone: 978-848-5163
Email: wendy_brown@comcast.com

TELEPHONE

Verizon
Karen Mealey
385 Myles Standish Boulevard
Taunton, MA 02780
Phone: 774-409-3160
Email: karen.m.mealey@verizon.com

2- Crown Castle

Mark Bonanno
80 Central Street
Boxborough, MA 01719
Phone: 508-616-7818
Email: mark.bonanno@crowncastle.com

GAS

National Grid Gas
Melissa Owens
40 Sylvan Road
Waltham, MA 02451
Phone: 781-907-2845
Email: melissa.owens@nationalgrid.com

FIRE ALARM

Abington Fire Alarm
Jack Glynn
1040 Bedford Street
Abington, MA 02351
Phone: 781-982-2115

Holbrook Regional Emergency

Communications Center
Stephen Hooke
Phone: 781-767-6461
Email: shooke@ncrecc.com

NOTICE TO OWNERS OF UTILITIES (Continued)

Link to Mass DOT Utility Contacts in Abington:

<https://hwy.massdot.state.ma.us/webapps/utilities/select.asp?t=ABINGTON&d=5&c=243>

In case of damage to utilities, the Contractor shall promptly notify the Engineer and shall, if requested, furnish manpower under the Engineer's direction in getting access to the utility. Pipes or other structures damaged by the operation of the Contractor may be repaired by the utility company. The cost of such repairs shall be borne by the Contractor without compensation thereafter.

The work to be done under this Contract may necessitate changes in properties of utility companies listed elsewhere in this document. Immediately after the Notice to Proceed, the Contractor shall confer with the owners of all utilities in order that relocations may be made at times consistent with operation of this Contract.

The rims of all utility manholes and boxes shall be set to conform to the required grades, and the Contractor shall see that all such setting or resetting is substantially and accurately done in conformity with the new grades, whether such setting or resetting is done by him or by companies owning or controlling same, and he shall notify the Engineer of any negligence on the part of the owners of the utilities to perform their work promptly.

The Contractor shall take test pits early in the project in order to avoid underground utility conflicts for the proposed drainage work. The other utilities such as gas work will be required prior to completion of drainage.

WORK DONE BY OTHERS

Relocation of all private utilities made necessary by the construction of this project will be accomplished by the respective utility companies.

REMOVED AND STACKED MATERIALS

All Town owned materials called out on the plans to be removed and stacked, shall be carefully removed, transported and stacked by the Contractor on boards at Town's DPW facility location at 350 Summer Street, Abington,

If the Engineer determines that any part of the material called out to be removed and stacked is unsuitable for reuse, or if the Town decides to abandon part or all of such materials, said material shall become the property of the Contractor, and he shall dispose of it legally offsite at his expense. The cost to stockpile and deliver the material shall be considered incidental to the respective item unless otherwise specified herein, .

SAWCUTS

Sawcuts shall be made at limits of sidewalk and driveway construction and as directed by the Engineer. All sawcuts shall be made to the full depth limit of the pavement. Payment for this work shall be considered incidental to the respective items.

COMPLIANCE WITH THE NATIONAL DEFENSE AUTHORIZATION ACT

(Supplementing Subsection 7.01)

On all projects, the “Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment” Regulation (2 CFR 200.216) prohibits the Contractor from using or furnishing the following telecommunications equipment or services:

- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Telecommunications or video surveillance services provided by such entities or using such equipment.
- Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

This prohibition applies to all products manufactured by the aforementioned companies, including any individual components or parts.

By submitting a bid on a project, the Contractor certifies that all work will be in compliance with the terms of 2 CFR 200.216. The Contractor shall submit a COC indicating compliance with the above provisions for all telecommunications equipment or services included in the Contract.

Payment for the item in which the materials are incorporated may be withheld until these COCs are received. Any cost involved in furnishing the certificate(s) shall be borne by the Contractor.

PROTECTION OF UTILITIES AND PROPERTY

(Supplementing Subsection 7.13)

The Contractor, in constructing or installing facilities parallel to or near sewers, drains, water or gas pipes, electric or telephone conduits, poles, guys, sidewalks and/or other structures shall, at his expense, sustain them securely in place, cooperating with the officers and agents of the various utility companies and municipal departments which control them so the services of these structures may be maintained.

The Contractor shall be responsible for the repair or replacement at his own expense for any damage to such structures caused by his operations, and shall leave them in the same conditions as they existed prior to the commencement of work. In case of damage to utilities, the Contractor shall promptly notify the Owner and shall, if requested, furnish laborers to work temporarily under the Owner's direction in gaining access to the utility. Pipe or other structures damaged by the operation of the Contractor may be repaired by the Department, municipality or the utility company, the cost of such repair to be borne by the Contractor without compensation therefore.

If, as the work progresses, it is found that any of the utility structures are so placed as to, in the judgment of the Engineer, render it impracticable to do the work called for under this Contract, the Contractor shall protect and maintain the services in such utilities and structures, and the Engineer will, as soon thereafter as he reasonably can, cause the position of the utilities to be changed or take such other actions as are deemed suitable and proper.

If live service connections are to be interrupted by excavations of any kind, the Contractor shall not break the service until new services are provided. Abandoned services shall be plugged off or otherwise made secure.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in protecting or repairing property, as specified in this section, shall be considered included in the price paid for the various contract items of work, and no additional compensation will be allowed therefore. No additional compensation will be allowed for work in the vicinity of those properties listed above.

SUBSECTION 8.02 SCHEDULE OF OPERATIONS

Replace this subsection with the following:

An integrated cost and schedule controls program shall be implemented by the Contractor to track and document the progress of the Work from Notice to Proceed (NTP) through the Contractor Field Completion (CFC) Milestone. The Contractor's schedules will be used by the Engineer to monitor project progress, plan the level-of-effort required by the Department's work force and consultants and as a critical decision-making tool. Accordingly, the Contractor shall ensure that it complies fully with the requirements specified herein and that its schedules are both accurate and updated as required by the specification throughout the life of the project. Detailed requirements are provided in Division II, Section 722 Construction Scheduling.

SUBSECTION 8.14 UTILITY COORDINATION, DOCUMENTATION, AND MONITORING RESPONSIBILITIES

A. GENERAL

In accordance with the provisions of Section 8.00 Prosecution and Progress, utility coordination is a critical aspect to this Contract. This section defines the responsibility of the Contractor and MassDOT, with regard to the initial utility relocation plan and changes that occur as the prosecution of the Work progresses. The Engineer, with assistance from the Contractor shall coordinate with Utility companies that are impacted by the Contractor's operations. To support this effort, the Contractor shall provide routine and accurate schedule updates, provide notification of delays, and provide documentation of the steps taken to resolve any conflicts for the temporary and/or permanent relocations of the impacted utilities. The Contractor shall provide copies to the Engineer of the Contractor communication with the Utility companies, including but not limited to:

- Providing advanced notice, for all utility-related meetings initiated by the Contractor.
- Providing meeting minutes for all utility-related meetings that the Contractor attends.
- Providing all test pit records.
- Request for Early Utility work requirements of this section (see below).
- Notification letters for any proposed changes to Utility start dates and/or sequencing.
- Written notification to the Engineer of all apparent utility delays within seven (7) Calendar Days after a recognized delay to actual work in the field – either caused by a Utility or the Contractor.
- Any communication, initiated by the Contractor, associated with additional Right-of-Way needs in support of utility work.
- Submission of completed Utility Completion Forms.

B. PROJECT UTILITY COORDINATION (PUC) FORM

The utility schedule and sequence information provided in the Project Utility Coordination Form (if applicable) is the best available information at the time of the bid and has been considered in setting the contract duration. The Contractor shall use all of this information in developing the bid price and the Baseline Schedule Submission, inclusive of the individual utility durations sequencing requirements, and any work that has been noted as potentially concurrent utility installations.

C. INITIATION OF UTILITY WORK

The Engineer will issue all initial notice-to-proceed dates to each Utility company based on either the:

- 1) Contractor's accepted Baseline Schedule
- 2) An approved Early Utility Request in the form of an Early Utility sub-net schedule (in accordance with the requirements of this Subsection)
- 3) An approved Proposal Schedule

C.1 - BASELINE SCHEDULE – UTILITY BASIS

The Contractor shall provide a Baseline Schedule submission in accordance with the requirements of Subsection 8.02 and inclusive of all of the information provided in the PUC Form that has been issued in the Contract documents. This is to include the utility durations, sequencing of work, allowable concurrent work, and all applicable considerations that have been depicted on the PUC Form.

SUBSECTION 8.14 (Continued)**C.2 – EARLY UTILITY REQUEST – (aka SUBNET SCHEDULE) PRIOR TO THE BASELINE**

All early utility work is defined as any anticipated/required utility relocations that need to occur prior to the Baseline Schedule acceptance. In all cases of proposed early utility relocation, the Contractor shall present all known information at the pre-construction conference in the form of a ‘sub-net’ schedule showing when each early utility activity needs to be issued a notice-to-proceed. The Contractor shall provide advance notification of this intent to request early utility work in writing at or prior to the Pre-Construction meeting. Prior to officially requesting approval for early utility work, the Contractor shall also coordinate with MassDOT and all utility companies (private, state or municipal) which may be impacted by the Contract. If this request is acceptable to the Utilities and to MassDOT, the Engineer will issue a notice-to-proceed to the affected Utilities, based on these accepted dates.

C.3 – PROPOSAL SCHEDULE - CHANGES TO THE PUC FORM

If the Contractor intends to submit a schedule (in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02) that contains durations or sequencing that vary from those provided in the Project Utility Coordination (PUC) Form, the Contractor must submit this as an intended change, in the form of a Proposal Schedule and in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02. These proposed changes are subject to the approval of the Engineer and the impacted utilities, in the form of this Proposal Schedule and a proposed revision to the PUC form. The Contractor shall not proceed with any changes of this type without written authorization from the Engineer, that references the approved Proposal Schedule and PUC form changes. The submission of the Baseline Schedule should not include any of these types of proposed utility changes and should not delay the submission of the Baseline Schedule. As a prerequisite to the Proposal Schedule submission, and in advance of the utility notification(s) period, the Contractor shall coordinate the proposed utility changes with the Engineer and the utility companies, to develop a mutually agreed upon schedule, prior to the start of construction.

D. UTILITY DELAYS

The Contractor shall notify the Engineer upon becoming aware that a Utility owner is not advancing the work in accordance with the approved utility schedule. Such notice shall be provided to the Engineer no later than seven (7) calendar days after the occurrence of the event that the Contractor believes to be a utility delay. After such notice, the Engineer and the Contractor shall continue to diligently seek the Utility Owner’s cooperation in performing their scope of Work.

In order to demonstrate that a critical path delay has been caused by a third-party Utility, the Contractor must demonstrate, through the requirements of the monthly Progress Schedule submissions and the supporting contract records associated with Subsection 8.02, 8.10 and 8.14, that the delays were beyond the control of the Contractor.

All documentation provided in this section is subject to the review and verification of the Engineer and, if required, the Utility Owner. In accordance with MassDOT Specifications, Division I, Subsection 8.10, a Time Extension will be granted for a delay caused by a Utility, only if the actual duration of the utility work is in excess of that shown on the Project Utility Coordination Form, and only if;

SUBSECTION 8.14 (Continued)

- 1) proper Notification of Delay was provided to MassDOT in accordance with the time requirements that are specified in this Section
- 2) the utility delay is a critical path impact to the Baseline Schedule (or most recently approved Progress Schedule)

E. LOCATION OF UTILITIES

The locations of existing utilities are shown on the Contract drawings as an approximation only. The Contractor shall perform a pre-construction utility survey, including any required test pits, to determine the location of all known utilities no later than thirty (30) calendar days before commencing physical site work in the affected area.

F. POST UTILITY SURVEY – NOTIFICATION

Following completion of a utility survey of existing locations, the Contractor will be responsible to notify the Engineer of any known conflicts associated with the actual location of utilities prior to the start of the work. The Engineer and the Contractor will coordinate with any utility whose assets are to be affected by the Work of this Contract. A partial list of utility contact information is provided in the Project Utility Coordination Form.

G. MEETINGS AND COOPERATION WITH UTILITY OWNERS

The Contractor shall notify the Engineer in advance of any meeting they initiate with a Utility Owner's representative to allow MassDOT to participate in the meeting if needed.

Prior to the Pre-Construction Meeting, the Contractor should meet with all Utility Owners who will be required to perform utility relocations within the first 6 months of the project, to update the affected utilities of the Project Utility Coordination Form and all other applicable Contract requirements that impact the Utilities. The Contractor shall copy the Engineer on any correspondence between the Utility Owner and the Contractor.

H. FORCE ACCOUNT / UTILITY MONITORING REQUIREMENTS

The Engineer will be responsible for recording daily Utility work force reports. The start, suspension, re-start, and completion dates of each of the Utilities, within each phase of the utility relocation work, will be monitored and agreed to by the Engineer and the Contractor as the work progresses.

I. ACCESS AND INSPECTION

The Contractor shall be responsible for allowing Utility owners access to their own utilities to perform the relocations and/or inspections. The Contractor shall schedule their work accordingly so as not to delay or prevent each utility from maintaining their relocation schedule.

ENVIRONMENTAL PERMITTING:

An Order of Conditions DEP# 084-0583 has been obtained from the Abington Conservation Commission under the Wetlands Protection Act. If field conditions and/or Contractor-proposed erection, demolition, storage, or other procedures not originally allowed by existing environmental permits require work to occur in or otherwise impact water or wetland resource areas, the Contractor is advised that no associated work can occur until all required environmental permits have been either amended or obtained allowing such work. The Contractor must notify the District 5 Highway Director and Resident Engineer in writing at least 60 days prior to desired commencement of the proposed activity. All environmental submittals, including any contact with Local, State, or Federal environmental agencies, must be coordinated with the District 5 Environmental Engineer. The Contractor is expected to fully cooperate with requests for information and provide same in a timely manner. The Contractor is further advised that the Department will not entertain a delay claim due to the time required to modify or obtain the environmental permits.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION FILE NUMBER SIGN

This project is subject to Massachusetts General Laws, Chapter 131, Section 40 as amended. Signs shall be in accordance with the latest MassDOT Construction Standards. All costs for the manufacture, erection, maintenance, moving, and removal of the signs shall be absorbed by the contractor with no additional compensation other than the contract unit prices.

For this project the Massachusetts Department of Environmental Protection File Number is 084-0583.

EMERALD ASH BORER ADVISORY

To the extent possible, all trees and brush shall be disposed on site, typically chipped and spread in place. When trees or brush must be removed, such as in urban, or otherwise populated areas, Contractor shall identify proposed location for disposal, and provide written notification to the Engineer for approval. Disposal shall be in city or town of project, or at minimum, within county, of construction operations.

NOTIFICATION OF FUNDING SOURCES FOR WORK TO BE PAID BY OTHERS

This contract has an agreement with the ***Town of Abington***; whereas when the construction costs for the contract scope exceed the total participating contract bid price by more than ten percent (10%), the ***Town*** shall be responsible for the amount over 110% of the total participating contract bid price.

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION

The northern long-eared bat (*Myotis septentrionalis*; NLEB) and tricolored bat (*Perimyotis subflavus*; TCB) are listed as federally endangered or proposed endangered, respectfully, under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service (USFWS) developed this guidance to address ESA compliance and promote conservation of NLEB and TCB. MassDOT, on behalf of FHWA, submitted a Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key Consultation through Information for Planning and Consultation (IPaC) and generated a May Affect, Not Likely to Adversely Affect (NLAA) determination (see Document A00844 USFWS NLAA). Subsequently, the project has completed Section 7 consultation under the ESA.

In advance of the uplisting of the TCB to endangered under the ESA, the following Avoidance and Minimization Measures (AMMs) must be strictly adhered to in order to protect NLEB and TCB and to be in compliance with the ESA. Contact MassDOT Environmental Services - Wildlife Unit Supervisor for questions about project limits, restrictions, or conservation measures.

General AMMs

- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and TCB, including all applicable AMMs. NLEB and TCB information (<https://www.fws.gov/midwest/endangered/mammals/nleb/> and <https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus>) shall be made available to all personnel.
- On August 7, 2024, MassDOT Highway Division Environmental Services conducted a northern long-eared bat summer presence/absence survey, in accordance with the 2024 survey guidelines. The survey did confirm the presence of NLEB and/or TCB. If work is proposed by the Contractor past August 7, 2029, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.

Lighting AMMs

- Direct temporary lighting away from suitable habitat during the active season: April 15 to October 31
- When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION (Continued)**Tree Removal AMMs**

- If additional cutting is proposed by the Contractor that is outside the scope of this contract, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.
- Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).
- No tree cutting, trimming, or removal of trees and/or woody vegetation >3-inch in diameter shall be conducted between April 15 to September 30
- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and/or TCB, including the TOY restriction. If this restriction needs to be waived at any location(s) the Resident Engineer shall send a locus map of the proposed work to MassDOT Highway Division's Environmental Services Section for review and a determination if the restriction can be waived.

VALUE ENGINEERING CHANGE PROPOSAL

This Subsection defines the conditions and requirements which apply to Value Engineering Change Proposals (“VECPs”). The purpose of this provision is to encourage the Contractor to propose changes in certain project requirements that will maintain the project’s functional requirements at a savings in contract time, contract price, or both. The net savings obtained by using a VECP that meets the conditions and requirements set forth here will be shared by the Contractor and MassDOT.

VECP’s under this provision are to be initiated, developed and submitted to MassDOT by the Contractor. The VECP must show the contemplated changes to the Drawings, Specifications and other requirements in the Contract. When a VECP submitted pursuant to this section is fully accepted by MassDOT, the VECP will be implemented by the Contractor and paid using the current cost and resource loaded schedule. Contractor shall demonstrate that the VECP is equal to, or better than, the original design or material; that there is an interest in public safety within the VECP; that there is a life-cycle cost benefit; and/or that end users will benefit from the shortened schedule. VECPs shall be consistent with the MassHighway/MassDOT Standard Specifications for Highways and Bridges and other applicable reference documents and directives. Any proposed deviation from these documents will need to be clearly identified in the VECP Proposal Documents, and must be approved by MassDOT’s Chief Engineer before accepting this VECP.

- A. In order to be considered for MassDOT review each VECP shall:
1. Be clearly labeled pursuant to this Subsection;
 2. Yield a net savings at least two hundred and fifty thousand (250,000.00) Dollars and/or a net saving of contract completion duration of at least three (3) months;
 3. The proposed changes to contract items must:
 - a. maintain the specified items’ required functions (service life, reliability);
 - b. meet applicable safety regulations and codes;
 - c. material substitutions must be in accordance with DOT prequalified/preapproved products and must be tested in accordance with standard material specs/testing methods (and considering all relevant environmental, load, and other relevant factors);
 - d. show economy of operation, ease of maintenance, ease of construction, and necessary standardized features and appearance; and
 4. Shall not require an extension of Contract Time or Contract Milestones, with the exception of cases when there are anticipated significant cost saving.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

The thresholds above are considered to be a general guideline. MassDOT will consider VECPs outside of these thresholds if a significant benefit is demonstrated. Additionally, notwithstanding this VECP process, MassDOT will consider minor revisions in the form of a Contract Modification.

Further, any VECP submitted shall be in sufficient detail to clearly define the proposed change. The Contractor's failure to provide information of the type, detail and in a format to facilitate the MassDOT's review, may be grounds for rejection of the VECP. Additionally, the Contractor will not be entitled to any equitable adjustment or increased Time, due to any aspect of any of the proposed VECP including permitting, right of way, utility coordination or delayed responses by MassDOT. If, after the progression of the work associated with the executed Contract Modification for the VECP, any additional costs are realized by the Contractor or any of the sub-consultants, sub-contractors, or suppliers, the Contractor shall be obligated to pay for any and all costs.

- B. The following initial items shall be provided by the Contractor for MassDOT's review. *Items 1-6 need to be submitted prior to the start of MassDOT's review of the VECP and item 7 is an important consideration for the pricing of the VECP and the timeline of the proposed VECP schedule.*
1. **VECP Description:** A description of the difference between the existing and the proposed Contract requirements, and the comparative advantages and disadvantages of each;
 2. **VECP Change Listing:** A listing of the Contract requirements that will need to be changed, modified, or reviewed as well as the proposed Contract document changes in the Instructions to Bidders, Contract, Standard Specifications, General Requirements and Special Provisions required by the VECP.
 3. **Construction Schedule Update:** Any changes in the Contract Time(s) or Contract Milestone(s), that will result from acceptance of the VECP, shall be accompanied by a contemporaneous schedule analysis (*i.e., the Contractor's baseline schedule submission, all past/required monthly schedule updates, a detailed assessment of all past delays, and a resource loaded Critical Path Method schedule as specified in Section 8.0 / Subsection 8.02 of this Contract*) of the projected Work that remains including the proposed VECP related schedule changes (*inclusive of the timeline to review accept the VECP and the timeline for implementing the design changes*) in the remaining work. This shall be submitted in the form of a Proposal Schedule until the VECP has been formally accepted. Note: All of this information is to be updated, recertified, and formally accepted by MassDOT before final acceptance of this this VECP is issued.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

4. **Date for MassDOT's Acceptance:** A statement that clearly justifies the date by which the VECP must be accepted to obtain the maximum price reduction, noting any effect upon the Contract Time(s) and/or Contract Milestone(s). This statement must include a narrative that demonstrates the most recent construction schedule has been utilized to justify that proposed acceptance date (*e.g. "in order to start to fabricate critical materials, authorization must be provided to work on the shop drawings by no later than [date]"*). The Contractor should allow for at least sixty (60) to ninety (90) days for acceptance by MassDOT once all of the VECP documentation has been provided. Acceptance shall mean that MassDOT has received a finalized and executed contract modification. However, this is a proposed Contract change.

The Contractor is fully obligated to progress the Work of the original Contract and MassDOT is not liable for any delays or costs that may occur in the review phase of any VECP proposal.

5. **Cost and Savings Estimates:** A detailed estimate of the anticipated net savings, calculated as follows:
- a. **Original Scope:** Isolate the cost of performing the original contract construction activities, in accordance with the original Contract Documents, as originally bid by the Contractor, that are anticipated to be superseded by the VECP. *This cost is to include any original contract scope that is anticipated to be altered or eliminated by the VECP such as, shop drawing preparation, inspection work, testing, maintenance of traffic, or any other original contract costs, that have yet to have been performed at the time of this VECP submission.*
 - b. **New VECP Scope:** Calculate the cost of performing the comparable construction activities associated with the VECP.
 - c. **Contractor's Engineer & Inspection:** Calculate the cost of engineering, inspection, and design work by the Contractor's Engineer/Designer. This should be a realistic estimate of the costs of any required engineering, design and review work by the Contractor's Engineer.
 - d. **MassDOT's Costs:** MassDOT's estimate of costs to perform engineering/design reviews, cost estimate reviews, schedule reviews, and any other administrative costs to review and recommend implementation of the proposed VECP. (*including all anticipated increased costs to MassDOT on other Contracts and all anticipated follow-on increased costs to MassDOT, if any*) as provided by MassDOT. MassDOT's estimated costs must be included the VECP calculation and will be provided by MassDOT in support of the VECP evaluation process.
 - e. **Other Costs:** Estimated costs associated with any revisions to other project related costs, such as Environmental Permits or Right of Way acquisitions, including other agency or municipality costs, as provided by MassDOT.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)Net Savings:

The net savings to be split between MassDOT and the Contractor shall be calculated using the items above as follows: $a - (b+c+d+e) = \text{net savings}$

6. *The Contractor shall also provide:*

- a. A proposed Change Order, which explains and justifies any required Equitable Adjustment in the Contract Price.
- b. The Contractor's actual costs expended for developing the VECP as of the date of the VECP submission;

7. ***Design Changes and Drawings:*** The costs that are outlined above should be inclusive of the following design and engineering responsibilities.

- a. Design changes shall be prepared and stamped by the Contractor's professional designer and/or engineer. In addition, in the development of the VECP; the Contractor is responsible for anticipating and managing all aspects associated with any VECP design work that must be performed by a licensed Engineer.
- b. The Contractor's engineer must analyze and stamp all components of any aspect of the project that has been redesigned, changed, or altered as a result of this VECP.
- c. The Contractor's engineer shall provide all calculations and supporting design/engineering documentation that was utilized to develop the changes and stamped drawings. These will be used by MassDOT's Designer-of-Record to review the VECP changes. The Contractor is limited to selecting only those engineer's that have been pre-qualified by MassDOT's A&E Board.
- d. MassDOT's Designer-of-Record will review and respond to all completed design submissions related to this VECP within thirty (30) calendar days, unless determined to be a non-critical path item.
- e. MassDOT will be responsible for estimating and managing MassDOT's Designer-of-Record during the VECP review and implementation. Should any significant conflicts arise, between the Contractor's Engineer and MassDOT's Designer-of-Record, the DOT and the Contractor will work expeditiously to resolve the conflict. Should this type of conflict continue for greater than five (5) days, the Contractor is to bear all financial and time related impacts of such delay and must seek to resolve the design conflict, in an acceptable manner to MassDOT. The resolution of this conflict will be funded at the Contractor's expense – exclusive of the net saving that was agreed to at the execution of the contract modification for this VECP.
- f. The Contractor's Engineer may also be required to inspect the construction work. The Contractor is to include such anticipated inspection costs in the initial VECP.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

- g. MassDOT's Designer of Record will remain the Designer-of-Record for the entire Project. Any costs incurred in the use of MassDOT's Designer-of-Record by MassDOT or Contractor associated with the review of a VECP are to be included in the calculated net savings.
- C. Approval of the VECP shall not occur until a Contract Modification, incorporating the VECP, is issued by MassDOT and properly executed by the Contractor. MassDOT may accept or reject part or all of any VECP at any time prior to an executed Contract Modification for the applicable VECP. The decision of MassDOT, concerning acceptance or rejection of any VECP, shall be final and shall not be subject to dispute resolution.

It is expected that several weeks may go by before the final VECP documentation has been executed with a Contract Modification. Therefore, MassDOT intends to make certain that the initial cost estimate information has not changed before entering into a Contract Modification. As the VECP evaluation process is finalized, and prior to the signed Contract Modification for the VECP, the Contractor and MassDOT must re-certify the current status of the originally proposed cost and/or schedule savings.

Until a contract modification is issued and schedule and cost/savings re-certification is complete and accepted by MassDOT, the Contractor shall remain obligated to perform the Work in accordance with the terms and conditions of the original Contract Documents.

Upon completion of the work associated with the VECP, MassDOT may require verification that the VECP savings has been achieved.

- D. VECPs will be processed (distributed, reviewed, commented upon, accepted or rejected) expeditiously (pursuant to M.G.L. c. 30, § 39R); however, as this is an elective modification to the contract, MassDOT shall not be liable for any delay or cost in the review and acceptance of the VECP. During the review of the VECP, the Contractor remains obligated to progress the original Contract scope, and schedule, as planned; until a Contract Modification, accepting the Contractor re-certified VECP, has been executed by MassDOT.

The Contractor has the right to withdraw part, or all of any VECP, prior to acceptance by MassDOT. Such withdrawal shall be made in writing to the Engineer. The Contractor shall state the period of time, from the date of the initial VECP submittal, that the VECP shall remain valid and feasible. Revision of this validity and feasibility period shall be allowed only by mutual agreement of the Contractor and the Engineer in writing.

If the Contractor desires to withdraw the proposal prior to the expiration of this period for non-technical reason, MassDOT reserves the right to recover all actual costs that have been incurred to MassDOT.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

If the Contractor withdraws the VEC Proposal, MassDOT reserves the right to proceed with the VECP or any portion of the VECP as a normal change and the Contractor waives any right it may have had to share in net savings thereunder.

For purposes of this provision, expiration of the time established by the Contractor for approval shall be considered as withdrawal by the Contractor if MassDOT requests an extension of that time and the Contractor does not provide a written extension.

- E. With regard to unknown conditions or sub-surface work, in general, the expectation is that the Contractor and MassDOT will strive to gain enough knowledge about the risks in order to provide a forward-priced Change Proposal. Therefore, any costs to fully evaluate the proposal, such as additional borings and/or test pits, must be considered in the cost evaluation of whether the VECP is worth pursuing. However, if it is impractical to gather conclusive exploratory information, before the VECP is executed, MassDOT may consider provisions in the VECP that clearly identifies the risk sharing (cost and time) related specifically to the unknown/sub-surface conditions. If these VECP provisions are acceptable to MassDOT they are to include supplemental language to provide a determination of the final savings/cost, and time impacts, no later than 45 days after the sub-surface work is completed. All other aspects of the VECP, unrelated to these Provisions, will be binding upon execution of the VECP.

ITEM 102.2**TREE TRIMMING****LUMP SUM**

Work under this item shall conform to the relevant provisions of Subsections 8.08 and 101 of the Standard Specifications.

The work consists of removing all living, dead, dying, broken and certain other limbs and branches in areas adjacent to proposed overhead wire relocations, highway lighting, traffic signals, traffic signage, other areas as described on the plans, and as required by the Engineer from trees located within the limits of the Project and the satisfactory disposal of all such removed debris.

Tree trimming shall be done as directed by the Engineer. Any tree trimming for overhead wire relocations shall meet the current requirements of each Utility. Prior to commencing work the Contractor shall verify each location with the Utility Companies.

All pruning and tree work shall be in conformance with the most current version of the American National Standards Institute (ANSI) Standard Z-133.1 and A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance.

All tree trimming work within 10 feet of energized power lines and equipment shall be in conformance with the most current version of the United States Department of Labor (DOL) OSHA Standard 1910.269(r) along with subsections (1) through (8).

All work under this Item will be performed or supervised by the Arborist.

Contractor shall be required to provide a crew, consisting of a bucket truck with operator and grounds man for pruning and removal. The minimum crew shall consist of the following: a supervisor and three tree-trimmers/laborers. The crew shall be equipped with all necessary equipment needed to complete the work including, but not limited to, pickup trucks, chippers, gas powered chain saws, hand saws, loppers, shears, pruners, branch trimmers, ladders, tree- climbing equipment, etc. Fuel for equipment shall also be considered incidental to this Item. The crew shall be OSHA certified as line-clearance tree trimmers in order to work within 10 feet of energized power lines and equipment.

SUBMITTALS

Prior to start of work, the Contractor shall submit to the Engineer the name, certification number and resume of the Arborist referenced herein. Cost for the Arborist for all activities pertaining to this Item shall be incidental to this Item.

Incidental to this Item, the Contractor shall provide to the Engineer one (1) copy of the most current version of the American National Standards Institute (ANSI) Standard Z-133.1 and A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance, Part 1: Pruning. These references shall be kept by the Engineer at his/her office for the length of the Contract.

Prior to start of work, the Contractor shall coordinate with the MassDOT Landscape Design Section, the Electric Utility Company, and the Utility Company with pole set in the field to confirm number, location, and extent of selective tree trimming.

ITEM 102.2 (Continued)**DESCRIPTION OF WORK**

Line-clearance Tree Trimming: Shall be defined as the pruning, trimming, repairing, maintaining, removing, or clearing of trees or the cutting of brush that is near (within 10 feet of) energized power lines.

TREE: Shall be defined as having a diameter of 4 inches or over, measured at a point 3 feet above the average ground.

LIMBS AND BRANCHES: Shall be defined as wood having a diameter of ½ inch or over and wood that has a diameter of less than ½ inch shall be considered a TWIG.

A DYING LIMB OR BRANCH: May have live growth at some point but shall be removed if found to be in an unhealthy condition.

While it is not the intent that every dead, dying and/or broken twig be removed from trees requiring trimming, the tree worker will be required to remove all such twigs accessible in the areas of the tree in which he/she is working.

If required by the Engineer, specific trees or parts thereof which are so located that damage may result from dropping shall be reduced by rope or cable lowering.

Tree shaping may be required on trees, where up-branching done under this contract has distorted the natural symmetry of the tree. Tree shaping shall consist of the removal of limbs and branches from other locations of the tree where removal is desirable to restore natural symmetry.

All sucker growth on all tree trunks within the limits of the contract shall be removed from the ground level to the beginning of the main branch system.

Any and all trees, branches, or brush conflicting with utility poles, equipment, overhead wires, and service connections, shall be removed and/or cut back using best practices to satisfy the requirements of all Utilities with an attachment to the pole line.

Any and all branches extending directly below a street luminaire as to limit the light reaching the street or path/sidewalk surfaces shall be removed and all branches shall be cut back to afford a minimum of 5-foot clearance on all sides of the luminaire. The path/sidewalk surface shall be considered as the area from the edge of the roadway surface to the edge of the path/sidewalk surface farthest from the roadway.

By cutting NEARLY, but not quite, flush with the trunk, limb or branch, the "collar" is left at the top of the wound (in the crotch of the union). This will permit the callus growth to cover the wound in a shorter period of time.

ITEM 102.2 (Continued)**BASIS OF PAYMENT**

Item 102.2 will be paid at the Contract LUMP SUM price and is considered full compensation for all labor, certifications, materials, equipment, apparatus, tools and incidentals necessary for the satisfactory completion of the work.

ITEM 102.511 **TREE PROTECTION - ARMORING AND PRUNING** **EACH**

The work under this item shall conform to the relevant provisions of Subsection 771 of the Standard Specifications and the following:

Tree protection – armoring and pruning shall be used for instances where construction activity (the use of heavy equipment), comes within proximity to potentially damage tree trunk(s) or limbs.

The work shall include the furnishing and installing of temporary tree trunk protection, minor limb pruning, or removal of lower tree limbs to prevent injury to the tree from construction equipment and activities; as shown on the Drawings; and/or as required by the Engineer.

REFERENCES

If requested, the Contractor shall provide to the Engineer one copy of the latest edition of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance: Part 1-Pruning and Part 5-Construction Management Standard. Provision of reference shall be incidental to this item.

MATERIALS

Trunk armoring shall be such that it prevents damage to the trunk from construction equipment. Material used for trunk armoring or mounting shall be such that installation and removal shall not damage the trunk.

Acceptable trunk armoring materials shall include two by four (2x4) wood cladding, mounted with wire or metal strapping, or when duration of construction activities is less than three months, slotted corrugated plastic pipe, mounted with duct tape. Eight (8) once untreated burlap shall be used to wrap the tree trunk prior to installation of cladding.

Alternative armoring methods or materials may be acceptable if approved by the Engineer.

The height of tree trunk cladding shall be measured from the base of the tree (including root flare) to the bottom of the first branch, or to a height of eight (8) feet, or as may be required by the Engineer.

ITEM 102.511 (Continued)**METHODS OF WORK**

Prior to construction activities, the Engineer, Contractor, and the Arborist (if item is included in the contract), shall review trees noted on the Drawings to be protected. Final decision and selection of trees to be armored and/or pruned shall be per the Engineer.

Care shall be taken to avoid damage to the bark during installation and removal of armoring. Trunk armoring shall be maintained such that it is effective for as long as required or replaced when materials are found to be damaged or ineffective, as determined by the Engineer. Replacement, if required, shall be incidental to the work. Armoring shall be removed immediately upon completion of work activities adjacent to the protected tree(s).

Pruning of limbs shall conform to the techniques and standards of the most recent ANSI A300 standards.

DAMAGES OR LOSS

If trees designated for protection under this item are damaged, including root damage from unapproved trespassing onto the root zone, the Contractor shall, at his own expense, secure the services of an Arborist, described in Item 102.55. The Arborist shall be approved by MassDOT.

If, based on the recommendation of the Arborist, the Engineer determines that damages can be remedied by corrective measures, such as repairing trunk or limb injury; soil compaction remediation; pruning; soil injection fertilization; and/or watering; the damage shall be repaired as soon as possible, within the appropriate season for such work and according to industry standards.

If, based on the recommendation of the Arborist, the Engineer determines that damages are irreparable, or that the damages are such that the tree is sufficiently compromised to pose a future safety hazard, the tree shall be removed. Tree removal shall include cleanup of all wood, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil. Such tree removal(s), grinding, debris removal, and topsoil filling, shall be at the Contractor's expense.

Tree removal from improper or inadequate tree protection shall result in the Engineer assessing the Contractor monetary damages consistent with industry standards for assessed value and/or replacement.

ITEM 102.511 (Continued)**METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

Item 102.511 will be measured and paid at the contract unit price per EACH tree to be armored and pruned. This will include full compensation for all labor, equipment, materials, and incidentals for the satisfactory completion of the work and the subsequent removal and satisfactory disposal of the protective materials upon completion of the contract or as required by the Engineer.

Payment for work under this item will be scheduled as follows:

- 40% of the value shall be paid upon installation of trunk armoring and completion of pruning work, if required.
- 60% of the value shall be paid at the end of construction operations that would potentially damage the tree and after protection materials have been removed and properly disposed of by the Contractor. In the event of repairable damages, payment shall be made after the completion of remediation measures.

No separate payment will be made for costs of remedial actions, including Arborist services, tree removal, but all costs in connection therewith shall be included in the Contract unit price bid.

Tree damages assessed, due to lack of or improper tree and plant protective measures being taken, shall be deducted from the contract price of the work.

ITEM 102.521**TREE AND PLANT PROTECTION FENCE****FOOT**

The work under this Item shall conform to the relevant provisions of Subsections 644 and 771 of the Standard Specifications and the following:

Work under this item shall consist of furnishing, installing, and maintaining tree and plant protection fence(s) in a vertical and taut position; removing and resetting fencing as may be required; and final removal of protection fence(s) at the completion of construction activities, or as otherwise required by the Engineer.

The purpose of the fencing is to signify a construction work-free zone and physical barrier, thereby preventing damage to tree roots, tree trunks, soil, and all other vegetation within this delineated Tree and Plant Protection Zone (TPPZ), as shown on the Drawings, as required by the Engineer, and as described herein.

Protection shall be for the duration of the construction activities unless otherwise required by the Engineer.

MATERIALS

Tree and plant protection fence(s) shall provide a minimum forty-eight (48) inch tall barrier, that remains vertical and taut. The Fence shall be orange plastic safety fence (recommended where high visibility is necessary), or wooden snow fencing, or other approved material. Posts and anchoring materials shall be incidental to the work.

Per requirements of the Engineer, additional posts, deeper post depths, and/or additional attachments shall be used if the fabric or fence sags, leans or otherwise is not providing visible or physical protection to the TPPZ.

REFERENCES

If requested, the Contractor shall provide to the Engineer one copy of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1, Pruning and Part 5, Construction Management Standard. Provision of reference shall be incidental to this item.

ESTABLISHMENT OF THE TPPZ

Fencing shall be used to delineate and establish the TPPZ, adjacent to construction areas, staging areas, stockpile areas, as shown on the Drawings, and/or as required by the Engineer.

Fencing shall be located as close to the work zone limit and as far from tree trunk(s) and plants as possible to maximize the area to be protected. Fence shall run parallel and adjacent to construction activity to create a barrier between the work zone and the root zone or designated limit of plants and soils to be protected.

ITEM 102.521 (Continued)

When construction activities surround (or have the potential to surround) trees or plants to be protected, a circular enclosure shall be used. In these instances, the TPPZ limit shall be the drip line of each tree or as close as possible to the drip line, and/or as shown on the Drawings. The drip line is defined as the outermost limit of tree canopy.

The Contractor shall not engage in any construction activity within the TPPZ without the approval of the Engineer. Activities may include operating, moving, or storing equipment, supplies, or materials; and locating temporary facilities, including trailers or portable toilets. Accessing or traversing the TPPZ shall not be permitted.

METHOD OF WORK

TPPZ fencing shall be installed prior to any construction work or staging activities. Fence(s) shall be repositioned where and as necessary for optimum tree and plant protection. Repositioning shall be incidental to this item. TPPZ fencing shall not be moved without prior approval by the Engineer.

The TPPZ shall be protected at all times from compaction of the soil; damage of any kind to trunks, bark, branches, leaves, and roots of all plants; and contamination of the soil with construction materials, debris, silt, fuels, oils, and any chemicals substance.

After construction activities are completed, or when required by the Engineer, fencing, stakes, and other anchoring materials, if any, shall be removed and disposed off-site by the Contractor.

REQUIRED WORK WITHIN THE TPPZ

In the event that grading, trenching, utility work, or storage is unavoidable within the TPPZ, the Engineer shall be notified. Measures may be required for tree protection and preservation, including air spading; the use of six (6) inch depth of wood chips or approved matting for root protection; pruning of branches; and/or trunk protection. These protection measures shall be paid under applicable contract items.

Landscaping work specified within the TPPZ shall be accomplished by hand tools. Where handwork is not feasible, with permission of the Engineer, work shall be conducted with the smallest mechanized equipment necessary.

TREE AND PLANT INJURY OR LOSS

If the TPPZ is encroached by construction activity without approval, at the discretion of the Engineer, the Contractor may be required to provide a more durable barrier (e.g., Jersey Barriers, chain link fence (if not already in use) to secure the area. Costs of furnishing and installing additional or more durable barrier(s) shall be borne by the Contractor.

In such cases of encroachment, soils shall be considered compacted and tree root injury will be assumed. Action shall be taken as specified below.

ITEM 102.521 (Continued)

In the event that trees designated for protection under this item are injured, including root injury from unapproved trespassing onto the root zone, the Contractor shall, at his own expense, secure the services of an Arborist, described under Item 102.55. The Arborist shall be approved by MassDOT.

In the event of spills, compaction or injury, the Contractor shall take corrective action immediately using methods approved by the Engineer, in coordination with the Arborist.

If, based on the recommendations of the Arborist, the Engineer determines that injuries can be remedied by corrective measures, such as repairing trunk or limb injury, soil compaction remediation, pruning, and/or watering; the injury shall be repaired as soon as possible, within the appropriate season for such work, and according to industry standards.

If, based on the recommendations of the Arborist, the Engineer determines that injuries are irreparable, or that the injuries are such that the tree is sufficiently compromised to pose a future safety hazard, the tree shall be removed. Tree removal shall include cleanup of all wood, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil. Such tree removal(s), grinding, debris removal, and filling, shall be at the Contractor's expense.

Tree removal from improper or inadequate protection of the TPPZ shall result in the Engineer assessing the Contractor monetary damages consistent with industry standards for assessed value and/or replacement.

Shrubs removals from improper or inadequate protection of the TPPZ shall be replaced with plants of similar species and equal size or the largest size plants reasonably available. The Engineer shall approve the size, quality, and quantity of the replacement plant(s). Each replacement shall include a minimum of one year of watering and establishment care, specified under Section 771.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Tree and Plant Protection Fence will be measured by the FOOT, complete in place, by the length along the top of the fence.

Tree and plant protection fence will be paid for under the contract unit price per FOOT, complete in place and shall include all materials, labor, and equipment required to furnish, install, anchor, maintain, and remove the fence upon completion, as described herein. Posts, temporary footings, anchoring and removal upon completion, shall be incidental to this item.

No separate payment will be made for costs of remedial actions, including addition of more durable barriers, Arborist services, tree or plant removal, shrub replacement and establishment, but all costs in connection therewith shall be included in the Contract unit price bid.

Tree damages assessed, due to lack of or improper tree and plant protective measures being taken, shall be deducted from the contract price of the work.

ITEM 102.521 (Continued)

Payment for work under this item will be scheduled as follows:

- Forty (40) percent of the value payment will be made upon installation of fencing.
- Sixty (60) percent of the value payment will be made when fencing materials have been maintained to function as specified, for the intended duration, and removed and disposed off-site at the completion of protection measure requirement.

ITEM 102.55**ARBORIST****HOUR****DESCRIPTION**

The work under this Item is for the services of a Certified Arborist. Arborist shall be an International Society of Arboriculture (ISA) Certified Arborist or a Massachusetts Certified Arborist. The Arborist shall have at least 10 years of experience in tree care, including tree protection during construction, and shall demonstrate a familiarity with the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1 Pruning, Part 5 Construction Management Standards, and Part 9 Tree Risk Assessment.

The Arborist's general responsibilities include protecting high priority trees within and adjacent to the project limits, stating areas, and access routes; recommending removal of diseased, damaged or otherwise unhealthy trees that pose a potential safety hazard; evaluating effects of construction on future health of trees close to proposed work; and recommending and/or overseeing tree work and care.

The Arborist for this item shall not be from the same company as the company responsible for selective clearing or tree removal work.

For projects with multiple phases, projects where construction activities (work or stockpiling) shifts, or when otherwise directed by the Engineer, the Arborist shall re-evaluate conditions and provide follow-up recommendations.

SUBMITTALS

- Contractor shall submit to the Engineer for approval by MassDOT Landscape Design the qualifications and experience of the Arborist. Submittal shall include copy of current certification and a resume summarizing specific construction experience (including relevant MassDOT projects) for a minimum of five projects.
- Arborist's Report documenting recommendations shall be submitted to the Engineer and an electronic copy forwarded to MassDOT Landscape Design Section. Report shall include the following:

SCOPE OF WORK

The Arborist shall be responsible for the following tasks:

- o Initial Evaluation and Report
 - recommend and prioritize trees that require removal as appropriate to contract scope, project limits, and project intent;
 - review and modify, if necessary, tree protection measures shown on the drawings
 - review and mark limits of protective fencing for trees and groups of trees to be retained;
 - review and recommend protection measures for high priority trees;
 - submit a marked-up Construction Plan that briefly notes recommendations and decisions made in the field;
 - submit a corresponding report including photo documentation;

ITEM 102.55 (Continued)

- o Oversight
 - direct or execute pruning of branches and/or roots, air spading, and/or other tree care operations
- o Monitoring and Inspections
 - periodically inspect fencing and ensure root zones are properly protected and clear of equipment and materials as required by the Engineer
 - reevaluate tree protection measures for various phases of a project
 - submit inspection notes with relevant and dated photos to the Engineer.
- o Special Care
 - oversee tree pruning for health and aesthetics
 - recommend fertilization and amendments
 - recommend and oversee pest control

METHODS

Prior to any work, the Arborist shall walk the site with the Contractor, the Engineer, the Town Tree Warden, and, if specified, the MassDOT Landscape Architect, to review trees, limits of construction activities, and other concerns. Where required for proper assessment of tree impacts, limits of work shall be staked or otherwise marked in the field prior to the site walk.

Trees to be removed shall be painted or otherwise marked.

Trees to be retained shall be marked such that it does not mar or damage the tree and such that marker is not easily removed. As applicable to the work and scope of the project, trees designated for removal or to be retained shall be noted on the plan and/or in the arborist's report and photographed.

Trees designated to remain that are damaged or removed by construction activities shall be noted and photographed for inclusion in inspection reports submitted to the Engineer.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 102.55 will be measured for payment by the Hour of time spent onsite.

Item 102.55 will be paid at the contract unit price per hour upon submittal and acceptance of Reports described above.

ITEM 120.1**UNCLASSIFIED EXCAVATION****CUBIC YARD**

The work to be done under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specifications and the following:

GENERAL

The work under this Item shall include all excavation not otherwise included for payment under other items of this Contract, including, but not limited to, the removal and disposal (if necessary) of the following: hot mix asphalt curbing, rock, pipe, gas valves and boxes, granite, cobblestones, muck, guardrail, fencing and posts, flag pole, concrete foundations, or other materials not otherwise covered in other items of this contract.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 120.1 will be measured for payment by the CUBIC YARD in accordance with Subsection 120.80.

Item 120.1 will be paid at the Contract unit price per CUBIC YARD in accordance with Subsection 120.81.

ITEM 180.01 ENVIRONMENTAL HEALTH AND SAFETY PROGRAM **LUMP SUM**

The work shall consist of ensuring the health and safety of the Contractor's employees and subcontracting personnel, the Engineer, their representatives, the environment, and public welfare from any on-site chemical contamination present in air, soil, water and sediment.

The Contractor shall prepare and implement a site-specific Environmental Health and Safety Plan (EHASP) which has been approved and stamped by a Certified Industrial Hygienist (CIH) and includes the preparer's name and work experience. The EHASP shall include appropriate components required by OSHA Standard 29 CFR 1910.120(b) and the Massachusetts Contingency plan (MCP) 310 CMR 40.0018 and must comply with all applicable state and federal laws, regulations, standards and guidelines, and provide a degree of protection and training appropriate for implementation on the project. The EHASP shall be a dynamic document with provision for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The EHASP shall be developed and implemented independently from the standard construction HASP required to work on all MassDOT construction projects.

Health and safety procedures provided by the Contractor shall comply with all the appropriate regulations that address employee working conditions, including but not limited to standards established by OSHA and National Institute for Occupational Safety and Health (NIOSH). Equipment used for the purpose of health and safety shall be approved by and meet pertinent standards and specifications of the appropriate regulatory agencies.

A copy of the most up-to-date version of the EHASP shall be maintained on-site at all times by the Contractor. The on-site copy shall contain the signature of the Engineer and each on-site employee of the MassDOT, Contractor, and Subcontractors involved with on-site activities. The employee's signature on the EHASP shall be deemed prima facie evidence that the employee has read and understands the plan. Updated copies of signature sheets shall be submitted to the Engineer.

The EHASP shall specify a Contractor Site Safety and Health Officer responsible for implementation of the EHASP and to oversee all construction activities, including handling, storage, sampling and transport, which require contact with or exposure to potentially hazardous materials.

The level of protection, required to ensure the health and safety of on-site personnel will be stipulated in the EHASP. The Site Safety and Health Officer shall implement the EHASP based on changing site and weather conditions, type of operation or activity, chemical compounds identified on-site, concentration of the chemicals, air monitoring data, physical state of the hazardous materials, potential duration of exposure to hazardous materials, dexterity required to perform work, decontamination procedures, necessary personnel and type of equipment to be utilized.

ITEM 180.01 (Continued)

During implementation of the EHASP, a daily log shall be kept by the Site Safety and Health Officer and a copy shall be provided weekly to the Engineer. This log shall be used to record a description of the weather conditions, levels of personal protection being employed, screening data and any other information relevant to on-site environmental safety conditions. The Site Safety and Health Officer shall sign and date the daily log.

Method of Measurement and Basis of Payment

Preparation and implementation of the Environmental Health and Safety Program, including the monitoring, protection and storage of all contaminated materials, as well as subsequent modifications to the EHASP, will be measured and paid for at the Lump Sum Bid Price.

Payment of 50% of the Environmental Health and Safety Program contract price will be made upon the initial acceptance of the EHASP by the Engineer. Payment of the remaining 50% of the Environmental Health and Safety Program contract price will be made upon completion of the work. The bid price shall include preparation and implementation of the EHASP as well as the cost for its enforcement by the Site Safety and Health Officer along with any necessary revisions and updates. The work of implementing the Environmental Health and Safety Program includes work involving, but not limited to, the monitoring, protection, and storage of all contaminated materials.

ITEM 180.02**PERSONAL PROTECTION LEVEL C UPGRADE****HOUR**

The work shall consist of providing appropriate personal protective equipment (PPE) for all personnel in an area either containing or suspected of containing a hazardous environment.

Contingencies for upgrading the level of protection for on-site workers will be identified in the EHASP and the Contractor shall have the capability to implement the personal protection upgrade in a timely manner. The protective equipment and its use shall be in compliance with the EHASP and all appropriate regulations and/or standards for employee working conditions.

Personal Protection Level C Upgrade will be measured and paid only upon upgrade to Level C and will be at the contract unit price, per hour, per worker, required in Level C personal protection. No payment will be made to the Contractor to provide Level D PPE.

ITEM 180.03**LICENSED SITE PROFESSIONAL SERVICES****HOUR**

Within limited areas of the project site, media (i.e. soils, sediments, surface water and/or groundwater) requiring evaluation and/or management under the Massachusetts Contingency Plan (MCP) may be encountered. A Licensed Site Professional (LSP) shall be required to provide the services necessary to comply with the requirements of the MCP. These services may include a site walk, field screening, sampling, analysis and characterization of potentially contaminated media, preparation and implementation of Immediate Response Action (IRA) Plans, Utility-Related Abatement Measure (URAM) and Release Abatement Measure (RAM) Plans, Imminent Hazard Evaluations, status reports, transmittal forms, release notification forms, risk assessments, completion statements, and related documents required pursuant to the MCP. LSP services shall also be necessary to temporarily move material generated on the project to an off-site storage location.

The name and qualifications of the LSP and all environmental technicians to be assigned to the project shall be submitted to the Engineer for approval at least four weeks prior to initial site activities. The LSP shall have a current, valid license issued by the Massachusetts Board of Registration of Hazardous Waste Site Cleanup Professionals. The LSP shall have significant experience in the oversight of MCP activities at active construction sites. Qualification packages for the LSP and each technician shall include a resume, all recent work assignments with responsibilities identified (previous 5 years), and applicable training and certifications. A list of all Notices of Noncompliance, Notice of Audit Findings and Enforcement Orders issued by the Massachusetts Department of Environmental Protection (DEP) shall be submitted for all work assignments listed for the LSP and environmental technicians. Upon approval of the LSP Qualifications, the LSP will be designated as the LSP of Record unless MassDOT designates in writing otherwise. The LSP of Record will serve as the primary point of contact for all hazardous material matters on the project.

The LSP shall evaluate soil and/or sediment with discoloration, odor, elevated field screening results, presence of petroleum liquid or sheen on the groundwater surface, or any abnormal gas or materials in the ground which are known or suspected to be oil or hazardous materials. Excavated soil and sediment which is suspected of petroleum contamination shall be field screened using the jar headspace procedures according to established DEP Guidance. All field screening equipment must be pre-approved by the Engineer. The LSP shall ensure proper on-site calibration of all field screening instrumentation.

The Engineer shall be contacted immediately when observations or any field screening results verify contamination requiring further analysis, and/or enhanced management of suspect media. Any enhanced management of contaminated soil to ensure proper stockpiling and storage is incidental to the LSP Services item. The LSP shall evaluate the need for confirmatory sampling prior to backfill in areas where contaminated material has been excavated and disposed off-site for compliance with applicable regulatory requirements. The Engineer shall approve the locations of the testing sites prior to the sampling.

Contaminated media shall be handled in accordance with all applicable state and federal statutes, regulations, and policies. The LSP shall adequately evaluate contaminated media for compliance with the requirements of the MCP and Department Policies.

ITEM 180.03 (Continued)

The Contractor and the LSP shall be aware of the reporting requirements for releases of oil and/or other hazardous material (OHM) as set forth in federal and state laws and regulations and both shall be held responsible for performing the work in accordance with all applicable Federal and State laws and regulations. The LSP shall maintain written records in a clear and concise tabular format which tracks the excavation, stockpiling, analysis and reuse/disposal of all known/suspect contaminated media. These records shall be up-to-date and submitted to the Engineer on a bi-weekly basis. The LSP shall review and summarize the laboratory data from any analyses performed on contaminated media in a tabular format and compare the results to applicable reporting thresholds. A report shall be delivered to the Engineer outlining the material sampling methods, laboratory analysis results, evaluation of applicable regulatory exemptions, reporting obligations, and proposed course of action. The laboratory report together with Chain of Custody forms for all analytical results shall be submitted to the Engineer within 14 days after completion of such analyses.

The LSP and Contractor shall be held responsible for the submission of all MCP-related documents to the Engineer at least 14 days in advance of any timeframe specified in the MCP and for the timely submission of data and tracking information as noted within this Item. All documents prepared under this Item must be reviewed and signed by the approved LSP. The Contractor and LSP shall be responsible for all fines, damages, and enforcement requirements imposed by applicable regulatory agencies for failure to meet regulatory and contract timeframes. No compensation will be provided for such fines, damages, and enforcement actions.

The Contractor and the LSP shall be aware of the reporting requirements for releases of oil and/or other hazardous material (OHM) as set forth in federal and state laws and regulations and shall both be held responsible for performing the work in accordance with all applicable Federal and State laws and regulations.

If the Contractor causes a release of OHM, the Contractor shall be responsible for assessing and remediating the release in accordance with all pertinent State and Federal regulations, including securing the services of a LSP, at his own expense.

The LSP shall coordinate all activities involving both MassDOT and the DEP through the Engineer. Any notification of release shall be approved by the Engineer before submittal to the DEP, except if an imminent hazard condition exists as defined in 309 CMR 4.03(4)(b).

LABORATORY TESTING IN SUPPORT OF LSP SERVICES

Laboratory testing provides for analytical testing in support of LSP services related to maintaining MCP compliance, such as delineating the extent and type of contamination present. Sampling and testing for disposal purposes are not included and are incidental to Items 181.11-181.14.

ITEM 180.03 (Continued)

In order to maintain compliance with the MCP and Department Policies or other regulatory requirements, the LSP shall request approval from the Engineer to obtain samples from various locations and depths within the project area and to perform laboratory analyses on those samples. No sampling shall be conducted without prior approval from the Engineer. The samples shall be delivered to a DEP-certified laboratory using proper chain-of-custody documentation for analyses which, depending upon site conditions and suspected and/or identified contaminants of concern, may include, but are not limited to, metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polycyclic aromatic hydrocarbons (PAHs), extractable petroleum hydrocarbons (EPHs) and volatile petroleum hydrocarbons (VPHs). Subsequent testing, depending upon initial results, may be required for Toxicity Characteristic Leaching Procedure (TCLP) analyses (EPA Method 1311) for metals.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

LSP Services for work under this item will be measured per person, per hour of service provided by LSP, Environmental Technicians and other approved personnel. Travel time shall not be included in the billable hours.

The quantity and type of laboratory tests must be approved by the Engineer beforehand. The Contractor will be reimbursed upon satisfactory written evidence of payment. The Contractor may be required to obtain cost estimates from three DEP certified laboratories for the Engineer to choose the service provider.

LSP Services will be paid at the Contractor bid price for each hour, or fraction thereof, spent to perform the work as described above. The bid price shall be a blended rate that includes the cost of the LSP, environmental technicians and other personnel, the performance of all work tasks and field screening, including required equipment, materials and instrumentation, and production of all documentation described above. All requests for payment must be accompanied by the following information: the names of the personnel associated with the work charged under LSP Services, dates and hours worked, work conducted, including, where appropriate, locations as identified on the construction plans, and a copy of the field diary for the dates submitted.

Laboratory testing will be reimbursed upon receipt of paid invoices for testing approved by the Engineer.

This item is for LSP work for compliance with the MCP and Department Policies. LSP hours and any laboratory testing related to off-site disposal of excess soil and sediment is incidental to Items 181.11-181.14 (including, but not limited to, disposal characterization, disposal package preparation, landfill acceptance, shipment paperwork preparation, field screening, and tracking).

<u>ITEM 181.11</u>	<u>DISPOSAL OF UNREGULATED SOIL</u>	<u>TON</u>
<u>ITEM 181.12</u>	<u>DISPOSAL OF REGULATED SOIL IN-STATE FACILITY</u>	<u>TON</u>
<u>ITEM 181.13</u>	<u>DISPOSAL OF REGULATED SOIL OUT-OF-STATE FACILITY</u>	<u>TON</u>
<u>ITEM 181.14</u>	<u>DISPOSAL OF HAZARDOUS WASTE</u>	<u>TON</u>

The work under these Items shall include the transportation and disposal of contaminated material excavated, or excavated and stockpiled. It shall also include the cost of any additional laboratory analyses required by a particular disposal facility beyond the standard disposal test set.

Excavation of existing subsurface materials may include the excavation of contaminated soils. The Contractor shall be responsible for the proper coordination of characterization, transport and disposal, recycling or reuse of contaminated soils. Disposal, recycling or reuse will be referred to as “disposal” for the purposes of this specification. However, regardless of the use of the term herein, there will be no compensation under these items for reuse within the project limits. The Contractor will be responsible for coordinating the activities necessary for characterization, transport and disposal of contaminated soils. Such coordination will include the Engineer and his/her designee overseeing management of contaminated materials. Contaminated soils must be disposed of in a manner appropriate for the soil classification as described below and in accordance with the applicable laws of local, state and federal authorities. The Contractor shall be responsible for identifying disposal facility (ies) licensed to accept the class of contaminated soils to be managed and assure that the facility can accept the anticipated volume of soil contemplated by the project. The Contractor shall be responsible for hiring a Licensed Site Professional (LSP) and all ancillary professional services including laboratories as needed for this work. The Contractor will be responsible for obtaining all permits, approvals, manifests, waste profiles, Bills of Lading, etc. subject to the approval of the Engineer prior to the removal of the contaminated soil from the site. The Contractor and LSP shall prepare and submit to the Engineer for approval all documents required under the Massachusetts Contingency Plan (MCP) and related laws and environmental regulations to conduct characterization, transport, and disposal of contaminated materials.

CLASSES OF CONTAMINATED SOILS

The Contractor and its LSP shall determine if soil excavated or soil to be excavated is unregulated soil or contaminated soil as defined in this section. Such materials shall be given a designation for purposes of reuse or disposal based on the criteria of the MCP. Soils and sediments which are not suitable for reuse will be given a designation for purposes of off-site disposal based on the characterization data and disposal facility license requirements. The Classes of Contaminated Soils are defined as follows:

ITEMS 181.11 through 181.14 (Continued)

UNREGULATED SOIL consists of soil, fill and dredged material with measured levels of oil and hazardous material (OHM) contamination at concentrations below the applicable Reportable Concentrations (RCs) presented in the MCP. Unregulated soil consists of material which may be reused (or otherwise disposed) as fill within the Commonwealth of Massachusetts subject to the non-degradation criteria of the MCP (310 CMR 40.0032(3)), in a restricted manner, such that they are sent to a location with equal or higher concentrations of similar contaminants. Disposal areas include licensed disposal facilities, approved industrial settings in areas which will be capped or covered with pavement or loamed and seeded, and for purposes of this project should be reused as fill within the project site construction corridor whenever possible. The material cannot be placed in residential and/or environmentally sensitive (e.g. wetlands) areas. Under no circumstances shall contaminated soils be placed in an uncontaminated or less contaminated area (including the area above the groundwater table if this area shows no sign of contamination).

The Contractor shall submit to MassDOT the proposed disposal location for unregulated soils for approval. If such a disposal location is not a licensed disposal facility, the Contractor shall submit to the Engineer analytical data to characterize the disposal area sufficiently to verify that the unregulated material generated within the MassDOT construction project limits is equal to or less than the contaminant levels at the disposal site and meets the non-degradation requirements of the MCP. In addition, the Contractor shall provide written confirmation from the owner of the proposed disposal location that they have been provided with the analytical data for both the materials to be disposed as well as the disposal site characterization and that s/he agrees to accept this material. A Material Shipping Record or Bill of Lading, as appropriate, shall be used to track the off-site disposal of unregulated soil and a copy, signed by the disposal facility or property owner, shall be provided to the Engineer in order to document legal disposal of the unregulated material.

The cost of on-site disposal of unregulated soil within the project area will be considered incidental to the item of work to which it pertains.

ITEMS 181.11 through 181.14 (Continued)

REGULATED SOIL consists of materials containing measurable levels of OHM that are equal to or exceed the applicable Reportable Concentrations for the site as defined by the MCP, 310 CMR 40.0000. Regulated soil which meets the MCP reuse criteria of the applicable soil/groundwater category for this project area may be reused on site provided that it meets the appropriate geotechnical criteria established by the Engineer. Regulated Soil may be reused (as daily or intermediate cover or pre-cap contouring material) or disposed (as buried waste) at lined landfills within the Commonwealth of Massachusetts or at an unlined landfill that is approved by the Massachusetts Department of Environmental Protection (DEP) for accepting such material, in accordance with DEP Policy #COMM-97-001, or at a similar out-of-state facility. It should be noted that soils which exceed the levels and criteria for disposal at in-state landfills, as outlined in COMM-97-001, may be shipped to an in-state landfill, but require approval from the DEP Division of Solid Waste Management and receiving facility. An additional management alternative for this material is recycling into asphalt. Regulated Soils may also be recycled at a DEP approved recycling facility possessing a Class A recycling permit subject to acceptance by the facility and compliance with DEP Policy #BWSC-94-400. Regulated Soil removed from the site for disposal or treatment must be removed via an LSP approved Bill of Lading, Manifest or applicable material tracking form. This type of facility shall be approved/permitted by the State in which it operates to accept the class of contaminated soil in accordance with all applicable local, state and federal regulations.

HAZARDOUS WASTE consists of materials which must be disposed of at a facility permitted and operated in full compliance with Federal Regulation 40 CFR 260-265, Massachusetts Regulation 310 CMR 30.000, Toxic Substances Control Act (TSCA) regulations, or the equivalent regulations of other states, and all other applicable local, state, and federal regulations. All excavated materials classified as hazardous waste shall be disposed of at an out-of-state permitted facility. This facility shall be a RCRA hazardous waste or TSCA facility, or RCRA hazardous waste incinerator. This type of facility shall be approved/permitted by the State in which it operates to accept hazardous waste in accordance with all applicable local, state and federal regulations and shall be permitted to accept all contamination which may be present in the soil excavate. The Contractor shall ensure that, when needed, the facility can accept TSCA waste materials i.e. polychlorinated biphenyls (PCBs). Hazardous waste must be removed from the site for disposal or treatment via an LSP approved Manifest.

MONITORING/SAMPLING/TESTING REQUIREMENTS

The Contractor shall be responsible for monitoring, sampling and testing during and following excavation of contaminated soils to determine the specific class of contaminated material. Monitoring, sampling and testing frequency and techniques should be performed in accordance with Item 180.03 – LSP Services. Additional sampling and analysis may be necessary to meet the requirements of the disposal facility license. The cost of such additional sampling and analysis shall be included in the bid cost for the applicable disposal items. The Contractor shall obtain sufficient information to demonstrate that the contaminated soil meets the disposal criteria set by the receiving facility that will accept the material.

ITEMS 181.11 through 181.14 (Continued)

No excavated material will be permanently placed on-site or removed for off-site disposal until the results of chemical analyses have been received and the materials have been properly classified. The Contractor shall submit to the Engineer results of field and laboratory chemical analyses tests within seven days after their completion, accompanied by the classification of the material determined by the Contractor, and the intended disposition of the material. The Contractor shall submit to the Engineer for review all plans and documents relevant to LSP services, including but not limited to, all documents that must be submitted to the DEP.

WASTE TRACKING:

Copies of the fully executed Weight Slips/Bills of Lading/ Manifests/Material Shipping Records or other material tracking form received by the Contractor from each disposal facility and for each load disposed of at that facility, shall be submitted to Engineer and the Contractor's LSP within three days of receipt by the Contractor. The Contractor is responsible for preparing and submitting such documents for review and signature by the LSP or other appropriate person with signatory authority, three days in advance of transporting soil off-site. The Contractor shall furnish a form attached to each manifest or other material tracking form for all material removed off-site, certifying that the material was delivered to the site approved for the class of material. If the proposed disposition of the material is for reuse within the project construction corridor, the Contractor shall cooperate with MassDOT to obtain a suitable representative sample(s) of the material to establish its structural characteristics in order to meet the applicable structural requirements as fill for the project.

All material transported off-site shall be loaded by the Contractor into properly licensed and permitted vehicles and transported directly to the selected disposal or recycling facility and be accompanied by the applicable shipping paper. At a minimum, truck bodies must be structurally sound with sealed tail gates, and trucks shall be lined and loads covered with a liner, which shall be placed to form a continuous waterproof tarpaulin to protect the load from wind and rain.

DECONTAMINATION OF EQUIPMENT

Tools and equipment which are to be taken from and reused off site shall be decontaminated in accordance with applicable local, state and federal regulations. This requirement shall include, but not be limited to, all tools, heavy machinery and excavating and hauling equipment used during excavation, stockpiling and handling of contaminated material. Decontamination of equipment is considered incidental to the applicable excavation item.

ITEMS 181.11 through 181.14 (Continued)**REGULATORY REQUIREMENTS**

The Contractor shall be responsible for adhering to regulations, specifications and recognized standard practices related to contaminated material handling during excavation and disposal activities. MassDOT shall not be responsible at any time for the Contractor's violation of pertinent State or Federal regulations or endangerment of laborers and others. The Contractor shall comply with all rules, regulations, laws, permits and ordinances of all authorities having jurisdiction including, but not limited to, Massachusetts DEP, the U.S. Environmental Protection Agency (EPA), Federal Department of Transportation (DOT), Massachusetts Water Resources Authority (MWRA), the Commonwealth of Massachusetts and other applicable local, state and federal agencies governing the disposal of contaminated soils.

All labor, materials, equipment and services necessary to make the work comply with such regulations shall be provided by the Contractor without additional cost to MassDOT. Whenever there is a conflict or overlap within the regulations, the most stringent provisions shall apply. The Contractor shall reimburse MassDOT for all costs it incurs, including damages and/or fines, as a result of the Contractor's failure to adhere to the regulations, specifications, recognized standard practices, etc., that relate to contaminated material handling, transportation and disposal.

SUBMITTALS**I. Summary of Sampling Results, Classification of Material and Proposed Disposal Option.**

The following information, presented in tabular format, must be submitted to the Engineer for review and approval prior to any reuse on-site or disposal off-site. This requirement is on-going throughout the project duration. At least two weeks prior to the start of any excavation activity, the Contractor shall submit a tracking template to be used to present the information as stipulated below. Excavation will not begin until the format is acceptable to MassDOT.

Characterization Reports will be submitted for all soil, sediment, debris and groundwater characterized through the sampling and analysis program. Each report will include a site plan which identifies the sampling locations represented in the Report. The Construction Plan sheets may be used as a baseplan to record this information.

The Sampling Results will be presented in tabular format. Each sample will be identified by appropriate identification matching the sample identification shown on the Chain of Custody Record. The sample must also be identified by location (e.g. grid number or stockpile number). For each sample, the following information must be listed: the classification (unregulated, regulated, etc.), proposed disposal option for the stockpile or unit of material represented, and, all analytical results.

Each Characterization Report will include the laboratory analytical report and Chain of Custody Record for the samples included in the Report.

ITEMS 181.11 through 181.14 (Continued)**II. Stockpiling, Transport, and Disposal.**

At least two weeks prior to the start of any excavation activity, the Contractor shall submit, in writing, the following for review and shall not begin excavation activity until the entire submittal is acceptable to MassDOT.

Excavation and Stockpiling Protocol:

Provide a written description of the management protocols for performing excavation and stockpiling and/or direct loading for transport, referencing the locations and methods of excavating and stockpiling excavated material.

Disposal and Recycling Facilities:

1. Provide the name, address, applicable licenses and approved waste profile for disposal and/or recycling location(s) where contaminated soil will be disposed. Present information substantiating the suitability of proposed sites to receive classifications of materials intended to be disposed there, including the ability of the facility to accept anticipated volumes of material.
2. Provide a summary of the history of compliance actions for each disposal/recycling facility proposed to be used by the Contractor. The compliance history shall include a comprehensive list of any state or federal citations, notices of non-compliance, consent decrees or violations relative to the management of waste (including remediation waste) at the facility. Material should not be sent to facilities which are actively considered by the DEP, USEPA or other responsible agency to be in violation of federal, state or local hazardous waste or hazardous material regulations. MassDOT reserves the right to reject any facility on the basis of poor compliance history.

Transportation:

The name, address, applicable license and insurance certificates of the licensed hauler(s) and equipment and handling methods to be used in excavation, segregation, transport, disposal or recycling.

III. Material Tracking and Analytical Documentation for Reuse/Disposal.

The following documents are required for all excavation, reuse and disposal operations and shall be in the format described. At least two weeks prior to the start of any excavation or demolition activity, the Contractor shall submit the tracking templates required to present the information as stipulated below. Excavation or demolition will not begin until the format is acceptable to MassDOT.

All soils, sediments and demolition debris must be tracked from the point of excavation to stockpiling to onsite treatment/processing operations to off-site disposal or onsite reuse as applicable.

ITEMS 181.11 through 181.14 (Continued)**Demolition Debris:**

Demolition debris must be tracked if the debris is stockpiled at a location other than the point of origin or if treatment or material processing is conducted. Identification of locations will be based on the station-offset of the location. The tracking table will identify date and point of generation, any field screening such as PID or dust monitoring, visual observations/comments, quantity, and stockpile ID/processing operation location. For each unit of material tracked, the table will also track reuse of the material on-site, providing reuse date, location of reuse as defined by start and end station, width of reuse location by offset, the fill elevation range, quantity, and finish grade for said location. For demolition debris which is not reused on site, the table will also track disposal of the material as defined by disposal date, quantity and disposal facility. The table must provide a reference to any analytical data generated for the material.

Soil/Sediment:

Soil excavation will be identified based on the station-offset of the excavation location limits. The tracking table will identify date and point of generation, any field screening such as PID or dust monitoring, visual observations, quantity, and stockpile number/location. For each unit of material tracked, the table will also track reuse of the material on-site and disposal of the material off-site using the same categories identified for demolition debris above.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Disposal of contaminated soil shall be measured for payment by the Ton of actual and verified weight of contaminated materials removed and disposed of. The quantities will be determined only by weight slips issued by and signed by the disposal facility. The most cost-effective, legal disposal method shall be used. The work of the LSP for disposal under all of these items shall be incidental to the work with no additional compensation.

ITEM 181.11 Measurement for Disposal of Unregulated Soil shall be under the Contract Unit Price by the weight, in tons, of contaminated materials removed from the site and transported to and disposed of at an approved location or licensed facility, and includes any and all costs for approvals, permits, fees and taxes, additional testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 181.12 Measurement for Disposal of Regulated Soil – In-State Facility shall be under the Contract Unit Price by the weight in tons of contaminated materials removed from the site and transported to and disposed of at an approved in-state facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEMS 181.11 through 181.14 (Continued)

ITEM 181.13 Measurement for Disposal of Regulated Soil - Out-of-State Facility shall be under the Contract Unit Price by the weight in tons of contaminated materials removed from the site and transported to and disposed of at an approved out-of-state facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 181.14 Measurement for Disposal of Hazardous Waste shall be under the Contract Unit Price by the weight in tons of hazardous waste removed from the site and transported to and disposed of at the licensed hazardous waste facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 182.1**INSPECTION AND TESTING FOR ASBESTOS****LUMP SUM**

The work shall include the inspecting and testing of all materials suspected of containing asbestos. When any demolition is required to enable the inspection and testing of the suspected material it will be considered incidental to this Item and the Contractor must perform all asbestos handling and testing in accordance with the regulations stated below.

Dust suppression in the form of light water sprays, foams, dust suppressants and calcium chloride will be implemented as required to control dusting during any disturbance of asbestos suspected material. Alternatively, intrusive activities may be reduced or curtailed under high wind or heavy rain conditions, which in the opinion of the Health and Safety Plan (HASP) may pose a safety hazard to the workers.

The Contractor shall employ the services of a Massachusetts licensed "Asbestos Inspector" to inspect the material to determine whether or not "ITEM 182.2 REMOVAL OF ASBESTOS" is required. Should the asbestos inspector determine laboratory testing is required, a state certified laboratory shall be used to perform all necessary tests.

REGULATIONS

U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) including but not limited to:

- 29 CFR 1910 Section 1001 and 29 CFR 1926 Section 58 Occupational exposure to
Asbestos, Tremolite, Anthophyllite and Actinolite, Final Rule
- 29 CFR 1910 Section 134 Respiration Protection
- 29 CFR 1926 Construction Industry
- 29 CFR 1910 Section 2 Access to Employee Exposure and Medical Records
- 29 CFR 1910 Section 1200 Hazard Communication
- 29 CFR 1910 Section 145 Specifications for Accident Prevention Signs and Tags

U.S. Environmental Protection Agency, (EPA) including but not limited to:

- 40 CFR 762, CPTS 62044, FRL 2843-9, Federal Register Vol. 50 no.134, July 12, 1985
p.28530 - 28540 Asbestos Abatement Projects Rule
- 40 CFR 61 Subpart A Regulation for Asbestos
- 40 CFR 61 Subpart M (Revised Subpart B) National Emission
Standard for Asbestos

ITEM 182.1 (Continued)

U.S. Department of Transportation 49 CFR 172 and 173

Massachusetts Department of Labor Standards Regulations, (DLS) including but not limited to:

454 CMR 28.00 Removal, Containment and Encapsulation of Asbestos

Massachusetts Department of Environmental Protection (DEP) including but not limited to (supplementing subsection 7.01):

310 CMR 7.00, Section 7.09 Odor and Dust, Section 7.10 Noise, Section 7.15 Air Pollution
Control Regulations

310 CMR 18.00 and 19.00 Solid Waste Regulations

Massachusetts Division of Industrial Safety 45 CMR 10.00

Local Requirements including but not limited to those of Health Departments, Fire Departments and Inspection Services Departments

Wherever there is a conflict or overlap of the above references, the most stringent provision shall apply.

BASIS OF PAYMENT

Item 182.1 will be paid for at the Contract unit price per Lump Sum, which price shall include all labor, materials, tools, equipment, and all incidental costs required to complete the work as described and as required by the Engineer.

No separate payment will be made for the protection of general public, private property, the proper inspecting and testing of the material, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 182.2**REMOVAL OF ASBESTOS****FOOT**

The work shall include the removal and satisfactory disposal of existing asbestos. The Contractor's attention is directed to the fact that existing asbestos shall be inspected and tested prior to removal, to determine if special removal and disposal is required. The Contractor shall follow all the rules and regulations stated in "ITEM 182.1 INSPECTION AND TESTING FOR ASBESTOS". If asbestos is present, the Contractor shall follow all the rules and regulations stated in the section "REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS", under this item. The Contractor should notify and coordinate his/her efforts with the proper utility accordingly.

REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

This section specifies the requirements for the handling and removal of asbestos containing material. The Contractor must perform all asbestos handling and removal work in accordance with these specifications and the following additional requirements.

U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) including but not limited to:

- 29 CFR 1910 Section 1001 and 29 CFR 1926 Section 58
- Occupational exposure to Asbestos, Tremolite, Anthophyllite and Actinolite, Final Rule
- 29 CFR 1910 Section 134 Respiration Protection
- 29 CFR 1926 Construction Industry
- 29 CFR 1910 Section 2 Access to Employee Exposure and Medical Records
- 29 CFR 1910 Section 1200 Hazard Communication
- 29 CFR 1910 Section 145 Specifications for Accident Prevention Signs and Tags

U.S. Environmental Protection Agency, (EPA) including but not limited to:

- 40 CFR 762, CPTS 62044, FRL 2843-9, Federal Register Vol. 50 no.134, July 12, 1985
- p.28530 - 28540 Asbestos Abatement Projects Rule
- 40 CFR 61 Subpart A Regulation for Asbestos
- 40 CFR 61 Subpart M (Revised Subpart B) National Emission Standard for Asbestos

ITEM 182.2 (Continued)

U.S. Department of Transportation 49 CFR 172 and 173

Massachusetts Department of Labor Standards, (DLS) including but not limited to:

454 CMR 28.00 Removal, Containment and Encapsulation of Asbestos

Massachusetts Department of Environmental Protection (DEP) including but not limited to (supplementing subsection 7.01):

310 CMR 7.00, Section 7.09 Odor and Dust, Section 7.10 Noise,
Section 7.15 Air Pollution Control Regulations
310 CMR 18.00 and 19.00 Solid Waste Regulations

Massachusetts Division of Industrial Safety 45 CMR 10.00

Local Requirements including but not limited to those of Health Departments, Fire Departments and Inspection Services Departments

Wherever there is a conflict or overlap of the above references, the most stringent provision shall apply.

All asbestos material shall be removed and properly disposed of by a contractor or subcontractor with a current Massachusetts Abatement Contractors License issued by the Department of Labor Standards. Work shall be supervised by a competent person as required by OSHA in 29 CFR 1926 to ensure regulatory compliance. This person must have completed a course at an EPA Training Center or equivalent course in asbestos abatement procedures, have had a minimum of four years on-the-job training and meet any additional requirements set forth in 29 CFR 1926 for a Competent Person. This person must also be certified by the Commonwealth as an Asbestos Supervisor and Asbestos Project Designer as required by 454 CMR 28.00.

Asbestos removal work shall be coordinated with all other work under the contract and shall be completed prior to performing any activities which could disturb the asbestos material or produce airborne asbestos fibers.

Dust suppression in the form of light water sprays, foams, dust suppressants and calcium chloride will be implemented as required to control dusting during trenching and excavation. Alternatively, intrusive activities may be reduced or curtailed under high wind or heavy rain conditions, which in the opinion of the Health and Safety Plan (HASP) may pose a safety hazard to the workers.

ITEM 182.2 (Continued)**NOTIFICATION AND PERMITS**

The Contractor shall prepare a formal pre-notification form at least ten (10) days prior to the start of asbestos removal work. This form must be submitted to the appropriate Regional Office of the Massachusetts Department of Environmental Protection and to the U.S. Environmental Protection Agency Region I Air and Hazardous Material Division. A copy of the submitted forms must be provided to the Engineer and kept at the work site.

Prior to starting any work, the Contractor shall also obtain any required asbestos removal permit(s) from the city/town. A copy of the permit(s) must be provided to the Engineer and posted at the work site.

The Contractor shall also obtain and pay all other applicable asbestos waste transportation and disposal permits, licenses and fees.

STANDARD OPERATING PROCEDURES

The standard operating procedure shall ensure the following:

1. Proper site security including posting of warning signs and restricting access to prevent unauthorized entry into the work spaces.
2. Proper protective clothing and respiratory protection prior to entering the work spaces.
3. Safe work practices including provisions for communications; exclusion of eating, drinking, smoking, or use of procedures or equipment that would in any way reduce the effectiveness of respiratory protection or other engineering controls.
4. Proper exit practices from the work space through the showering and decontamination facilities.
5. Removing asbestos containing material in ways that minimize release of fibers.
6. Packing, labeling, loading, transporting and disposing of contaminated material in a way that minimizes or prevents exposure and contamination.
7. Emergency evacuation of personnel, for medical or safety (fire and smoke) so that exposure will be minimized.
8. Safety from accidents in the work space, especially from electrical shocks, slippery surfaces and entanglements in loose hoses and equipment.
9. Provisions for effective supervision and OSHA - specified personnel air monitoring for exposure during work.

ITEM 182.2 (Continued)**REQUIRED SUBMITTALS**

The Contractor shall submit to the Engineer the following listed items at least ten (10) calendar days prior to the start of asbestos work. No asbestos removal work activities shall commence until these items are reviewed by the Engineer, unless otherwise waived. Submittals shall be clearly labeled and in sufficient detail to enable the Engineer to form an opinion as to its conformity to the specifications.

1. Name, experience and DLS certification of proposed Supervisors and Foreman responsible for asbestos work.
2. Summary of workforce by disciplines and a notarized statement documenting that all proposed workers, by name, have received all required medical exams and have been properly trained and certified for asbestos removal work, respirator use and appropriate Massachusetts DLS, EPA and OSHA standards.
3. Notarized statement that workers are physically fit and able to wear and use the type of respiratory protection proposed for the project. Notarized certification signed by an officer of the abatement contracting firm that exposure measurements, medical surveillance and worker training records are being kept in conformance with 29 CFR 1926.
4. Written plan of action and standard operating procedures (HASP) to include: location and layout of decontamination areas; sequencing of asbestos work; detailed schedule of work activities by date and interface with other project activities which affect work performance; methods used to assure safety and security; worker protection and exposure monitoring; contingency and emergency evacuation procedures; detailed description of methods to be employed to control pollution; waste handling procedures.
5. Written respiratory protection program specifying level of protection intended for each operation required by the project and details of daily inspection and maintenance elements.
6. Copies of the U.S. EPA, State and local asbestos removal pre-notification forms. If applicable, lists and copies of all permits, licenses, or manifests which will be applied for and used.
7. Name, location and applicable approval certificates for primary and secondary landfill for disposal of asbestos-containing or asbestos contaminated waste. Name, address and licenses number(s) of hauler permitted to transport waste. (Submit copies of completed manifests upon disposal).

The Contractor must provide copies of daily inspection and record logs upon request of the Engineer, at any time during project. This information will include but is not limited to work area entry data, respirator inspections and maintenance, HEPA-exhaust inspections and maintenance and other work applicable activities or reports of accidents or unusual events.

ITEM 182.2 (Continued)**METHOD OF MEASUREMENT**

ITEM 182.2 will be measured for payment by the FOOT for the complete removal and disposal of the asbestos containing material.

BASIS OF PAYMENT

Item 182.2 will be paid for at the Contract unit price per FOOT, which unit price shall include all labor, materials, tools, equipment, and all incidental costs required to complete the work specified above and as required by the Engineer.

No separate payment will be made for the protection of general public, private property, the proper inspecting and testing of the material, but all costs in connection therewith shall be included in the Contract unit price bid.

<u>ITEM 201.</u>	<u>CATCH BASIN</u>	<u>EACH</u>
<u>ITEM 202.</u>	<u>MANHOLE</u>	<u>EACH</u>
<u>ITEM 202.2</u>	<u>MANHOLE (9 TO 14 FOOT DEPTH)</u>	<u>EACH</u>

The work under these items shall conform to the relevant provisions of Subsection 201 of the Standard Specifications and the following:

GENERAL

This work shall consist of furnishing and installing or replacing drainage catch basins and manholes, directed by the Engineer.

Structures shall conform to the details contained herein and shall be constructed of pre-cast sections. All catch basins shall be constructed as shown in MassDOT Standard Drawing 201.0.2 with a 4-foot sump (deep sump). Catch basins and manholes shall be placed on a 12 inches of gravel borrow foundation to replace unsuitable material as determined by the Engineer and shall be set to allow for a maximum of 3 courses of clay brick between the frame and the structure.

When utility conflicts are encountered or in the case of shallow pipe inverts, alternate offset cones or flat top sections shall be substituted for conical sections in areas of low cover. Flat top structures shall have a minimum 28-day compressive strength of 4,000 psi, reinforced for AASHTO H-20 loading with ASTM A 615 Grade 60 steel. No additional payment will be made for flat top structures.

Cutting into the cone sections shall not be allowed.

The joints of the precast manhole sections shall be sealed with either a round rubber "O"-ring gasket or a flexible joint sealant. The "O"-ring shall conform to ASTM C443.

All castings located within the pavement area shall not be set to finished grade until after the binder course has been placed.

Iron castings shall be listed on the Qualified Construction Materials List (QCML).

All frames shall be set in a concrete collar conforming to Construction Standard Detail 223.0.1 prior to placement of the top course pavement.

Cut and plug of existing utilities in order to replace proposed drainage structures shall be coordinated with utility companies prior the work.

The Contractor shall cut and plug the existing abandoned water main when conflict with the proposed drainage system installation. Pipe cutting and removal shall be considered incidental to the respective drainage items.

ITEM 201. thru 202.2 (Continued)

Connections to existing pipe shall be included in the cost of the structures. If existing pipe is to be abandoned, the end of the existing pipe shall be plugged as specified in Section 200. The removal of existing pipe due to conflicts with the proposed drainage structures shall be considered incidental to the cost of the structures. The remaining portion of the existing pipe to remain shall be plugged.

METHOD OF MEASUREMENT

Items 201, 202, and 202.2 will be measured for payment complete in place, in accordance with Subsubsection 201.80

BASIS OF PAYMENT

Items 201, 202, and 202.2 will be paid at the respective Contract unit prices, which respective unit price shall include all excavation, required sawcutting, shoring, bracing, backfilling, compaction, adjustment, concrete collars, manhole inverts, reducers, rubber boots, and stainless steel strapping, and all labor, tools, and materials, and incidental costs required to complete the work.

Payment for manhole frame and cover, catch basin frame and grate, and gutter inlet frame and grate will be paid under Item 222.3.

No separate payment shall be made for pipe connections to new structures as required.

Payment for gravel borrow bedding foundation when required by the Engineer to replace unsuitable material will be measured and paid under Item 151.

Masonry plugs required for the abandonment of pipe will be paid under Item 227.4.

ITEM 210.**SANITARY SEWER MANHOLE****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 201 of the Standard Specifications and the following:

The work under this Item consists of furnishing and installing sanitary sewer manhole as shown on the drawings or as required by the Engineer.

CONSTRUCTION METHODS

The new sanitary sewer manhole shall be precast concrete as shown on the plans.

The precast manholes shall conform to the latest ASTM Specifications for precast reinforced concrete sections (ASTM C478). Concrete shall have a minimum compressive strength of 4000 psi. Reinforcing steel shall conform to the latest ASTM A185 Specifications. The manhole shall have a capability of supporting HS 20-44 live load.

Joints of precast manhole sections shall be sealed with either a round rubber "O"-ring gasket or a flexible joint sealant. The "O"-ring shall conform to ASTM C443. The preformed flexible joint sealant shall be Kent Seal No. 2 as manufactured by Hamilton-Kent; RAM-NEK as manufactured by K.T. Snyder Company; Rub'R Nek as manufactured by BoMetals, Inc.; or approved equivalent.

Manhole rungs shall be steel reinforced copolymer polypropylene plastic. Rungs shall be 14 inches wide. Copolymer polypropylene shall be Type II, Grade 16909 meeting ASTM Specification D2416. Steel reinforcing shall be 3/8 inch diameter, Grade 60 conforming to ASTM Specification A615 and shall be continuous throughout the rung. The portion of the legs to be embedded in the precast section shall have fins and be tapered to insure a secure bond.

The manhole base section shall be monolithic to a point 6 inches above the crown of the highest pipe.

The manhole shall be placed on a bedding of 12 inches of gravel borrow to replace unsuitable material as determined by the Engineer.

The concrete collar shall be 4000 psi, 1.5 in., 565 cement concrete masonry. The outside of the manhole shall be dampproofed with bitumastic coating.

The manhole shall have a brick paved shelf and invert, constructed to conform to the size of the pipe and flow at changes in direction. The invert shall be laid out in curves of the longest radius possible tangent to the centerline of the sewer pipes. The shelf shall be constructed to the elevation of the highest pipe crown and sloped to drain towards the flow through channel. Underlayment of the inverts and shelf shall consist of 4000 psi, 1.5 in., 470 concrete fill and brick masonry.

The Contractor shall cut and plug the existing abandoned utilities when conflict with the proposed structure system installation. Pipe cutting and removal shall be considered incidental to the respective structure installation.

ITEM 210. (Continued)**METHOD OF MEASUREMENT**

Item 210. will be measured for payment by EACH unit installed, complete in place, regardless of depth.

BASIS OF PAYMENT

Item 210. will be paid at the Contract unit price per EACH, which unit price shall include all labor, materials, equipment, excavation, disposal of surplus materials, backfilling, cutting and removing abandoned utilities, and all incidental costs required to complete the work.

Castings will be paid under Item 222.3, Frame and Cover.

Masonry plugs required for the abandonment of pipe will be paid under Item 227.4.

Payment for gravel borrow bedding foundation when required by the Engineer to replace unsuitable material will be measured and paid under Item 151.

ITEM 210.02**SANITARY SEWER MANHOLE REMOVED****EACH**

The work under this item shall consist of the removal and stacking of iron castings, plugging pipe inlets and outlets, the removal of all masonry, and filling the cavity of the sewer structures designated to be removed.

CONSTRUCTION METHODS

The existing castings shall be removed and properly disposed of by the Contractor. All masonry, brick, or concrete forming the manhole walls, cone, and base of the structure shall be completely removed. Excavation shall be performed to avoid damage to adjacent utilities or structures.

All removed manhole materials, including castings, masonry, concrete, and debris, shall be transported off-site and disposed of in accordance with all federal, state, and local regulations. The Contractor shall obtain and maintain all required permits for transport and disposal.

The cavity shall be completely filled with selected excavated materials placed in 6-inch layers and thoroughly compacted. Settlement shall be monitored, and additional material added as necessary to maintain grade.

The inlets and outlets of structures to be removed shall be plugged with masonry. The masonry plug shall conform to the requirements of Subsection 270.

METHOD OF MEASUREMENT

Item 210.02 will be measured for payment by the unit EACH.

BASIS OF PAYMENT

Item 210.02 will be paid at the Contract unit price per EACH sanitary sewer manhole removed, which unit bid price shall include all labor, materials, equipment, excavation, all disposals, backfilling, plugging existing utilities, and all incidental costs required to complete the work.

ITEM 220.6**SANITARY STRUCTURE REBUILT****FOOT**

The work under this Item shall conform to the relevant provisions of Subsections 201 and 220 of the Standard Specifications and the following:

GENERAL

The work under this Item consists of rebuilding of sanitary structures to the limits required as shown on the plans or as required by the Engineer. The concrete collar shall be brought up only to a level that will allow the full depth of pavement top course to be placed, as shown on construction standard detail 223.0.1.

When the line or grade or both the line and grade of the structure changes by 6 inches or less, the structure shall be adjusted to line and grade.

Brick and/or block masonry, up to the bottom of the casting that indicates deterioration, in the judgment of the Engineer, shall be removed and replaced in kind in accordance with Subsection 220. The above replacement shall be sprayed with liquid penetrant sealant conforming to the requirements of Subsection M9.15.0. This solution shall be applied to both the interior and exterior of the structure to ensure complete protection of all new mortar. Backfill around the structures shall consist of suitable material, thoroughly compacted with mechanical devices.

METHOD OF MEASUREMENT

Item 220.6 will be measured for payment complete in place by the FOOT in accordance with Subsection 220.80.

BASIS OF PAYMENT

Item 220.6 will be paid at the Contract unit price per FOOT, which payment shall include all labor, materials, equipment, excavation, backfill, removal and resetting of the casting to the required grade, construction of concrete collars as shown on the Construction Standards Detail 223.0.1, and incidental costs required to complete the work.

ITEM 220.8**SANITARY STRUCTURE REMODELED****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 220 of the Standard Specifications and the following:

GENERAL

The work under this Item consists of remodeling of sanitary structure as shown on the plans or as required by the Engineer.

The work shall include all necessary excavation of the existing pavement, cement concrete collars and earth material to obtain access to the masonry, removal and resetting of the castings, adjustment of structure height, backfill and compaction and hot mix asphalt of the excavated area.

Backfilling shall consist of suitable material thoroughly compacted with mechanical devices. Any structure that is in the paved roadway, and is not to the point of being backfilled and the collar installed at the end of any work day, shall be steel-plated or backfilled with compacted gravel, level with the roadway. Cost for the gravel and the re-excavation of the gravel to complete the work shall be included in the cost of the structure or item of which it forms a part.

Excavated holes shall be cut in the pavement in a neat manner with an approximate vertical face. All excess excavated materials and construction debris shall be removed and disposed of the site.

Existing frame and grates or covers, and other castings shall be carefully removed to prevent to the casting and the sewer structure. Castings determined by the Engineer to be suitable for reuse shall be reset to the proposed grade and alignment.

All frames and other castings shall be set in a concrete collar conforming to Standard Detail 202.9.0 prior to placement of top course. The concrete collar shall be composed of 4000 PSI, 1 1/2 Inch. 565 High Early Strength Concrete. All frames shall be set on a minimum of two courses of mortared brick or precast grade rings as specified in the Standard Specifications. The concrete collar shall be constructed to allow the full depth of the top course of hot mix asphalt to be placed. The collar shall be completely coated with (RS-1H) Asphaltic Emulsion before placement of hot mix asphalt. Cost of all such work shall be included in the cost of the structure or item of which it forms a part.

The brick for sanitary structures shall be sound, hard and uniformly burned brick, regular and uniform in shape and size, of compact texture and satisfactory to the Engineer. Brick shall comply with ASTM Standard Specifications for sewer brick (made from clay or shale), Designation C-32-63 or Grade SA, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight. Rejected brick shall be immediately removed from the work and substituted with approved brick.

METHOD OF MEASUREMENT

Item 220.8 will be measured for payment complete in place by the unit EACH.

BASIS OF PAYMENT

Item 220.8 will be paid at the Contract unit price per EACH, which price shall include all labor, materials, equipment, excavation, backfill, disposal, sawcutting, removal and resetting of castings, and all incidental costs required to complete the work.

<u>ITEM 222.3</u>	<u>FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD</u>	<u>EACH</u>
<u>ITEM 223.1</u>	<u>FRAME AND GRATE (OR COVER) REMOVED AND STACKED</u>	<u>EACH</u>

The work to be done under this item shall conform to the relevant provisions of Subsections 201 and 220 of the Standard Specifications and the following:

GENERAL

Work under this item consists of furnishing and installing new frame and grate or cover (for manholes) on all new catch basins, gutter inlets, leach basins, and manholes using Municipal Standard as shown on the plans or as directed by the Engineer.

The work also include removing and stacking of the existing frames, grates, and covers on all existing drainage and sanitary structures to be abandoned or removed shall be carefully removed and satisfactorily stored for stacking later to the Town's DPW facility locations at 350 Summer Street, Abington. The Contractor shall be held responsible for the removal and handling without damage to the castings and for the protection of the castings during the storage period. Any frames, covers or grates lost or damaged shall be replaced by the Contractor at no additional compensation.

MATERIAL

Frames and Grate or Cover – Municipal Standard

Iron casings shall be listed on the Qualified Construction Materials List (QCML).

- a. Municipal catch basin or sewer/drain manhole frames and grates or covers (for manhole installed in the roadway) shall conform to Subsection M8.03.0 as well as the following material properties:
 - o AASHTO M 105 Class 35B
 - o AASHTO M 306
- b. Municipal Standard catch basin frames and grates (for catch basins installed within streets with curb/curb inlets) shall be East Jordan Foundry; US Foundry; Neenah Foundry or approved equivalent meeting the specifications of EJ Group, Inc: Frame: 5523, Grate: 5520M5.
- c. Manhole covers shall have a diamond pattern, pickholes and the word "SEWER" or "DRAIN" cast in 3-inch letters. Manhole frame and covers shall be East Jordan Foundry; US Foundry; Neenah Foundry or approved equivalent meeting the specifications of EJ Group, Inc: Frame: 2008Z, Cover: 2006A1.

ITEMS 222.3 and 223.1 (Continued)

Manhole covers shall be cast into the cover with the appropriate word "DRAIN" or "SEWER".

METHOD OF MEASUREMENT

Items 222.3 and 223.1 will be measured for payment by the unit EACH.

BASIS OF PAYMENT

Item 222.3 will be paid at the Contract unit price per EACH complete frame and grate (or cover) unit furnished to the site.

Item 223.1 will be paid at the Contract unit price per EACH frame and grate (or cover) removed and stacked at the Town of Abington DPW yard, which price shall include all labor, materials, equipment, and all incidental costs required to complete the work

<u>ITEM 250.06</u>	<u>6 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE</u>	<u>FOOT</u>
<u>ITEM 250.08</u>	<u>8 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE</u>	<u>FOOT</u>

The work under these Items shall conform to the relevant provisions of Subsection 230 of the Standard Specifications and the following:

The work under these Items shall consist of furnishing and installing Polyvinyl Chloride (PVC) pipe for sanitary sewer as shown on the drawings or as required by the Engineer.

CONSTRUCTION METHODS

PVC nonpressure pipe shall conform to ASTM D3034 Schedule 40 and shall be furnished in standard lengths. One pipe bell consisting of an integral wall section with a solid cross section rubber ring, factory assembled, shall be furnished with each standard, random and short length of pipe.

Rubber rings shall be provided to the requirements of ASTM D3212. The rubber ring shall be retained within the bell of the pipe by a precision formed groove or recess designed to resist creeping during assembly of joints.

Spigot pipe ends shall be supplied with bevels from the manufacturer to ensure proper insertion. Each spigot end shall have an "assembly stripe" imprinted thereon to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

Connections to existing pipes shall be made with flexible couplings which provide a leak-proof seal. Couplings shall be resistant to chemicals, fungus growth and normal sewer gases. Stainless steel clamps shall be rustproof and resistant to corrosion. Flexible couplings shall conform to ASTM D 5926 and ASTM C 1173.

All pipes shall be bedded in gravel borrow and uniformly supported over its full length. Gravel borrow shall be as specified under Item 151.2.

All cutting of pipe shall be done with a machine suitable for cutting PVC pipe.

METHOD OF MEASUREMENT

Items 250.06 and 250.08 will be measured for payment by the FOOT of polyvinyl chloride sanitary sewer pipe installed.

BASIS OF PAYMENT

Items 250.06 and 250.08 will be paid at the respective Contract unit prices per FOOT, which prices shall include all labor, materials, equipment, excavation, backfill, connections, and all incidental costs required to complete the work.

Excavation more than 5 feet in depth will be paid under item 142. Class B Trench Excavation.

Pipe bedding will be paid for under Item 151.2.

ITEM 250.2**SANITARY SEWER SERVICE CLEANOUT****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 230 of the Standard Specifications and the following:

The work under this item shall consist of furnishing and installing 6 inch sanitary sewer service cleanout to connect to the existing and proposed sewer service as shown on the drawings or as required by the Engineer.

MATERIAL**PVC Pipe and Fittings**

- a. Cleanout size shall be minimum 6 inch diameter PVC conforming to ASTM D3034, SDR 35 for gravity sewer pipe.
- b. Fittings: PVC solvent-weld or gasketed fittings conforming to ASTM D3034 and compatible with SDR 35 pipe.
- c. The surface of the covers shall have a diamond pattern with the letter "S" cast thereon for sanitary sewers. All cleanout frames and covers shall be manufactured by East Jordan Iron Works , NDS, Genesco, or an approved equal.

Cleanout Assembly

- a. Cleanout shall consist of a PVC wye or tee fitting, a short vertical riser of 6" PVC pipe, and a cleanout plug.
- b. Plug shall be a threaded, screw-type cap made of PVC and shall be watertight with square or recessed head for wrenching.

Riser and Frame/Cover

- a. Cleanouts shall have a **PVC cap** and a marker post or protective box
- b. Castings shall have "S" cast into the cover and be provided with a bolt-down feature or locking mechanism, as applicable.

CONSTRUCTION METHODS

- a. Cleanouts shall be installed at the location as shown on the plans and or as directed by the Engineer.
- b. Vertical riser shall be brought to within 1 inch of the finished grade unless otherwise directed.

ITEM 250.2 (Continued)

- c. The wye or tee fitting shall be installed at a 45-degree angle upward to facilitate cleaning and inspection.
- d. The cleanout shall extend to grade and be installed plumb.
- e. During installation of cleanout and appurtenances, the Contractor shall verify that all the items are clean, free from defects in materials and workmanship and functioning properly.
- f. Conduct a functional field test of each cleanout in the presence of the Engineer to demonstrate that all service connection and all components together function correctly.

METHOD OF MEASUREMENT

Item 250.2 will be measured for payment by EACH unit complete in place.

BASIS OF PAYMENT

Item 250.2 will be paid at the Contract unit price per EACH, which unit price shall be full compensation for excavation, backfill, tee-wye connection, fittings, reinforced concrete ring, crushed stone, casting, all labor, equipment, materials and incidental costs to connect to the sanitary service pipe regardless depth to complete the work.

Payment for proposed sewer services connected to the sewer main will be paid under Item 250.06.

<u>ITEM 302.06</u>	<u>6 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)</u>	<u>FOOT</u>
<u>ITEM 302.08</u>	<u>8 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)</u>	<u>FOOT</u>
<u>ITEM 302.12</u>	<u>12 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)</u>	<u>FOOT</u>
<u>ITEM 309.</u>	<u>DUCTILE IRON FITTINGS FOR WATER PIPE</u>	<u>POUND</u>
<u>ITEM 347.1</u>	<u>1 INCH COPPER TUBING TYPE K</u>	<u>FOOT</u>
<u>ITEM 350.06</u>	<u>6 INCH GATE AND GATE BOX</u>	<u>EACH</u>
<u>ITEM 350.08</u>	<u>8 INCH GATE AND GATE BOX</u>	<u>EACH</u>
<u>ITEM 350.12</u>	<u>12 INCH GATE AND GATE BOX</u>	<u>EACH</u>
<u>ITEM 358.1</u>	<u>GATE BOX REMOVE AND STACKED</u>	<u>EACH</u>
<u>ITEM 363.1</u>	<u>1 INCH CORPORATION COCK</u>	<u>EACH</u>
<u>ITEM 371.06</u>	<u>6 INCH COUPLING</u>	<u>EACH</u>
<u>ITEM 371.12</u>	<u>12 INCH COUPLING</u>	<u>EACH</u>
<u>ITEM 375.06</u>	<u>6 INCH INSERTION VALVE AND BOX</u>	<u>EACH</u>
<u>ITEM 375.12</u>	<u>12 INCH INSERTION VALVE AND BOX</u>	<u>EACH</u>
<u>ITEM 381.</u>	<u>SERVICE BOX</u>	<u>EACH</u>
<u>ITEM 381.3</u>	<u>SERVICE BOX ADJUSTED</u>	<u>EACH</u>
<u>ITEM 384.</u>	<u>CURB STOP</u>	<u>EACH</u>

The work under these items shall conform to the relevant provisions of Subsection 301 of the Standard Specifications, the Abington/Rockland Joint Water Works (ARJWW) Standards provided in Document A00848 and the following:

The work under these items consists of the complete installation of new water main, gate valves, and services within the limits of the project and as noted on the plans. This shall also include the abandonment of existing water system appurtenances including: the removal of sections of water main to facilitate connections, decommission valves on abandoned mains, and the removal and stacking of service boxes. The work shall include the satisfactory pressure testing and disinfection of the water main, as specified and required to meet MassDEP standards.

All notification requirements, submittals, certificates of compliance, and pressure testing and disinfection data shall be provided to the Abington/Rockland Joint Water Works (ARJWW) for their review and approval.

The Contractor shall prepare and submit as-built drawings to the Abington/Rockland Joint Water Works for all water main and service installations, prior to prior to backfilling operations.

The Contractor shall make all necessary arrangements with the ARJWW and Fire Departments for the necessary shutdowns of service.

The ARJWW may establish the time of shutdown to be within the normal daily low demand period.

ITEMS 302.06 through 384. (Continued)

Certain existing water mains may have to be shut down in order to complete the work of this contract. Prior to shut down notification, the Contractor shall make a preliminary test of operation of the isolating valves without actually turning the stem more than one revolution. Where these valves cannot be located or are inoperable, backup isolation valves shall be located and tested in a like manner. The Contractor shall make a determined effort to uncover any buried valves. Isolating valves shall not be shut down before the Contractor notifies the ARJWW as specified. Where approved by the Engineer, the Contractor may delete the preliminary testing and proceed with the notification and shut down.

MATERIAL**Water Mains**

All ductile iron pipe shall be Class 52 ductile iron pipe in accordance with AWWA C150 and C151 and shall have push-on joints, furnished in accordance with AWWA C111 unless otherwise specified or shown on the drawings. Ductile iron pipe shall be American made.

All pipe shall be lined with a double thickness cement mortar in accordance with AWWA C104, and shall be asphalt seal coated twice. Outside of pipe to be bituminous coated in accordance with AWWA C151. Inside seal-coat to be such as not to impart taste or odor to the water contained therein.

Each pipe shall have cast on it or stamped on it by means of a hand die stamp, the maker's name or mark, and the year in which the pipe was cast. Also, the weight, thickness class in sampling period shall be painted on each pipe.

Ductile Iron Pipe and Fittings

Ductile iron pipe and fittings shall be installed and tested in accordance with requirements of AWWA C600, latest edition. Water mains shall have a minimum of five feet of cover. Pressure testing shall be witnessed by an inspector from Abington/Rockland Joint Water Works and consist of 200 psi for 10 minutes and 150 psi for 2 hours.

The minimum vertical and horizontal separation must be maintained for all water lines and other utilities: 18-inches vertical (water line 18-inches above) and 10 feet horizontal.

At no time shall a water main or service be installed greater than 8-feet below finished grade.

Water mains shall not be installed below concrete pads and concrete sidewalks and/or landscaped islands shall be avoided whenever possible.

Water Service Line Piping

Unless otherwise approved, all water service line piping shall be Type K annealed (soft) copper tubing, conforming to ASTM B-88, and shall be seamless in manufacture. The water service pipe diameter shall be as specified by Abington/Rockland Joint Water Works to meet the projected use.

Water service lines shall be minimum 1" diameter, Type K copper. Only copper tubing shall be installed from the corporation to the curb stop. Plastic tubing may be allowed from the curb stop to the premise if meeting AWWA PE 3406 or PE 3408, copper tube size outside diameter, and rated at 160 psi minimum.

ITEMS 302.06 through 384. (Continued)**Gate Valves**

All gate valves shall be resilient wedge seated valves conforming to AWWA C509. Gate valves shall be as manufactured by Mueller Co 2360, Waterous, M & H, Kennedy, or American-Darling, or approved equal.

Valves shall have corrosion resistant fusion – bonded interior and exterior coatings. Valves are to have double O ring seals, a non-rising stem, AWWA 2-inch square operating nut, and be OPEN LEFT (counter-clockwise to open). An arrow indicating the opening position shall be cast into the operating nut. All ferrous parts of the valves, except finished or bearing surfaces, shall be given two coats of asphalt varnish.

Valve Boxes

Valve boxes shall be cast iron, asphalt coated, sliding type, adjustable, together with cast iron covers with the word “WATER” plainly cast in relief on the top surface and shall be held in place with bronze bolts. A minimum 6-inch overlap is required between sliding sections. The inside diameter of the bottom section shall be at least 5 ¼ inches and shall have a belled base. The top section shall be at least 6-1/8-inches and have top flanges. The bottom section shall be at least 36-inches in length. The top section shall be at least 26-inches in length and have a plain bottom.

Couplings

Couplings shall be of a type equal to Smith Blair, Style 441; Dresser, Style 253; or Romac Style 501, or an equal approved by the Engineer and the Town. Couplings shall be provided with plain, Grade 27, rubber gaskets and with black, steel, track-head bolts with nuts. There shall be zero gaps between proposed water mains and existing water mains within proposed couplings.

Notes

The length, size, location, and number of all water distribution system materials shall be as approved by ARJWW. Testing requirements shall be in accordance with the latest version of appropriate AWWA specifications.

The Contractor shall prepare and submit as-built drawings to the Abington/Rockland Joint Water Works for all water main and service installations, prior to backfilling the water pipe.

Service Boxes

Service boxes shall be cast iron Buffalo Extension 94E type with recessed lid with brass pentagon bolt and the word “water” cast on top, and adjustable sliding type with arch pattern. Curb stop boxes shall be domestically manufactured Bingham and Taylor, Mueller Co., East Jordan Iron Works, or approved equal.

Curb Stops

Curb stops shall meet the most recent revision of the AWWA C800. Curb stops shall be brass compression-type – no drain. Curb Stops shall open Left. The inlet and outlet shall have compression connections. Curb stops shall be Mueller Model B25209, Red Head, or Ford, or approved equal.

ITEMS 302.06 through 384. (Continued)**CONSTRUCTION METHOD****Ductile Iron Pipe, Fittings, and Couplings****Pipe Handling:**

The Contractor shall take care not to damage pipe by impact, bending, compression, or abrasion during handling, and installation. Joint ends of pipe shall be kept especially clean.

Pipe shall be stored above ground at a height no greater than 5 feet, and with even support for the pipe barrel.

Only nylon-protected slings shall be used for handling the pipe. No hooks, chains or bare cables will be permitted.

Gaskets shall be shipped in cartons and stored in a clean area, away from grease, oil, heat, direct sunlight and ozone producing electric motors.

Laying Ductile Iron Pipe and Fittings:

The Contractor will be responsible for transporting materials to the job site as needed. Care shall be taken in loading, transporting and unloading to prevent injury to the pipe, lining or coatings. Pipe or fittings shall not be dropped. The Engineer shall examine all pipes and fittings prior to installation. Any pipe or fittings found defective shall not be installed and immediately removed from the site. Any damage to pipe linings or coatings shall either be repaired as directed by the Engineer, or removed from the site. Handling and installation of pipe and fittings shall be in accordance with the manufacturer's instruction and as specified herein. Any Jointing of ductile iron pipe and fittings shall be done in accordance with the printed recommendations of the manufacturer and as specified. All pipe and fittings shall be thoroughly cleaned before laying; shall be kept clean until they are used in the work; and when installed, shall conform to the lines and grades required. Special care is required in cleaning the ends of the pipe; wipe the outside of the spigot end with a clean rag prior to applying lubricant; brush clean the inside of the bell end, paying special attention to the rubber joint area, prior to installing the gasket and lubricant; and check inside the pipe for overall cleanliness.

Ductile iron pipe and fittings shall be installed in accordance with requirements of AWWA C600, latest edition, except as otherwise provided herein. The joint surfaces and the gasket shall be painted with a lubricant just prior to making up the joint. The spigot end shall then be gently pushed home into the bell. The position of the gasket shall be checked to insure that the joint has been properly made and is watertight. Care shall be taken not to exceed the manufacturer's recommended maximum deflection allowed for each joint. A firm, even bearing throughout the length of the pipe shall be constructed by tamping selected common fill along the sides of the pipe forming a cradle under the pipe. Tamping shall continue until the fill is 1-foot over the top of the pipe. Pipe installation in rock shall be constructed as shown on the drawings. (See Detail Sheet/Drawings). Minimum covers shall be as prescribed in the Contract Drawings. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner by the Contractor, at his/her own expense.

ITEMS 302.06 through 384. (Continued)

All pipe shall be sound and clean before laying. During pipe installation, care should be taken to protect the open end of the pipe. When installation is not in progress, including lunch time, the open ends of the pipe shall be closed with watertight plugs or other approved means. Good alignment shall be preserved during installation. Fittings, in addition to those shown on the Drawings, shall be provided, when required, for crossing utilities which are encountered during trench excavation. Solid sleeves shall be used only where approved by the Engineer.

When pipe cutting is required, cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be jointed with a bell shall be beveled to conform to the manufactured spigot end. Cement lining shall remain undamaged.

The Contractor shall have on hand at the start of the job, the following additional bends for each size of pipe to be installed: two 1/32 bends, two 1/16 bends and two 1/8 bends. These bends shall be replaced each time job conditions require their use.

Existing Utilities. To the extent possible, the Contractor shall maintain a minimum 10 foot horizontal separation between the new water mains and existing or proposed sanitary sewers, unless otherwise directed by the Engineer.

When crossing an existing sanitary sewer, the water main is preferred to cross above the sewer. The Contractor shall maintain an 18-inch clearance between the bottom of the water main and crown of the sanitary sewer. At crossing, the center of a full length of water pipe shall be located above the sewer so that both joints will be located as far from the sewer as possible. The Engineer may direct this full length of main to be concrete encased when the 18-inch clearance is not possible, or when the water main is placed below the sanitary sewer.

The Contractor shall maintain a minimum clearance between the new water main and all other existing utilities of at least 12 inches.

New water mains shall pass under all existing utilities, except sewers unless otherwise noted on the Drawings or directed by the Engineer.

Ductile iron pipe installed within 5 feet of gas lines shall be fully encased with polyethylene material. Polyethylene shall be 8-millimeters thick and comply with AWWA C105, latest edition.

Ductile iron pipe shall be wrapped in polyethylene encasement where pipe depth is at or below normal groundwater level, as indicated on the Contract Drawings or as required by the Engineer.

Water pipe to be installed with less than the cover shown on the drawings shall be wrapped with an insulating foam jacket suitable for direct burial applications.

ITEMS 302.06 through 384. (Continued)**Thrust Restraints**

Thrust restraints shall be installed at all tees, bends, plugs, caps, tapping sleeves and other locations as directed by the Engineer in accordance with the dimensions and details shown on the plans.

Whenever water pipes can be placed against undisturbed earth, concrete thrust blocks may be installed as required by the Engineer. The back of thrust blocks shall be placed against undisturbed earth and the sides shall be formed. Felt roofing paper shall be placed to protect pipe joints. Concrete shall not be placed over bolts or nuts, or in a manner which prevents the removal of joints.

Concrete shall have a minimum strength Class of 3,000 psi.

Pipe Bedding and Backfill:

Proposed water mains shall be bedded and backfilled with suitable material as shown in the Contract Drawings and as specified in Section 150.64 Backfilling for Structures and Pipes.

Push-on and Mechanical Joints:

Push-on joints shall be made in accordance with the manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. A rubber gasket shall be inserted in the groove of the bell end of the pipe, and the joint surfaces cleaned and lubricated. Apply thin film of nontoxic gasket lubricant over inner surface of gasket in contact with spigot end. The plain end of the pipe being installed shall be aligned and inserted into the bell end of the pipe previously installed. It can then be pushed home with a jack or by other means. After joining the pipe, a metal feeler shall be used to make certain that the rubber gasket is correctly located.

Push-on joint restraints shall be installed in full accordance with the manufacturer's instructions where directed by the Engineer.

Mechanical joints shall be made in accordance with Appendix A of AWWA C111 and the manufacturer's instructions. Wire brush surfaces to be in contact with the gasket and thoroughly clean and lubricate the joint surfaces and rubber gasket with soapy water before assembly. Check that the gasket has been seated in fitting before placing flange against gasket. With bolts inserted and nuts finger-tight, tighten diametrically opposite nuts progressively and uniformly around joint with a torque wrench. Bolts shall all be tightened to the specified torque. When using pneumatic or electric impact wrenches to make up fittings, complete tightening using a torque wrench to the specified torque. Under no conditions shall extension wrenches or pipe over handle of ordinary ratchet wrench be used to secure greater leverage.

Mechanical joint restraints shall be installed in full accordance with the manufacturer's instructions. All bolt heads on Megalug restraints shall be tightened sufficiently so that they shear off to indicate the proper tightening torque was achieved.

ITEMS 302.06 through 384. (Continued)**Sleeve Type Couplings:**

Couplings shall be installed where shown. Couplings shall not be assembled until adjoining push-on joints have been assembled. Clean pipe ends for a distance of 8 inches. Mark each end six inches from the end. Use soapy water as gasket lubricant. Slip follower and gasket over each pipe to the 6-inch marks. Place the middle ring on the pipe end until centered over joint. Insert other pipe end into middle ring and bring to the proper position in relationship to the pipe installation. Press gaskets and followers into middle ring flares. Check gaskets have been seated into middle ring flares correctly. With bolts inserted and nuts made finger-tight, tighten diametrically opposite nuts sequentially with a torque wrench to the specified torque as per manufacturer's recommendation. After installation, apply a heavy bitumastic coating to bolts and nuts.

Connections to Existing Water Mains:

The Contractor shall make all connections to the existing mains as indicated in the Contract Documents.

The Contractor shall develop a program for the construction and putting into service of the new work subject to the approval of the Engineer. All work involving cutting into and connecting to the existing water mains shall be planned so as to interfere with the operation of the existing facilities for the shortest possible time.

The Contractor shall have all preparatory work done prior to making the connection and shall provide all labor, tools, material, and equipment required to do the work in one continuous operation.

The Contractor shall have no claim for additional compensation, by reason of delay or inconvenience, for adapting his operations to the requirements of the Owner.

Under no circumstances shall any customer be without water for a period of more than 4 hours without prior written approval of the Owner. Should it appear that any customer will be without water for more than 4 hours, the Contractor shall install a temporary water service at no additional cost to the Owner.

The Owner does not guarantee a tight shut-off for existing local community water valves. The Contractor shall not submit a claim for damages due to delays in dewatering pipelines caused by water leaking through an existing closed valve, or having to dewater the excavation while making the connection. It is the Contractor's responsibility to provide the means to dewater the excavation while making the connection.

ITEMS 302.06 through 384. (Continued)

Pressure Testing and Disinfection:

Prior to pressure and leakage tests, the piping shall be thoroughly flushed clean of all dirt, dust, oil, grease and other foreign materials. This work shall be done with care to avoid damage to lining and coatings.

The Contractor shall submit a plan on the method of testing and chlorinating the mains for review. The plan shall include all equipment proposed for use during the work, or the name of the qualified testing company, which will perform the work. Testing of the water main shall not begin until the Engineer has approved the Contractor's plan. All testing shall be done in the presence of the Engineer.

The Contractor, in accordance with ANSI/AWWA C600 specifications or latest revision thereof, will make all pressure and leakage tests to determine that the ductile iron pipe is structurally safe and free of excess leakage. The Contractor shall furnish all the equipment, materials and labor required for testing. The Contractor shall furnish, at his own expense, all the water needed for all water main testing.

Testing shall be done in sections of the main not to exceed a 3,000-foot maximum length. Valves shall be placed in the off position at the ends of the sections to be tested. The Contractor shall provide means to prevent water from entering other parts of the pipeline not subject to testing at all times. The Contractor will ensure that air release valves and other venting devices are properly installed and placed in open position when filling pipe with water.

1. After all entrapped air has been removed from the section; fill the main to the normal static pressure. The Contractor is allowed to let the main rest for up to 48 hours with static pressure. Using a special pressure pump, the Contractor shall raise the pressure to 150 pounds per square inch. The pump will then be shut off and separated from the test section by a globe valve. A fluid filled pressure gage, with a maximum reading of 250 psi, shall have been placed beyond the globe valve. The test section will then be monitored for a 2-hour period.
2. This pressure shall be maintained, within 5 psi, for a minimum of 2 hours during which time the line checked for leaks by the Engineer. Based on an average test pressure of 150 psi, the measured rate of water leakage shall not exceed the following rates in the section under test:

$$L = \frac{12.25 SD}{133,200}$$

Where: L = Allowable leakage, gallons per hour
S = Length of pipe section tested, feet
D = Nominal pipe diameter, inches

ITEMS 302.06 through 384. (Continued)

3. Should leakage exceed this rate, the Contractor shall immediately locate the leak or leaks and repair same at his expense. Pipe shall be flushed and chlorinated when leakage does not exceed above standard. Approval does not absolve the Contractor from his responsibility if leaks develop within the new main or water services (to curb box) later within the warranty period.

Chlorinating and Flushing Procedure:

1. The Contractor, in accordance with the latest edition of ANSI/AWWA 651 Standard for Disinfecting Water Mains, shall chlorinate and flush the new water main. Chlorinated water to be flushed from the pipeline shall be de-chlorinated as shown on detail drawings or as approved by the Engineer. It shall then be discharged to the nearest storm drain. Chlorinated water shall not be discharged to any natural water body.
2. Prior to chlorination, the Contractor shall properly flush the water mains. In general, flushing shall be performed at a flow rate required to achieve a minimum velocity of 3 feet per second, which is approximately 400 GPM in an 8-inch diameter main, 600 GPM in a 10-inch main, 900 GPM in a 12-inch main and 1,600 GPM in a 16-inch main. Flushing of the water main, at the above rates, for approximately 20-minutes per 1,000-foot section, will allow for three volume changes. This is a sufficient period of time for successfully cleaning the water main.
3. The Contractor shall chlorinate the water main until the main contains a solution containing 25 mg/L available chlorine. The valves shall then be closed and the chlorinated water allowed to sit in the mains for 24 hours. The main will then be checked to assure the chlorine residual shall be at least 10 mg/L. If less than 10 mg/L is measured, the Contractor shall flush and re-chlorinate the mains at no cost to the Owner. All valves and hydrants shall be operated to insure their proper disinfection. Valves shall be operated to prevent super chlorinated water from entering the existing distribution system. The Contractor shall then flush the mains until clear, clean water is being discharged.
4. Sixteen hours after the main has been flushed of chlorinated water, bacteriological samples (total coliforms and heterotrophic plate count) shall be taken. Two sample events shall occur. The first sample event from the designated locations shall be taken and the second sample event shall be taken from the same designated locations a minimum of 15 minutes apart. Both sets of samples shall pass. Water samples shall be taken from corporation stops along the length of the water main as designated by the Engineer. A minimum of two (2) samples shall be taken on each street, or two per 3,000 feet of pipe, whichever is greater. Each sample shall be taken in sterile bottles and sent to a State approved private laboratory for analysis. The Contractor shall perform all necessary work including delivery of samples to a certified laboratory, and shall include the cost for sampling and analysis in his bid price. The results of the tests on these samples will determine the acceptance of the work and allow these new mains to be connected to the Town's system. The failure of any sample to pass the laboratory tests shall require the Contractor to reflush and re-chlorinate the mains and resample and test the water until acceptable results are obtained, all at no additional cost to the Owner.

ITEMS 302.06 through 384. (Continued)

5. If, during construction, trench water has entered the main, or if in the opinion of the Owner's Engineer, excessive quantities of dirt or debris have entered the main, bacteriological samples shall be taken at 200-foot intervals and shall be identified as to location. Additional sample taps shall be installed and removed at the Contractor's expense.
6. The Contractor shall note that work under this Contract shall not be considered complete until the satisfactory installation and testing of the water mains have been completed.

Valves and Boxes**Inspection and Preparation:**

All valves and appurtenances shall be installed in the location shown on the drawings or where directed by the Engineer. Valves shall be true to alignment and rigidly supported. Any damaged items shall be replaced before they are installed.

During installation of all valves and appurtenances, the Contractor shall verify that all the items are clean, free from defects in materials and workmanship and functioning properly. Valves and other equipment which do not operate easily, or are otherwise defective, shall be repaired or replaced.

All valves shall be closed and kept closed until otherwise directed by the Engineer. Care shall be taken to avoid freezing of water in valves.

Conduct a functional field test of each valve, including actuators and valve control equipment, if any, in the presence of the Engineer to demonstrate that each part and all components together function correctly. The Contractor shall provide all testing equipment.

Installation of Buried Valves and Valve Boxes:

The Contractor shall furnish all necessary labor and equipment to excavate and expose the water main sufficiently to install valves as required by the Engineer. Valves shall be cleaned and manually operated before installation. Valves shall be set on a firm foundation and supported by tamping pipe-bedding material under the sides of the valve. The valve box shall be supported during backfilling and maintained in vertical alignment with the top flush with the finished grade. Buried valves and valve boxes shall be set with the stem vertically aligned in the center of the valve box. The valve box shall be set so as not to transmit loads to the valve.

Before backfilling, all exposed portions of any bolts shall be coated with two coats of bituminous paint comparable to Bitumastic No. 50 by Koppers Co., Inc. or equal.

ITEMS 302.06 through 384. (Continued)**Insertion Valve and Box**

The Contractor shall coordinate the services of a qualified representative of the insertion valve equipment supplier to provide on-site support and assistance during installation of insertion valves operations of the existing water mains as indicated on the Drawings.

The Contractor shall furnish all necessary labor and equipment to excavate and expose the water main sufficiently to install the insertion valve and appurtenant components, including the valve box as required by the Engineer. When an insertion valve is installed, it is imperative that the shell cutting is removed and discarded.

Insertion valve components shall be installed in accordance with the manufacturer's recommendations. Where split components are utilized, they shall be positioned to ensure gasket seams are staggered and not aligned, providing a watertight seal.

Upon completion of insertion valve installation, the valve and main shall be thoroughly flushed.

Valve Decommissioning

Valves shall be decommissioned in the closed position. The valve box shall then be removed and stacked. Only valves on abandoned mains shall be decommissioned. Valve boxes shall be stockpiled and stored within the project area. The Contractor shall coordinate with ARJWW to determine whether removed valve boxes are acceptable for reuse. Valve boxes accepted by ARJWW shall be transported, offloaded and neatly stacked on pallets. The Contractor shall deliver all accepted valve boxes to the Abington/Rockland Joint Water Works Yard at 366 Centre Avenue, Rockland, MA. Valve boxes rejected by ARJWW shall become the property of the Contractor and shall be properly disposed off of the site without additional compensation. The Contractor shall be responsible for notifying and coordinating the removal of the valve boxes with ARJWW.

Water Service Connections

After successful testing and chlorination, water services shall be installed as a "wet" tap as shown on the Drawings, specified, or directed by the Engineer. Exact locations of services shall be located in the field by the Engineer. All existing services shall be connected to the curb stop installed under this Contract. All services shall be installed to a minimum depth shown on the Drawings unless specifically shown or directed otherwise by the Engineer.

Corporation cocks. The tapping machine shall be rigidly fastened to the pipe. The length of travel of the tap should be so established that when the stop is inserted and tightened with a 14-in wrench, not more than one to three threads will be exposed on the outside. When a wet tapping machine is used, the corporation cock shall be inserted with the machine while it is still in place. Stops shall be tightened only sufficiently to give watertightness and care must be constantly exercised not to overtighten them.

Saddle taps shall only be used for services larger than one inch or when transite (asbestos cement) pipe, PVC pipe, or HDPE pipe is encountered or under the direction of the Engineer.

ITEMS 302.06 through 384. (Continued)

Straight couplings. The Contractor shall install straight couplings to existing water mains of the sizes required in the locations designated by the Engineer in the field. The Contractor shall utilize the manufacturers recommended installation procedures while performing the work. Care shall be taken to ensure a watertight connection.

Curb stops will, in most cases, be installed 1.5-feet from the curb line or pavement limit. The Contractor shall install the curb cocks and boxes in a workmanlike manner as described herein and as directed by the Engineer and shall place compacted-screened gravel around and below the cock to permit ready draining of the pipe through the waste opening. Existing curb stops shall be removed and stacked.

The boxes shall be set in a true vertical position and if they are within the limits of the roadway or within limits where the plowing of snow will take place in the winter, the tops of the boxes shall be set about 1/2-in below the top of the finished grade. In locations where these boxes are not likely to be disturbed, the tops shall be set flush with the adjoining ground.

Care shall be exercised in the placing and laying of water service tubing to be sure that the pipe does not have kinks or sharp bends and to assure against it being in contact with sharp stones or ledge which would cause damage to the pipe. Service shall be installed with a minimum 6 inches of sand bedding and 12 inches sand cover.

For existing service connections that are less than 1-inch, the change over to the new main shall occur at the new 1-inch tap (1" to 3/4"). If any extensions are required to reach the existing water service, they shall match diameter in kind, except be no less than 1-inch. Water service tubing as specified herein shall be used to make connections between new corporation stops and new curb stops at the property line. If the service connection is greater than 1-inch, the same size water service tubing connection shall be installed. The Contractor shall be responsible for the removal and/or installation of curb stops and boxes in the locations directed by the Engineer.

The transfer of water connections from the old services to the new services shall be performed as quickly as possible in order to minimize the time in which water service is disrupted.

Water service trenches shall be excavated and backfilled in conformance to the details. Services to be installed beneath paved roadways may be driven beneath the pavement utilizing a pneumatically driven device such as "Hole Hog", or equal.

ITEMS 302.06 through 384. (Continued)**METHOD OF MEASUREMENT****Ductile Iron Pipe**

Items 302.6, 302.8, and 302.12 will be measured for payment by the FOOT of water main furnished, installed, completed and accepted in place. Measurement will be along the water main centerline in accordance with Subsection 301.80.

Ductile Iron Fittings

Item 309 will be measured for payment by the POUND in accordance with Subsection 301.80.

Item 347.1 will be measured for payment by the number of feet of water service, measured in place along the centerline of the pipe from the proposed water main to the curb stops.

Items 350.06, 350.08, and 350.12 will be measured for payment per EACH Gate and Gate Box.

Item 358.1 will be measured for payment per EACH Gate Box Removed and Stacked.

Items 363.1 will be measured for payment in place per EACH Corporation Cock

Items 371.06, 371.12, 375.06, and 375.12 will be measured for payment in place per the unit Each by the size of service installed, complete in place.

Item 381 will be measured for payment in place by the unit EACH complete and approved.

Item 381.3 will be measured for payment in place by the unit EACH complete and approved.

BASIS OF PAYMENT

Payment for Items 302.6, 302.8, and 302.12, ductile iron water pipe as specified, will be made at the respective Contract unit price per FOOT, which prices will be considered as full compensation for furnishing, installing, maintaining, and removing (if required) all labor, equipment, materials, devices, services, and related appurtenances including: all pipe; underground warning tape with metal core; insulation as required; protection of utilities; trench dewatering; backfilling, compaction, and steel plating prior to paving; compaction testing; disposal of excavated materials; permit compliance and associated fees; pressure testing; providing water for pressure and leakage tests; disinfection; flushing; sampling; laboratory analyses; and all incidental costs thereto, for which separate payment is not provided under other items.

Water pipe installed shall be tested and/or chlorinated. No payment shall be made for installed water pipe until satisfactory testing and chlorination results have been obtained and accepted by the Engineer.

Item 309 will be paid at the Contract unit price per POUND, which unit price shall be considered full compensation for furnishing, installing, all labor, equipment, materials, and related appurtenances including restrained joints.

ITEMS 302.06 through 384. (Continued)

Item 347.1 will be paid at the Contract unit price per FOOT, which price will be considered full compensation for furnishing and installing copper tubing, connection to existing service, all labor, equipment, materials, and incidental costs required for completion of the work.

Items 350.06, 350.08, and 350.12 will be paid at the respective Contract unit prices per EACH, which prices will be considered full compensation for furnishing and installing gate valves and boxes, all labor, equipment, materials, and incidental costs required for completion of the work.

Item 358.1 will be paid at the Contract unit price per EACH gate box removed and stacked from the abandoned water main, which price shall be considered full compensation for furnishing all labor, equipment, materials and incidental costs required for the satisfactory completion of the work.

Item 363.1 will be paid at the Contract unit price per EACH Corporation Cock, which price shall be considered full compensation for furnishing and installing, all labor, equipment, materials, removing and stacking existing corporation cocks, and incidental costs required for completion of the work.

Items 371.06 and 371.12 will be paid at the respective Contract unit prices per EACH, which respective unit prices shall be considered full compensation for furnishing, installing, maintaining, all labor, equipment, materials, devices, services, and related appurtenances for connection to existing mains.

Items 375.06 and 375.12 will be paid at the respective Contract unit prices per EACH, which unit prices shall be considered full compensation for furnishing and installing, all labor, equipment, materials, and incidental costs required for completion of the work.

Items 381 and 381.3 will be paid at the respective Contract unit bid price per unit EACH, which respective Contract unit bid price shall include full compensation for all labor, equipment, and materials to adjust service boxes regardless of size to the finished grade, and installation of new replacement service boxes. removing and stacking existing service boxes, and all incidental costs necessary to complete the work.

Concrete thrust blocks as required by the Engineer will be paid separately under Item 903.

Service boxes and corporation stops determined to be unsuitable for reuse shall become the property of the Contractor and removed from the site at no additional cost.

No separate payment will be made for sawcutting, excavation, sand, compacted backfill, insulation, sampling, flushing, testing and disinfection, as-builts, but all costs in connection therewith shall be included in the unit prices bid for the respective items.

Trench excavation in excess of 5 feet in depth and rock excavation shall be measured as specified in 148.80: Method of Measurement for Class B Trench Excavation and Class B Rock Excavation, respectively.

<u>ITEM 345.01</u>	<u>1 INCH TEMPORARY BYPASS PIPE</u>	<u>FOOT</u>
<u>ITEM 345.02</u>	<u>2 INCH TEMPORARY BYPASS PIPE</u>	<u>FOOT</u>
<u>ITEM 345.04</u>	<u>4 INCH TEMPORARY BYPASS PIPE</u>	<u>FOOT</u>
<u>ITEM 345.06</u>	<u>6 INCH TEMPORARY BYPASS PIPE</u>	<u>FOOT</u>
<u>ITEM 345.12</u>	<u>12 INCH TEMPORARY BYPASS PIPE</u>	<u>FOOT</u>
<u>ITEM 376.6</u>	<u>HYDRANT FOR TEMPORARY BYPASS</u>	<u>EACH</u>

The work under these items shall conform to the relevant provisions of Section 300 of the Standard Specifications, Abington/Rockland Joint Water Work (ARJWW) Standards and the following:

The work shall include installation of the by-pass system, connection of water supplies to residences/business within the project limits, material furnishing, removal of the by-pass system, and any and all other incidental work required for a complete water bypass system and as directed by the Engineer.

Scope of Work

Furnish all labor, materials, equipment and incidentals required to install and remove by-pass and temporary water pipe and fire hydrants of the sizes required to provide adequate service to all water consumers whose service will be interrupted by new water main installation and to fulfill fire service requirements.

The CONTRACTOR shall provide temporary water service to one and two family residences and to other water customers with small diameter services currently connected to mains to be shut off, in order to facilitate the work, by means of temporary hose connections. The contractor shall provide temporary water service to all large diameter service customers within project area through excavation of service and direct connection to existing below grade pipe material.

The CONTRACTOR shall furnish all work and fittings and make all necessary connections required to supply the bypass pipes (including service) with water from hydrants or existing water mains. Procedures for connecting bypass pipes to existing water mains that are to remain in service are specified elsewhere in this section.

The work of relocating existing service and of furnishing and installing temporary water pipe, temporary customer services and other branches, maintaining the same, providing suitable safety precautions and removal of the temporary water pipe system shall be the sole responsibility and expense of the CONTRACTOR.

The temporary bypass water main shall not be in operation between **November 15 and April 15** or pipe insulation shall be provided by the Contractor to prevent temporary by-pass pipes freezing during winter as incidental to the respective items.

ITEMS 345.01 through 376.6 (Continued)**Materials**

All materials shall be suitable for potable water, and certified to NSF 61 standards.

All materials shall be rated for 200 PSI.

All joints shall be non-permanent restrained either groove and spine or Victaulic, unless otherwise approved by the Engineer or ARJWW. Glued joints are not allowed unless approved by the Engineer or ARJWW. All joints shall be water tight.

Temporary Water Mains

Temporary water mains, connections, and branches shall be galvanized steel or polyvinylchloride (PVC) plastic, of the highest quality, and suitable for all conditions of use, unless otherwise approved by the Engineer or ARJWW.

Temporary water mains shall be a minimum of 4-inch diameter when connected to a permanent hydrant, providing water to temporary hydrants, and providing water to permanent fire services, other large diameter water services, or as required by the Engineer or ARJWW.

2-inch temporary water mains are allowed when supplying water for 3/4-inch through 2-inch water services only, unless otherwise approved by the Engineer or ARJWW.

Temporary Valves

The same make and model of valves shall be utilized throughout the project, to facilitate the ARJWW's operation of temporary valves with a single type of tool.

All valves shall be provided with removable handles.

Temporary Hydrants

Temporary hydrants shall be made up with same materials as temporary water mains and valves.

Temporary hydrants shall be provided with one (1) 4-inch valve, 4-inch by 4-inch tee, 4-inch pipe, two (2) 90-degree bends and one (1) 45-degree bend and a 4-1/2-inch National Standard Thread (NST) nozzle. A 4-1/2-inch by 2-1/2-inch tee and two (2) 2-1/2-inch NST nozzles may be allowed if the ARJWW approve. Requests for the 2-1/2-inch nozzle shall be provided in writing to the Engineer and ARJWW during the submittal process.

ITEMS 345.01 through 376.6 (Continued)**Temporary Water Hose, Water Service Hose, and Hose Fittings**

Temporary water hose, water service hose, and hose fittings shall be inert material that will not impart a taste into the water.

No garden hose, hydraulic hose, or air hose is allowed.

Barbed fittings made of brass are allowed to connect the hose to the temporary water shut off valve and spigot of meter valve.

Temporary Water Service Shut-Off Valve

Temporary water service valves shall be ¾-inch to 2-inch brass ball valve corporations with removable handles.

Temporary water service valves shall have AWWA corporation cock (CC) taper thread inlet and outlet threads.

Installation

Temporary water pipe shall not be installed without the prior approval of the ARJWW and the Engineer. A recommended layout of the temporary water pipe and connections to the existing distribution system has been provided in the plan set. A recommended Sequence of Work has been **provided in the upfront section of the Special Provisions in the section titled "GENERAL WATER MAIN INSTALLATION SEQUENCE AND REQUIREMENTS"**. **The CONTRACTOR may propose an alternate layout and Sequence of Work, but must submit plans as indicated below:**

- The CONTRACTOR shall submit a plan for the proposed layout of the temporary water pipe and connections to the existing distribution system for the Engineer's approval. This plan shall be drawn on a clean set of project drawings and the temporary water pipe layout shall be consistent with the CONTRACTOR's proposed sequence of operations. Proposed changes in the layout of temporary water piping that the CONTRACTOR wishes to make as the work proceeds shall also be submitted for the Engineer's approval. The plan shall also address how pipe will be laid at catch basins, address how pipe will cross intersections, address how pipe will be laid at intersections to avoid contact with cars cutting turns sharply, provide the make and model of all valves to be utilized, provide the type of temporary water piping to be utilized, address pedestrian safety issues (including but not limited to the brass sampling tap locations), and confirm the CONTRACTOR's intent to follow disinfection procedures described herein.

ITEMS 345.01 through 376.6 (Continued)

The bypass pipes shall be supplied from connections made to hydrants or existing water mains that are to remain in service as specified elsewhere in this section. Each bypass piping section shall have a minimum of two (2) connections.

Temporary water pipe typically is laid in gutters, but during road reconstruction may be moved to back of walk. At driveways, pipe crossings shall be provided by cold patch cover or other approved method. At street intersections, the CONTRACTOR shall cut a straight line in the existing bituminous paving and lay the temporary water pipe in a shallow trench covered with temporary surfacing.

At the Engineer's options, the CONTRACTOR may be allowed to use hose to come around bend, to cross driveways, to connect temporary water mains to existing hydrants, or to connect temporary water mains to existing water services. All hose shall comply with NSF 61 standards. No kinks, excessive bends, or other restrictions shall be allowed to any hose used on the temporary water pipe, temporary hydrants, or temporary water services.

Sanitary precautions shall be satisfactory to the Engineer and shall meet all requirements of the public health authorities having jurisdiction. The installation shall be watertight. Care shall be exercised throughout to avoid any possible pollution of mains, house services, or the temporary water pipe. The interior of temporary water pipe, temporary hoses and any other connection pipe to convey water for potable use shall be chlorinated prior to its use in accordance with AWWA C651 and the ARJWW's requirements.

All temporary pipes shall have valves installed that meet the approval of the Engineer. A valve shall be provided at each hydrant connection and each tap hole connection. Main line valves shall be located no further than 500-ft apart when directed by the Engineer. Handles shall be removed from temporary hydrants. Main line temporary valves may require the handles be removed at the discretion of the Engineer and/or ARJWW.

Sample taps shall be furnished and installed on temporary water pipe in the same manner specified in the Abington/Rockland Joint Water Works specifications for permanent water mains.

Whether it is being installed, in service, or being removed, the amount of temporary water pipe kept on the job shall be the minimum that will allow the work to continue at a reasonable rate.

The CONTRACTOR shall maintain the temporary water pipe during all emergencies on a 24 hour basis. The CONTRACTOR shall provide the Engineer and ARJWW the name and phone number of their 24 hour emergency contact person. The 24 hour emergency contact person shall be located within 30 minutes traveling distance from the project site. The CONTRACTOR's emergency staff shall have vehicles, equipment, tool and parts to maintain the temporary water pipe if it is broken or out of service for any reason.

ITEMS 345.01 through 376.6 (Continued)

Where necessary, the contractor may need to excavate portions of the sidewalk to lower the bypass water main. Costs for lowering and replacing the sidewalk shall be included within the unit price for 2-inch and 4-inch bypass water main.

Temporary Connection to Existing Water Mains

At some locations, as directed or approved by the ARJWW, it may be necessary to tap the existing water mains in order to supply the temporary water piping with water service.

The normal connection to an existing water main shall consist of a single 4-inch tap, with one (1) 4-inch hose feeding into a 4-inch temporary bypass pipe. A 4-inch valve shall be provided on the temporary water pipe near the taps.

An alternative connection to an existing water main may be allowed, but requires approval of the Engineer and ARJWW and shall consist of a double 2-inch tap, with two 2-inch lines feeding into a 4-inch temporary bypass pipe. A 4-inch valve shall be provided on the temporary bypass pipe near the taps.

At locations, as approved or directed by the ARJWW, where connections for temporary water piping are to be made underground to the existing water mains with corporation stops or wet taps, the CONTRACTOR shall make the necessary excavations at the locations and to the limits as necessary to uncover the existing underground water lines and permit the installation of corporations stops or wet taps thereto. The CONTRACTOR shall furnish and install a shutoff valve at the connection to the existing water line; connect the temporary water piping to the shutoff valve and, where directed by the ARJWW, backfill the excavation and install temporary bituminous pavement. When the need for the temporary water service has ceased, the CONTRACTOR shall re-excavate, where necessary cap the corporation stop or wet tap; disconnect and remove the water piping, shutoff valve, backfill the excavations; and provide the gravel base course and temporary and permanent pavements over the excavated and disturbed areas in accordance with the requirements specified and as directed.

Temporary Fire Hydrants

Where fire hydrants are by-passed, the CONTRACTOR shall furnish, install, maintain and remove temporary hydrants. The temporary hydrant shall be placed within 25 feet and on the same side of the street as the hydrant to be out of service, unless otherwise directed by the Engineer or ARJWW. Each temporary hydrant shall be installed on a 4-inch bypass line, and shall consist of a 4-inch branch, 4-inch valve, two (2) 90-degree bends (installed vertically), one 45-degree bend (installed vertically down) and 4-1/2-inch National Standard Thread (NST) nozzle or a 4-inch by 2-1/2-inch tee and two 2.5-inch nozzles, if approved by the Engineer or ARJWW, for fire hose attachment. Nozzles shall be threaded for cap and grooved for fire hose attachment, using National Standard Thread.

ITEMS 345.01 through 376.6 (Continued)

Temporary hydrants shall be staked to the ground with a 1-inch diameter steel rebar approximately 4-feet long. The rebar shall be driven into the ground a minimum of 2-feet. The temporary hydrant shall be clamped to the remaining rebar with at least two (2) steel hose clamps. Blocking shall be provided to raise hydrants above curbs when required.

Temporary hydrants shall meet the approval of the ARJWW and the Fire Department. They shall be set in such a manner that the Fire Department will have no difficulty making a connection with a fire hose, where they will cause the least obstruction to vehicular and pedestrian traffic, and where they will be least likely to be damaged. Before permanently shutting off the water main that is to be replaced, the CONTRACTOR shall test all temporary hydrants and valves to be sure that they are in proper working order.

The same type of temporary hydrant shall be utilized throughout the project.

Once put into use, the temporary hydrants shall be maintained by the CONTRACTOR until the existing hydrants and or new hydrants are restored to service.

Any existing hydrants that are out of service shall be “bagged” by the CONTRACTOR and reported to the Fire Department as being out of service.

Temporary Water Service to Buildings

Temporary water service connections shall be made to the temporary water pipe with a tap of the appropriate size.

Temporary water service connections shall be made to sill cocks outside the buildings or to temporary connections at the meter inside the buildings, as may be required or directed.

The temporary hoses shall generally be laid up the side of driveways, and shall be as inconspicuous as possible for their entire length.

In cases where access to the building water meter is not possible or where temporary service connection using hoses would not provide adequate supply capacity a temporary service connection shall be made to the existing service pipe in the street between the corporation cock at the main and the curb stop, or in the sidewalk area between the curb stop and the service shut off valves inside the building.

The CONTRACTOR with the ARJWW present shall connect each home to be out of service during water main replacement to the 2-inch or 4-inch temporary water piping after approval of the temporary piping for service by ARJWW.

CONTRACTOR shall flush and disinfect each individual temporary water service per ARJWW's Guidelines and Policies (separately bound).

ITEMS 345.01 through 376.6 (Continued)**Temporary Bypass System Sequence and Requirements**

1. CONTRACTOR shall connect onto the 4-1/2-inch pumper connections on existing and new hydrants at locations shown on the Contract Drawings.
2. CONTRACTOR shall install temporary hydrants after at each connection to new hydrants or existing hydrant used as part of the temporary bypass system.
3. CONTRACTOR shall install a 4-inch valve after each temporary hydrant.
4. CONTRACTOR shall install temporary bypass piping, valves and fittings at the locations shown on the Contract Drawings and in accordance with the Contract Documents.
5. CONTRACTOR shall bury temporary water piping and any temporary building service piping at all road crossings in a trench at least 12-inches deep and in a 4-inch sleeve or method as approved by Engineer.
6. CONTRACTOR may utilize asphalt ramps for the by-pass at driveways but shall bury 2-inch by-pass if deemed necessary by the ARJWW at driveways to allow the homeowner to enter and leave the driveway without damaging vehicle or by-pass piping.
7. CONTRACTOR shall bury the by-pass pipes at all road crossings in a trench at least 12-inches deep and in a 6-inch sleeve or other method as approved method by the Engineer.
8. CONTRACTOR shall bury by-pass pipes at all driveways as required to allow the homeowner to enter and leave the driveway without damaging vehicle or by-pass piping.
9. CONTRACTOR shall provide a minimum 2-inch valves and/or taps as required to flush the temporary bypass piping, unless otherwise approved by the Engineer or ARJWW.
10. CONTRACTOR shall flush and disinfect entire by-pass system before connecting individual water services per ARJWW's Guidelines and Policies.
11. CONTRACTOR shall provide all material (including, but not limited to pipe, valves and fittings), labor, and equipment to perform above.
12. ARJWW to provide bacteria sampling service.
13. The CONTRACTOR shall connect, flush, and disinfect each individual temporary water service to each home to be out of service as described above.
14. The CONTRACTOR shall maintain temporary water piping at all time. The CONTRACTOR shall provide to the ARJWW, the local DPW, local police department, and the local fire department a 24-hour contact person with cell phone number that can be available within 60 minutes of a pipe break or other safety issue.
15. Upon completion of the new replacement water main and services, the CONTRACTOR shall remove all temporary water piping and restore site to original condition.

ITEMS 345.01 through 376.6 (Continued)**METHOD OF MEASUREMENT**

Items 345.01, 345.02, 345.04, 345.06, and 345.12 will be measured for payment complete in place by the FOOT.

Item 376.6 will be measured for payment complete in place by the unit EACH.

BASIS OF PAYMENT

Items 345.01, 345.02, 345.04, 345.06, and 345.12 will be paid at the respective Contract unit bid price by the FOOT, which price Contract unit bid price shall include all labor, equipment, materials, and other incidental costs required to complete the work, including locating existing utilities, protection of utilities, repair and/or relocation of any utility lines broken and/or conflicting with construction, clearing and grubbing, protection of trees and plantings, sawcutting, excavation, excavation support systems, disposal of excess excavated material, dewatering, installing temporary water lines for individual services, for locating, excavating where required and connecting the temporary service lines to all users whose water service will be disrupted for more than 4 hours, for providing temporary fire protection water at all hydrants which will be out of service for more than 4 hours, for constructing necessary trenches across streets and driveways to protect temporary water lines, connections to existing hydrants where required; pressure testing; providing water for pressure and leakage tests; disinfection and dechlorination as specified; sampling; laboratory analyses; emergency repairs and maintenance, for removing and disposing of all temporary water lines, and for restoring all property damaged or altered in the course of providing temporary water, backfill, grading, compaction, dust control, and site clean-up.

Costs related to labor and materials required to allow flushing of the newly connected service to properties shall be included in these items. The unit price shall include coordination with property owners, and flushing of the newly connected service lines.

No separate payment will be made for temporary hydrants, valves, fittings, excavation, fill and temporary asphalt patching for trenches, as required for the by-pass work.

No separate payment for items required for temporary connections to the existing water main including corporation stops and accessories, excavation and backfill and all labor for connecting the temporary bypass pipe to the existing water main. The price shall be included in the unit prices for the respective Temporary Water Pipe items.

Item 376.6 will be paid at the Contract unit price per the EACH, which price shall include all labor, equipment, materials, and other incidental costs required to complete the work.

<u>ITEM 376.1</u>	<u>HYDRANT – EXCLUDING COST OF HYDRANT</u>	<u>EACH</u>
<u>ITEM 376.3</u>	<u>HYDRANT REMOVED AND STACKED</u>	<u>EACH</u>

The work to be done under these items shall conform to the relevant provisions of Subsection 301 of the Standard Specifications and the following:

GENERAL

The work under these items shall include the materials, equipment, labor, and incidentals for the complete installation of new hydrant, to be provided by the town, within the limits of the project and as noted on the plans. This shall also include removal and stacking of fire hydrants. The work under these items shall include maintaining water service during construction. The work shall include satisfactory pressure testing and disinfection of the water main, as specified and required to meet MassDEP standards.

All notification requirements, submittals, and pressure testing and disinfection data shall be provided to the Abington/Rockland Joint Water Works for their review and approval.

All hydrants designated to be “Adjusted” shall be done so one hydrant at a time. The Contractor shall give at least 48 hours written notice to the Town Fire Department and the Department of Public Works prior to removing any hydrant. Hydrants which will be out of service for more than twenty-four (24) hours shall be replaced by temporary hydrants.

MATERIALS

Hydrants

New hydrants will be provided by the Abington/Rockland Joint Water Works. Contractor shall coordinate with the Abington/Rockland Joint Water Works to pick up new hydrants at 366 Centre Avenue, Rockland, MA. Anchor tees shall be used for all new hydrant installations. Fire hydrants shall have mechanical joint shoes, 5’-6” bury (street level shoulder areas) or 6’-0” bury (raised sidewalk) and marked with an arrow and the word “open” to indicate the direction to turn the stem to open the hydrant. Hydrants shall OPEN LEFT (counter-clockwise to open). All hydrants shall also include reinforced fiberglass shaft heavy duty spring mounted hydrant markers which are 4 feet long and 3/8-inch diameter, one bolt mounting.

Notes

Testing requirements shall be in accordance with the latest version of appropriate AWWA specifications.

ITEMS 376.1 and 376.3 (Continued)**CONSTRUCTION METHOD**Hydrants

Inspection and Preparation:

During installation of all hydrants, valves and appurtenances, the Contractor shall confirm with ARJWW that all the items are clean, free from defects in materials and workmanship and functioning properly. Valves and other equipment which do not operate easily, or are otherwise defective, shall be repaired or replaced.

All valves shall be closed and kept closed until otherwise directed by the Engineer. All hydrants shall be covered with a burlap bag until put into service.

Care shall be taken to avoid freezing of water in valves or hydrants.

Installation of Fire Hydrants:

Furnish all labor, equipment and incidentals required for the installation of fire hydrants and valves as shown on the Drawings and/or as directed by the Engineer. The proposed hydrant location shall be staked by the Contractor according to the plans and confirmed by the Abington Fire Department. The Engineer will request hydrant location staking from the Water Department with reasonable notice (minimum 3 days). Engineer will set two stakes on the road right-of-way (ROW) line, spaced equal distance on either side of the property corner or other location as determined by the Engineer. The ideal location for the hydrant would be just inside the ROW line, at the property corner (halfway between the two stakes). The hydrant should be entirely inside the ROW. Deviation to one side or the other from this property corner location should be kept to a minimum, and only when required due to obstruction or other undesirable field condition. Hydrants shall be installed as a complete unit, including 6-inch gate valve, where designated by the Contract Drawings with the consent of the Engineer. All hydrants shall stand plumb and shall have their nozzles parallel with, or at right angles to the curb, with the nozzle facing the curb. Hydrants shall be set to the established grade, with the centerline of the lowest nozzle 18-inches above the ground. The Hydrants shall be set upon a slab of concrete not less than 4-in. thick and 15-in. square.

Concrete thrust blocks shall be placed between the back of the hydrant inlet and undisturbed soil at the end of the trench. Minimum bearing area shall be 36 square inches. Felt roofing paper shall be placed around the hydrant elbow before placing concrete. Concrete shall not be placed over bolts or nuts, or in a manner which prevents the removal of joints. CARE SHALL BE TAKEN TO INSURE THAT CONCRETE DOES NOT PLUG THE DRAIN PORTS.

Concrete shall have a minimum strength Class of 3,000 psi.

Each hydrant shall be connected to the main with a 6-inch branch controlled by an independent 6-inch valve. The Contractor shall notify the Fire Department when a hydrant is taken out of service, for removal or replacement. When hydrants are removed from service, the pipe shall be cut below grade and the old hydrant disposed of by the contractor. No hydrant shall be left out of service overnight.

ITEMS 376.1 and 376.3 (Continued)

When a dry-barrel hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing course gravel or crushed stone mixed with course sand from the bottom of the trench to at least six (6) inches above the drain port opening in the hydrant and to a distance of one (1) foot around the elbow.

When a dry-barrel hydrant with a drain opening port is set in clay or other impervious soil, a drainage pit, two (2) feet x two (2) feet x two (2) feet, shall be excavated below each hydrant and filled with course gravel or crushed stone mixed with course sand under the elbow of the hydrant and to a level of six (6) inches above the drain port. Said installation will be to the detail shown on the Drawings.

Where existing hydrants are to be connected to a new or existing water main, no extras shall be paid for excavating the water main and preparing same for tapping, etc. Line items for wet taps, D.I. pipe, asphalt, and all other items shall be paid per the Table of Bid Prices.

Fire hydrants shall be painted in accordance with the Water Department requirements.

Hydrant Decommissioning

Hydrants shall be decommissioned by removing the hydrant barrel, decommissioning the hydrant gate valve, and installing a cap on the hydrant lateral. Hydrants shall be stockpiled within the project area to be removed by the Abington/Rockland Joint Water Works or legally disposed of by the Contractor off of the site without additional compensation. The Contractor is responsible for notifying and coordinating the removal of the hydrants with the Town.

METHOD OF MEASUREMENT

Item 376.1 will be measured for payment per unit EACH hydrant, installed complete in place.

Item 376.3 will be measured for payment EACH hydrant removed and stacked.

BASIS OF PAYMENT**Hydrant - cost of hydrant**

Payment for installing hydrants will be paid at the Contractor bid price per Each for Item 376.1. Payment shall be considered full compensation for furnishing all labor, equipment, and materials required for excavation and backfill, installation of tie rods, placing drain stone, furnishing and installing hydrant extension kit if required, pressure testing, disinfection, removal of excess excavated material, and all incidental costs for the satisfactory completion of the work.

All 6-inch gate valves and boxes and 6-inch D.I. pipe required for hydrant installation will be included for payment under their respective Items.

Payment for concrete thrust blocks will be paid separately under Item 903.

ITEMS 376.1 and 376.3 (Continued)**Hydrants Removed and Stacked**

Payment for removing and stacking hydrants will be paid at the Contract unit bid price per Each unit under Item 376.3. Payment shall be considered full compensation for furnishing all labor, equipment, and materials required for excavation and backfill, loading, unloading, removing, stacking, storage, transportation, and all incidental costs thereto for the satisfactory completion of the work.

The Contractor shall deliver the hydrant to Abington/Rockland Joint Water Works Yard at 366 Centre Avenue, Rockland, MA.

ITEM 470.2**HOT MIX ASPHALT BERM, TYPE A - MODIFIED****FOOT**

The work under this Item shall conform to the relevant provisions of Subsection 472 of the Standard Specifications, and the following:

GENERAL

This work shall include constructing Hot Mix Asphalt Berm Type A - Modified (Cape Cod berm), as shown on the plans and as directed by the Engineer.

METHOD OF MEASUREMENT

Item 470.2 will be measured for payment complete in place by the FOOT.

BASIS OF PAYMENT

Item 470.2 will be paid at the Contract unit bid price per FOOT, which price shall include furnishing, constructing, or replacing hot mix asphalt berm.

ITEM 507.1**GRANITE CURB TYPE T-100 - CURVED****FOOT**

The work to be done under this item shall conform to the relevant provisions of Section 500 of the Standard Specifications and the following:

GENERAL

As shown on the plans and as directed by the Engineer, granite curb Type T-100 shall be provided along the outer edge of the truck apron. T-100 curb shall be cut to the appropriate radius as indicated on the plans with ends cut radially to avoid non-uniform joints between segments. Dimensions shall be five inches wide by fifteen inches deep. The edges of the curbing shall be beveled at a slope of 1V:4H with a beveled height of three inches in accordance with the details on the plans.

The granite curb shall be installed to the line and grade as shown on the plans and shall be placed and centered over a 2-foot wide 6-inch depth of gravel borrow thoroughly compacted.

Beveled edge should be clean cut at an angle of 45 degrees along the top. No wind marks or jagged edges will be allowed.

METHOD OF MEASUREMENT

Item 507.1 will be measured for payment by the FOOT along the front arris of the curb installed complete in place.

BASIS OF PAYMENT

Item 507.1 will be paid at the Contract unit bid price per FOOT, which price shall include all labor, materials, equipment for surface preparation, sawcutting, placement, drilling, dowel installation, equipment, supplies, and incidental costs necessary to complete the installation.

Gravel Borrow will be measured for payment by the cubic yard as specified under Item 151.

ITEM 655.4**METAL HANDRAIL****FOOT**

The work under this item shall conform to the relevant provisions of Subsection 660 of the Standard Specifications and the following:

The work under this Item consists of furnishing and installing handrails at ramps and stairs as shown on the drawings or as required by the Engineer.

MATERIALS**METAL HANDRAIL:**

Metal handrail shall be schedule 40 steel pipe.

All surfaces shall be free of burrs and sharp edges and be hand safe.

All welds shall be ground smooth.

Mounting connection to galvanized steel post shall be an ADA compliant galvanized mounting bracket and corrosion resistant screws. Finish as per handrail. Handrail shall be welded to bracket.

FINISH:

Finish shall be hot-dipped galvanized with a shop applied color coating.

Surface preparation prior to galvanizing:

- Pickle steel prior to galvanizing in conformance with SSPC-SP8. Remove all rust, dirt, weld flux, weld spatter, and other foreign matter.
- Hot-dip galvanizing: Provide coating for iron and steel fabrications applied by the hot-dip process. Comply with ASTM A 123 for fabricated products and ASTM A 153 for bolts, nuts, washers, and other rough hardware. Provide thickness of galvanizing specified in reference standards.
 1. Wherever possible, perform galvanizing after assembly of items.
 2. Galvanized items shall be straightened to remove all warpage and distortion caused by the galvanization process.
 3. Touch-up breaks on hot-dip surfaced caused by cutting, welding, drilling or undue abrasion with liquid zinc coating as specified herein above. Apply liquid zinc by brush or spray on all damaged areas in two coats to a total dry film thickness of not less than 3 mils. Apply first coat within two hours after damage to hot-dip film to prevent undue oxidation of exposed surface. On all welds remove weld spatter by power wire brushing or equivalent before applying liquid zinc coating.
 4. Repair material should extend at least 3 inches beyond all edges of the damaged galvanized area as possible to assure continuity of galvanic protection.
 5. Touch-up galvanized surfaces with aerosol spray according to ASTM A 780.

ITEM 655.4 (Continued)**SHOP APPLIED COATINGS:**

- Shop applied coatings shall be applied at the time frames included herein.
- For hot-dipped galvanized steel items scheduled for shop applied primer and finish coating:
 1. Touch-up all breaks on hot-dip surfaces caused by cutting, welding, drilling or undue abrasion with liquid zinc coating as specified above under Hot Dip Galvanizing.
 2. Primer coat shall be factory applied high build catalyzed polyamide/bisphenol epoxy primer. Primer shall be heat cured. Apply primer within 12 hours after galvanizing at the same galvanizer's plant in a controlled environment meeting applicable environmental regulations and as recommended by the primer coating manufacturer.
 3. Finish: Provide factory-applied two components high solid aliphatic acrylic polyurethane color coating, 2.5 mils dry film thickness minimum. Apply in a controlled environment meeting applicable environmental regulations, and as recommended by coating manufacturer. Engage the services of a galvanizing facility which will assume single- source responsibility for galvanizing and finish coating.
 4. Color coating shall be black.

GROUT:

Non-shrink grout shall be pourable, quick setting, non-shrinking hydraulic cement grout.

SEALANT:

Sealant shall provide water tight seal at the base of the posts and shall be compatible with the grout.

CONSTRUCTION METHODS**ERECTION – GENERAL:**

- Construct and install hand rails in strict accordance with the details, the approved shop drawings, and requirements of all codes, laws, and ordinances bearing on the work.
- Pipe rails set in non-shrinking hydraulic cement. Hole to receive pipe shall be core drilled and shall provide at least ½ inch clearance around entire perimeter. Hold expanding grout back ½ inch from finish surface. Apply sealant to top surface of non- shrinking hydraulic cement for a water tight seal and to fill any depression. Slope surface of sealant away from post.

ITEM 655.4 (Continued)**WELDING:**

All required welding shall be completed in the shop prior to delivery to the site.

TOUCH-UP:

- Touch-up all welds, burned areas, scratches, abrasions, on galvanized metals, using specified liquid zinc coating.
- Touch-up all welds, scratches, abrasions, and other surface damaged on shop-painted metals, using the same coatings as specified under shop applied finishes, herein above.
- Touch-up blemishes to color coating using air-dry touch up paint.

METHOD OF MEASUREMENT

Item 655.4 will be measured for payment complete in place by the FOOT in accordance with Subsection 660.80.

BASIS OF PAYMENT

Item 655.4 will be paid at the Contract unit price per FOOT, which price shall include all labor, materials, equipment and incidental costs necessary to complete the work.

ITEM 656.**48 INCH WHITE VINYL PICKET FENCE****FOOT**

The work under this item shall be performed in accordance with the applicable provisions of Section 600 of the Standard Specifications and the following:

GENERAL

The work under this item shall consist of furnishing and installing White Vinyl Picket Fencing behind the new stone masonry retaining wall (Wall No. 1 and Wall No. 2) on House No. 825 Hancock Street and House No. 835 Hancock Street as shown on the plans or as directed by the Engineer. Variations from the installation must be approved by the engineer. Fencing shall be installed in accordance with the manufacturer's literature and the following:

MATERIALS

The Contractor shall submit shop drawings and/or catalog cuts including details illustrating fence height, sizes of posts, rails, sections, and all appurtenances for approval, prior to fence fabrication.

Fencing shall be 48 inches in height (above ground):

Post and picket Color:	White
Post size:	4" x 4"
Post spacing:	6' to 8' on center
Rails size:	2" x 3 1/2" to 2" x 6"
Pickets size:	7/8" x 1 1/2" to 1 1/2" x 3"
Pickets spacing:	2" to 4" on center

Fence shall be manufactured by Master Halco, Husker Vinyl, Weatherable, or an approved equal.

CONSTRUCTION METHODS

The Contractor shall be responsible for field measurements and location of vinyl fencing. Layout drawing(s) indicating post locations and section lengths shall be submitted to the Engineer for review and approval, prior to fabrication.

The lines of the fence shall follow the fence lines as indicated on the drawings. Tops and bottoms shall be installed straight and level, stepped to any grade. All sections shall be plumb and straight.

Posts and pickets shall be installed plumb and parallel to each other. Rails shall be installed perpendicular to posts and evenly spaced.

Fence posts shall be evenly spaced approximately 6 feet on centers and buried to a minimum depth of 2 foot-six inches, and as necessary to accommodate any changes in grade. Earth shall be properly compacted around posts for firm support. If unsuitable soil conditions occur such as rock, ledge and peat, notify the Engineer for acceptable alternate post setting customary in the trade.

ITEM 656. (Continued)

METHOD OF MEASUREMENT

Item 656. will be measured for payment by the FOOT.

BASIS OF PAYMENT

Item 656. will be paid at the Contract unit price per FOOT, which price shall include all labor, materials, excavation, installation, equipment, concrete footings and incidental costs required to complete the work.

ITEM 685. **STONE MASONRY WALL IN CEMENT MORTAR** **CUBIC YARD**

The work under this Item shall conform to the applicable provisions of Subsections 120, 685, and 901, of the Standard Specifications, the Plans, and the following:

The work shall consist of furnishing and constructing a stone masonry retaining wall which includes all labor, equipment, materials necessary for complete construction in accordance with the Drawings and Specifications or as required by the Engineer. The work involves constructing stone masonry retaining walls in front of House No. 825 Hancock Street and House No. 835 Hancock Street, as shown on the plans for Wall No. 1 and Wall No. 2.

The stone face patten shall be match the pre-cast concrete retaining No.3 as shown on the plans and the specification on Item 996.01.

Below is the pattern from the manufacturer that the MassDOT will be interested in installing. Contractor shall coordinate the actual pattern with the MassDOT and the Town at the time of construction.



Wall – 1218-Mount-MN Pattern

METHOD OF MEASUREMENT

Item 685. will be measured for payment by the CUBIC YARD.

BASIS OF PAYMENT

Item 685. will be paid at the Contract unit price per CUBIC YARD, which price shall include all labor, materials, equipment, backfilling, constructing the stone masonry retaining wall in locations as shown on the plans or as required by the Engineer, and incidental costs required to finish the work, complete in place.

Wall excavation will be measured for payment by the cubic yard under Item 141. Class A Trench Excavation.

Rock excavation will be measured for payment by the cubic yard under Item 144. Class B Rock Excavation.

Payment for concrete coping and foundation will be measured for payment by the cubic yard under Item 901.

ITEM 691. **BALANCE STONE WALL REMOVE AND REBUILT** **FOOT**

The work under this Item shall conform to the applicable provisions of Subsections 685, 690, 901, of the Standard Specifications, the Plans, and the following:

GENERAL

The work shall consist of carefully dismantling, stockpiling stone, and rebuilding selected fieldstone balance stone walls in new locations within the project area as identified on the plans. The location of the new walls shall comply with all ROW and clear-zone recovery requirements.

To allow mason greatest selection of local fieldstone in rebuilding balance wall, no stones from balance stone walls shall be discarded from project area until all rebuilt balance walls on project are complete.

The work shall include the total volume of adjusted wall, disassembly of existing wall, and reconstructing wall in new location complete as shown on the plans and as directed by the Engineer. The new wall shall be located as close as practicable to location of original wall. If that is not possible, other site locations may be discussed.

The work shall include, but not be limited to, excavating and trenching, removal of vegetation, labor, tools, equipment and all incidentals required to complete the work as stated herein, shown on the contract plans, and as directed by the Engineer. The work shall be done in accordance with these specifications, and in close conformity with the lines and grades shown on the plans or established by the Engineer.

MATERIALS

Stone from existing project area balance walls shown to be removed shall be used. No stone from existing walls not shown to be removed shall be used.

Field stones may vary in size or be partially embedded in the ground.

Any supplemental stones that are required shall be field stones which match the size, color, and texture of the existing stones as closely as is feasible.

Stones from existing walls should not be cleaned. Natural staining due to age or patches of lichen growth is acceptable and desirable.

No mortar shall be used anywhere or for any reason in reconstructing dry laid balance walls.

SUBMITTALS

The stonework shall be done by masons who are experienced in construction of dry laid stone walls. At least one of the masons shall have 10 years or more experience constructing mortarless, dry-laid balance stone walls. Resume and projects showing experience shall be submitted to Engineer and MassDOT Landscape Section for approval.

ITEM 691. (Continued)**CONSTRUCTION METHODS**

Prior to the disassembly of the existing wall, photographs of the existing conditions of the wall shall be taken to serve as a guide for its reconstruction.

The Contractor shall take care not to damage the existing stones during the disassembly and reconstruction of the wall.

The Contractor shall provide a secure location for stockpiling stone prior to reconstruction, so that stones will not be damaged, lost or stolen.

The rebuilt walls shall maintain the linear appearance and irregular character of local early agricultural farmer walls to as great a degree as possible.

To prepare the base, remove vegetation and excavate a trench up to 12 inches deep as needed to achieve stable, unfrozen soil. Place the bottom row of stones in the trench. Stones from select, existing dismantled walls, shall be used to rebuild the new walls

The stones shall be laid in a two-over-one, one-over-two pattern so as to break joints. All vertical spaces shall be packed full of spalls or chinking stones. At least 25% of the stones in the face shall be headers evenly distributed throughout the wall. The wall shall be constructed with a batter.

Backfill the base of the wall shall be filled with the materials excavated from the trench. Surplus excavation shall be used on location as directed.

Additional available stone may be used to increase height of wall if needed. Additional stone shall be considered incidental to this item. The walls shall not exceed four feet in height.

Upon completion of all walls, stone shall be stockpiled at laydown area or disposed of as coordinated by Engineer and Municipality.

METHOD OF MEASUREMENT

Item 691 will be measured for payment complete in place by the FOOT.

BASIS OF PAYMENT

Item 691 will be paid at the Contract unit price per FOOT, which price shall be full compensation for Balance Stone Walls Removed and Rebuilt complete and to the satisfaction of the Engineer. Balance Stone Walls Removed and Rebuilt will be measured in place and shall be the length of balance stone walls rebuilt.

The cost for this work shall include full compensation for, including, but not limited to, all labor, equipment, worker protection, environmental compliance, materials, tools, transportation/hauling and any incidental costs required to complete the work.

ITEM 691. (Continued)

Wall excavation at the new location will be paid for at the contract unit price per cubic yard under the item for Item 141. Class A Trench Excavation.

Rock excavation will be measured for payment by the cubic yard under Item 144. Class B Rock Excavation.

ITEM 697.1**SILT SACK****EACH**

Work under this item shall conform to the relevant provisions of Subsections 227 and 670 of the Standard Specifications and the following:

The work under this item includes the furnishing, installation, maintenance and removal of a reusable fabric sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system. Devices shall be ACF Environmental (800)-448-3636; Reed & Graham, Inc. Geosynthetics (888)-381-0800; The BMP Store (800)-644-9223; or approved equal.

CONSTRUCTION

Silt sacks shall be installed in retained existing and proposed catch basins and drop inlets within the project limits and as required by the Resident Engineer.

The silt sack shall be as manufactured to fit the opening of the drainage structure under regular flow conditions, and shall be mounted under the grate. The insert shall be secured from the surface such that the grate can be removed without the insert discharging into the structure. The filter material shall be installed and maintained in accordance with the manufacturer's written literature and as directed by the Engineer.

Silt sacks shall remain in place until the placement of the pavement overlay or top course and the graded areas have become permanently stabilized by vegetative growth. All materials used for the filter fabric will become the property of the Contractor and shall be removed from the site.

The Contractor shall inspect the condition of silt sacks after each rainstorm and during major rain events. Silt sacks shall be cleaned periodically to remove and disposed of accumulated debris as required. Silt sacks, which become damaged during construction operations, shall be repaired or replaced immediately at no additional cost to the Department.

When emptying the silt sack, the contractor shall take all due care to prevent sediment from entering the structure. Any silt or other debris found in the drainage system at the end of construction shall be removed at the Contractors expense. The silt and sediment from the silt sack shall be legally disposed of offsite. Under no condition shall silt and sediment from the insert be deposited on site and used in construction.

All curb openings shall be blocked to prevent stormwater from bypassing the device.

All debris accumulated in silt sacks shall be handled and disposed of as specified in Section 227 of the Standard Specifications

ITEM 697.1 (Continued)**COMPENSATION**

Silt sacks will be measured and paid at the Contract unit price per each, complete in place, which price shall include all labor, materials, equipment and incidental costs required to complete the work. No separate payment will be made for removal and disposal of the sediment from the insert, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 767.121**SEDIMENT CONTROL BARRIER****FOOT**

The work under this item shall conform to the relevant provisions of Subsections 670, 751 and 767 of the Standard Specifications and shall include the furnishing and placement of a sediment control barrier. Sediment control barrier shall be installed prior to disturbing upslope soil.

The purpose of the sediment control barrier is to slow runoff velocity and filter suspended sediments from storm water flow. Sediment barrier may be used to contain stockpile sediments, to break slope length, and to slow or prevent upgradient water or water off road surfaces from flowing into a work zone. Contractor shall be responsible for ensuring that barriers fulfill the intent of adequately controlling siltation and runoff.

Twelve-inch diameter (after installation) compost filter tubes with biodegradable natural fabric (i.e., cotton, jute, burlap) are intended to be the primary sedimentation control barrier. Photo-biodegradable fabric shall not be used.

For small areas of disturbance with minimal slope and slope length, the Engineer may approve the following sediment control methods:

- 9-inch compost filter tubes
- Straw bales which shall be trenched

No straw wattles may be used. Additional compost filter tubes (adding depth or height) shall be used at specific locations of concentrated flow such as at gully points, steep slopes, or identified failure points in the sediment capture line.

When required by permits, additional sediment barrier shall be stored on-site for emergency use and replacement for the duration of the contract.

Where shown on the plans or when required by permits, sedimentation fence shall be used in addition to compost filter tubes and straw bales and shall be compensated under that item.

Sediment control barriers shall be installed in the approximate location as shown on the plans and as required so that no excavated or disturbed soil can enter mitigation areas or adjacent wetlands or waterways. If necessary to accommodate field conditions and to maximize effectiveness, barrier locations may be shifted with approval from the Engineer. Barriers shall be in place prior to excavation work. No work shall take place outside the barriers.

ITEM 767.121 (Continued)**MATERIALS AND CONSTRUCTION**

Prior to initial placement of barriers, the Contractor and the Engineer shall review locations specified on the plans and adjust placement to ensure that the placement will provide maximum effectiveness.

Barriers shall be staked, trenched, and/or wedged as specified herein and according to the Manufacturer's instructions. Barriers shall be securely in contact with existing soil such that there is no flow beneath the barrier.

Compost Filter Tube

Compost material inside the filter tube shall meet M1.06.0, except for the following: no peat, manure or bio-solids shall be used; no kiln-dried wood or construction debris shall be allowed; material shall pass through a 2-inch sieve; and the C:N ratio shall be disregarded.

Outer tube fabric shall be made of 100% biodegradable materials (i.e., cotton, hemp or jute) and shall have a knitted mesh with openings that allow for sufficient water flow and effective sediment capture.

Tubes shall be tamped, but not trenched, to ensure good contact with soil. When reinforcement is necessary, tubes shall be stacked as shown on the detail plans.

Straw Bales

Straw bales shall be used if shown on the plans or when specified by Orders of Condition or other permit requirements.

Bales should be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. All bales should be either wire-bound or string-tied. Straw bales should be installed so that bindings are oriented around the sides (rather than along the tops and bottoms) of the bales in order to prevent deterioration of the bindings.

The barrier should be entrenched and backfilled. A trench should be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. The trench must be deep enough to remove all grass and other material which might allow underflow. After the bales are staked and chinked (filled by wedging), the excavated soil should be backfilled against the barrier. Backfill soil should conform to the ground level on the downhill side and should be built up to 4 inches against the uphill side of the barrier.

Each bale should be securely anchored by at least 2 stakes or re-bars driven through the bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together. Stakes or re-bars should be driven deep enough into the ground to securely anchor the bales. For safety reasons, stakes should not extend above the bales but should be driven in flush with the top of the bale.

ITEM 767.121 (Continued)

The gaps between the bales should be chinked (filled by wedging) with straw to prevent water from escaping between the bales. Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency. Wedging must be done carefully in order not to separate the bales.

When used in a swale, the barrier should be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Sedimentation Fence

Materials and Installation shall be per Section 670.40 and 670.60 of the Standard Specifications and the following:

Sedimentation fence shall only be used if shown on the plans or when specified by Orders of Condition or other permit requirements.

When used with compost filter tubes, the tube shall be placed on a minimum of 8 inches of folded fabric on the upslope side of the fence. Fabric does not need to be trenched.

When used with straw bales, an 8-inch deep and 4-inch wide trench or V-trench shall be dug on the upslope side of the fence line. One foot of fabric shall be placed in the bottom of the trench followed by backfilling with compacted earth or gravel. Stakes shall be on the down slope side of the trench and shall be spaced such that the fence remains vertical and effective.

Width of fabric shall be sufficient to provide a 36-inch high barrier after fabric is folded or trenched. Sagging fabric will require additional staking or other anchoring.

MAINTENANCE

Maintenance of the sediment control barrier shall be per Section 670.60 of the Standard Specifications or per the Stormwater Pollution Prevention Plan (SWPPP), whichever is more restrictive.

The contractor shall inspect the sediment barrier in accordance with relevant permits. At a minimum, barriers shall be inspected at least once every 7 calendar days and after a rain event resulting in 0.25 inches or more of rainfall. Contractor shall be responsible for ensuring that an effective barrier is in place and working effectively for all phases of the Contract.

Barriers that decompose such that they no longer provide the function required shall be repaired or replaced as directed. If the resulting berm of compost within the fabric tube is sufficiently intact (despite fabric decay) and continues to provide effective water and sediment control, barrier does not necessarily require replacement.

ITEM 767.121 (Continued)**DISMANTLING & REMOVING**

Barriers shall be dismantled and/or removed, as required, when construction work is complete and upslope areas have been permanently stabilized and after receiving permission to do so from the Engineer.

Regardless of site context, nonbiodegradable material and components of the sediment barriers, including photo-biodegradable fabric, plastic netting, nylon twine, and sedimentation fence, shall be removed and disposed off-site by the Contractor.

For naturalized areas, biodegradable, natural fabric and material may be left in place to decompose on-site. In urban, residential, or other locations where aesthetics is a concern, the following shall apply:

- Compost filter tube fabric shall be cut and removed, and compost shall be raked to blend evenly (as would be done with a soil amendment or mulch). No more than a 2-inch depth shall be left on soil substrate.
- Straw bales shall be removed and disposed off-site by the Contractor. Areas of trenching shall be raked smooth and disturbed soils stabilized with a seed mix matching adjacent seeding or existing grasses (i.e., lawn or native grass mix).
- Sedimentation fence, stakes, and other debris shall be removed and disposed off-site. Site shall be restored to a neat and clean condition.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 767.121 will be measured and paid for at the contract unit price per foot of sediment control barrier which price shall include all labor, equipment, materials, maintenance, dismantling, removal, restoration of soil, and all incidental costs required to complete the work.

Additional barrier, such as double or triple stacking of compost filter tubes, will be paid for per foot of tube installed.

Barriers that have been driven over or otherwise damaged by construction activities shall be repaired or replaced as directed by the Engineer at the Contractor's expense.

ITEM 701.3 **STAMPED CEMENT CONCRETE TRUCK APRON** **SQUARE YARD**

The work under this item shall conform to the relevant provisions Subsections 476, 701, and 901 of the Standard Specifications and the following:

GENERAL

This work shall consist of the installation of an integrally colored and stamped concrete as indicated on the plans. This specialty pavement shall be constructed in accordance with these specifications and in conformity with the lines and grades shown on the plans and/or as required by the Engineer.

Stamped and colored concrete (mountable) shall be installed in the circular truck apron around the center island.

MATERIALS

The concrete shall have a minimum compressive strength of 4,000 psi. Portland Cement shall conform to ASTM C 150 Type I and II. All fine and coarse aggregates shall be nonreactive and shall conform to ASTM C 33. Air-entraining agent shall conform with ASTM C 250 and/or a normal set on retained set water reducing admixture conforming with ASTM C 494 may be used.

No admixture containing calcium chloride shall be used.

An integral coloring admixture meeting the requirements of ASTM C 979 shall be used to the total depth of the concrete in accordance with the manufacturer's recommendations.

Maximum aggregate size shall be ¾-inch.

All coloring, sealing, and sealant materials shall be from a single source manufacturer and shall be color coordinated.

Coloring Admixture: It shall be certified that the Colored Admixtures contain no calcium chloride, that their pigment components consist of pure mineral oxides only, that they comply with the requirements of Paragraph 7.6 Coloring Admixtures of ACI 212.1 R-81 (American Concrete Institute's Manual of Concrete Practice) as water-reducing admixtures, and that their water-reducing components have been tested for compliance with ASTM C 494 (Specification for Chemical Admixtures for Concrete), the normal-set, Colored Admixture being a Type A Admixture and the retarded-set, Colored Admixture, a Type D Admixture.

It shall also be certified that each admixture complies with Uniform Building Code Standard No. 26-12 as single Admixture for Cement Reduction, not as a combination of two or more additives or admixtures. Each shall be packaged such that one sack contains the proper dosage for one cubic yard of concrete. The pigment portion of the Colored Admixture shall comply with ASTM C 979.

ITEM 701.3 (Continued)

The stamped cement concrete shall be provided by:

- L.M. Scofield Company;
- Elite Crete Systems;
- New England Hardscapes; or approved equivalent.

The admixture color for the truck aprons shall be a gray cobblestone running bond pattern or as otherwise approved. The amount of coloring admixture to be used shall be specified by the manufacturer for the particular color and type designated. The Contractor shall submit color sample of the truck apron for the Engineer approval prior ordering.

Color Hardener: Color hardener shall be a ready-to-use, dry-shake type hardener and shall be a streak-free intergrind of pigments, surface conditioning and dispersing agents, and Portland cement, blended with hard, graded aggregate. It shall not contain calcium chloride.

Color hardener shall meet ASTM C 979 for color stability.

Application rate shall be 120 pounds per 100 square feet or as recommended by the manufacturer.

Polyethylene Film shall be one (1) mil polystrip, clear or white opaque and shall conform to ASTM C 171.

Release Agent: Release agent shall be a powdered, colored, bond-breaker formulated to break the bond between mat-type concrete texturing tools and the surface of the color-hardened concrete while imprinting variegated or mottled appearance.

Release agent shall meet ASTM C 979 for color stability. Application rate shall be 4 pounds per 100 square feet. The release agent shall be applied in accordance with the manufacturer's recommendations.

Sealer: Sealer shall be clear, water-born, modified methylmethacrylate emulsion.

Expansion Joint: Preformed joint filler, bituminous type.

Joint Sealant: Joint Sealant shall be a high quality polyurethane based, having a 97 percent nonvolatile content and a combined weight of 12.1 pounds per gallon. Sealant shall match color hardener.

Reinforcement (in mountable surface only): Shall be 6 x 6 x D6 welded wire fabric, plain.

Doweling (in mountable surface only): Dowels required for contraction and expansion joints as detailed on the plans shall be incidental to this item.

ITEM 701.3 (Continued)**SUBMITTALS**

The Contractor shall submit sample to the Engineer for review and approval. Prior to commencing the placement of concrete, but after acceptance and approval of the preconstruction field sample, the contractor shall submit properly labeled and identified samples of materials used in the approved samples as follows:

Coarse Aggregate	20 pounds	
Fine Aggregate	20 pounds	
Cement	20 pounds	
Colored Admixtures	1 pint	
Form Material-Contact Surface	1 square foot Polyurethane	4 square feet
Release Agent	1 pint	
Joint Tape	2 linear feet	
Surface Sealer	1 pint	
Mix Design	1 certified copy	

The samples shall be stored where directed by the Engineer and shall constitute material standards for the project. During construction, 1 pint of cement from each load of cement delivered to the ready-mix plant that will be used in this specific job will be retained and, after comparison with retained master sample, dated and stored with the other retained samples. Aggregate source must be checked periodically and compared with retained samples.

CONSTRUCTION METHODS

Experienced Personnel: The installation, coloring, finishing, patterning, and related activities are operations requiring a thorough knowledge of the properties of concrete, the characteristics of the coloring and patterning process, and experience with these methods and only skilled and experienced artisans shall be employed in this work item. Specifically the placement crews chief shall remain the same person from installation and approval of the sample(s) through the entire project.

The Contractor shall provide conclusive proof that he is qualified to and has previously produced such textured paving as specified and can comply with the provisions specified herein and shown on the plans. Proof shall consist of at least three high quality installations similar to that specified herein. Evidence that the contractor is qualified shall be submitted within thirty days after the Notice to Proceed is received, and it shall be the responsibility of the prime bidder to ensure that that subcontractor he intends to use for this work be pre-qualified in accordance with this paragraph.

Field Sample: Thirty days prior to the placing of any colored and imprinted concrete paving, the contractor shall make an onsite field sample, at a location approved by the Engineer, that is no less than 80 square feet (10-foot x 8-foot) in size, using the approved mix, texture, coloring materials in accordance with the instructions contained in these specifications. This sample shall not be part of the permanent pavement area. The field sample shall include 90 percent patterned area impressed from full patterns and 10 percent patterned area using hand tools and methods to match the full formed area.

ITEM 701.3 (Continued)

The sample shall be approved by the Engineer for color, texture, and pattern. Additional samples shall be required in the event that the first or subsequent samples are rejected.

Once the colored and stamped concrete sidewalk is complete and acceptable to the Engineer, the Contractor shall remove and dispose of the sample and restore the area to its prior condition to the acceptance of the Engineer, with all costs borne by the Contractor.

Forms: Set forms to required grades and lines, as shown on the plans, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.

Imprinting Texturing Tools: Shall be mat-type tools of a high quality to produce a cobblestone running pattern for the truck aprons and a herringbone pattern for the median islands as produced by L.M. Scofield, Elitecrete Systems, New England Hardscapes or approved equal. The manufacturer of such tools shall have provided adequate training to the Contractor. The contractor shall submit documentation that he has been trained by the tool manufacturer.

Concrete: Ready-mixed concrete shall be mixed and delivered. The same brand and type of cement shall be used throughout the project. Prior to the mix design being made, the cement intended for use shall be checked to determine that its lightness/darkness is similar to the cement used in the original approved sample. The Colored Admixture shall be added to the standard proportion specified by the manufacturer. No other admixtures (including calcium chloride) shall be used except an air-entraining agent complying with ASTM Designation C 260 when required by the Engineer.

Reinforcement: Locate, place and support as specified on the plans.

Concrete Placement: No concrete under this item shall be placed when weather conditions indicate precipitation can occur before completed surface patterning can be fully projected. Place only that amount of concrete, which can be completely finished and patterned in accordance with these specifications. Concrete which becomes too stiff for the proposed patterning shall be removed and disposed of by the Contractor and replaced in accordance with the plans, these specifications and/or as directed by the Engineer. Concrete removed, disposed of and replaced shall be at the Contractor's expense. Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide uniform dampened condition at time concrete is placed.

Place concrete using methods which prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand- spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing and joint devices.

The Contractor shall use a Portland Cement mortar slurry, compatible with the mix proportions to be used as a bonding agent at a location where fresh concrete is placed against hardened or partially hardened concrete surfaces.

ITEM 701.3 (Continued)

Deposit and spread concrete in continuous operation between transverse joints, as far as possible. If interrupted for more than ½ hour, place a construction joint.

Set reinforcement and place concrete in one lift for dowels at joints are in place to avoid using bonding agents.

Joints:

General – Construct expansion, weakened-plane (contraction), and construction joints true-to- line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the center line, unless otherwise indicated.

When joining existing structures, place transverse joints to align with previously placed joints, unless otherwise indicated.

Weakened-Plane (Contracting) Joints – Provide weakened-plane joints, sectioning concrete into areas as shown on the drawings. Construct weakened-plane joints for a depth equal to at least ¼ concrete thickness, as follows:

Tooled Joints – Form weakened-plane joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer.

Or

Inserts – Use embedded strips of flexible PVC to form weakened-plane joints. Set strips into plastic concrete and carefully remove strips after concrete has hardened.

Construction Joints – Place construction joints at end of placements and at locations where placement operations are stopped for a period of more than ½ hour except where such placements terminate at expansion joints. Construct joints as shown or, if not shown, use standard metal keyway section forms.

Expansion Joints – Expansion joints shall also be placed every 30 feet. Expansion joints shall also be placed around all appurtenances such as utility poles, hydrants, manholes, and other obstructions extending into and through the stamped concrete. Expansion joints installed around utilities shall be 3/8inch foam expansion joint polyethylene at a depth to match the stamped concrete.

Extend joint filler full-width and depth of joint and not less than ¼-inch or more than 1-foot below finished surface where joint sealer is indicated. If not joint sealer, place top of joint filler flush with finished concrete surface.

Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together.

Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.

Filler and Sealants – Install in accordance with manufacturer's recommendations.

ITEM 701.3 (Continued)

Primary Concrete Finishing: After strike-off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture.

After floating, test surface for trueness with a 10-foot straightedge. Distribute concrete as required to remove the surface irregularities, and refloat repaired areas to provide a continuous smooth finish.

Special Concrete Finishing: After completion of floating the entire surface finish as follows:

Color Hardener shall be applied evenly to the plastic surface by the dry-shake method using a minimum of 60 pounds and a maximum of 70 pounds per 100 square feet. It shall be applied in two or more shakes, floated after each and troweled only after the final floating.

Fresh concrete shall be carefully and continuously monitored and tested during partial setting up so that proper consistency for patterning is achieved. Air temperature, humidity, wind conditions, and other factors affecting setting rate shall be considered in determining the start of patterning operations.

Release agent shall be applied evenly to surface.

While the concrete is still in the plastic stage of set, the imprinting tools shall be applied to create the impression to surface.

Full patterns shall be used to the maximum extent possible. Care shall be taken to ensure continuity of the pattern and to maintain proper relationships to direction of travel, edges, cut route, curbs, and other opportunities.

Where full patterns cannot be used, such as at corners, narrow areas, angles, ramps, or obstructions, hand detailing tools and methods shall be used to continue the intended pattern to the limit of the area. The hand methods shall match as closely as possible the pattern, color, and texture of the full pattern area.

Carefully lift and remove the polyethylene sheet.

At all edges of globes, hooks of curbing, and principal obstructions, smooth and finish the patterned art concrete with a metal edging tool, having a 3-inch plate width and a ½-inch radius.

After the initial curing period, but in no case less than 72 hours, the surface of the concrete shall be sealed.

Repairs and Protections: Repair or replace broken or defective concrete as required. Protect concrete from damage until acceptance of work. Maintain pavement free of stained and other damage until accepted by the Town.

Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

ITEM 701.3 (Continued)**METHOD OF MEASUREMENT**

Item 701.3 will be measured for payment complete in place by the SQUARE YARD.

BASIS OF PAYMENT

Item 701.3 will be paid at the Contract unit bid price per SQUARE YARD, which price shall include all labor, materials, equipment, dowels, reinforcement, wire fabric, joint sealant, backer rods, and incidental costs required to finish the work, complete in place.

No separate payment will be made for reinforcement, expansion joints, load transfer assemblies and incidental materials to complete the work as specified herein and as shown on the Contract details.

ITEM 705.2**COBBLESTONE SURFACE TREATMENT****SQUARE YARD**

Work under this item shall conform to the relevant provisions of Subsection 701 of the Standard Specifications and the following:

GENERAL

The work shall consist of furnishing and installing new natural granite cobblestones on a 4-inch thick mortar bed set the compacted gravel subbase adjacent to the cement concrete sidewalk along the roundabout as shown on the plan and/or directed by the Engineer.

MATERIAL

Cobblestones shall be hard and durable granite of a quality approved by the Engineer, free from seams or other imperfections, and shall have horizontal beds. Natural color variations characteristic of the deposit will be permitted.

Granite fabrication – Comply with recommendations of National Building Granite Quarries Association's (NBGQA) "Specifications for Architectural Granite." Cut stone to produce pieces of thickness, size, and shape indicated and to comply with fabrication and construction tolerances recommended by the NBGQA.

- Cobblestone: natural granite cobblestone
- Color: gray accented
- Finish: Rough tumbled surface with weathered, textured appearance
- Size: 4in (W) x 8in (L) x 2.5 in (T)

The Contractor shall submit proposed cobblestone samples to the Engineer for approval.

ITEM 705.2 (Continued)

Stonedust setting bed shall be 4 inches in depth and meet the following sieve analysis:

Sieve	Percent Finer Than
No. 4	100
No. 8	96
No. 28	61
No. 48	49
No. 100	38
No. 200	23

The subgrade area of the cobblestone to be set shall be adjusted adequately to achieve the proposed grade with masonry sand (minimum depth of 4 inches), compacted gravel subbase material as directed by the Engineer. The masonry sand shall be tampered where the cobblestone strip surface material is to be placed.

METHOD OF MEASUREMENT

Item 705.2 will be measured for payment by the SQUARE YARD.

BASIS OF PAYMENT

Item 705.2 will be paid at the Contract unit price per SQUARE YARD, which payment shall include all equipment, tools, sand, grading, masonry sand, mortar and mortar bed, cement mortar joint, compacting to complete the work.

Payment for gravel borrow bedding foundation when required by the Engineer to replace unsuitable material will be measured and paid under Item 151.

ITEM 714.11**BEAVER BROOK MILLSTONES
REMOVED AND RESET****LUMP SUM**

Work under this item shall consist of all labor, tools, materials, equipment and incidentals required to remove and reset the ca. 1770 Beaver Brook Millstones to accommodate the improvements at the intersection of Hancock and Chestnut Streets, as shown on the Drawings and as specified herein:

The Work shall include photographing; removing; transporting; storing (if necessary); and resetting the existing millstones. If the ca. 1954 millstone commemorative marker is found during the project work, it should be preserved and reset adjacent to the historic millstones at its new location. The Contractor shall submit detailed procedures for removing and resetting the millstones, for approval by the MassDOT Resident Engineer (Engineer), in advance of performing the work.

The Contractor shall be aware that the millstones are historical objects. The Engineer and Contractor shall be present when the millstones are removed to assess their condition. The Contractor shall ensure that the millstones are not damaged during their removal. The Contractor shall also provide the Engineer color digital photographs of the millstones to document their condition at the time of removal.

Upon removal, the millstones shall be placed in a safe and secure storage area under the Contractor's direct control and supervision or shall be immediately reset at their new permanent location. If the millstones are damaged at any time during the project, the Contractor shall be responsible for restoring the millstones, at no cost to MassDOT. Any millstones restoration work shall be fabricated and installed only upon the approval of the Engineer and the MassDOT Cultural Resources Unit staff.

Resetting the Beaver Brook Millstones:

The Contractor shall reset the millstones at their new location as shown on the Drawings under the supervision of the Engineer.

BASIS OF PAYMENT

Item 714.11 will be paid at the Contract LUMP SUM price, which price shall include all labor, tools and materials to complete the work.

ITEM 740. ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) MONTH

The work under this Item shall conform to the relevant provisions of Subsection 740 of the Standard Specifications and the following:

Two computer systems and printer system meeting minimum requirements set forth below including installation, maintenance, power, paper, disks, and other supplies shall be provided at the Resident Engineer's Office:

All equipment shall be UL approved and Energy Star compliant.

The Computer System shall meet the following minimum criteria or better:

Processor:	Intel, 3.5 GHz
System Memory (RAM):	12 GB
Hard Drive:	500 GB
Optical Drive:	DVD-RW/DVD+RW/CD-RW/CD+RW
Graphics Card:	8 GB
Network Adapter:	10/100 Mbit/s
USB Ports:	6 USB 3.0 ports
Keyboard:	Generic
Mouse:	Optical mouse with scroll, MS-Mouse compliant

Video/Audio the computer system shall be capable of allow video calling and recording:

Video camera	shall be High Definition 1080p widescreen capable video calling and recording with built in microphone. The microphone system shall capture natural audio while filtering out background noise.
Audio	shall be stereo multimedia speaker system delivering premium sound.

OS:	Latest Windows Professional with all security updates
Web Browser:	Latest Internet Explorer with all security updates
Applications:	Latest MS Office Professional with all security updates Latest Adobe Acrobat Professional with all security updates Latest Autodesk AutoCAD LT Antivirus software with all current security updates maintained through the life of the contract.

Monitors:	Two 27" LED with Full HD resolution. Max. resolution 1920 x 1080

Flash drives:	2 (two) - 128GB USB 3.0
Internet access:	High Speed (min. 24 mbps) internet access with wireless router.

ITEM 740. (Continued)

The Multifunction Printer System shall meet the following minimum criteria or better:

Color laser printer, fax, scanner, email and copier all in one with the following minimum capabilities:

- Estimated volume 8,000 pages per month
- LCD touch panel display
- 50 page reversing automatic document feeder
- Reduction/enlargement capability
- Ability to copy and print 11" x 17" paper size
- email and network pc connectivity
- Microsoft and Apple compatibility
- ability to overwrite latent images on hard drive
- 600 x 600 dpi capability
- 30 pages per minute print speed (color),
- 4 Paper Trays Standard (RADF) (not including the bypass tray)
- Automatic duplexing
- Finisher with staple functions
- Standard Ethernet. Print Controller
- Scan documents to PDF, PC and USB
- ability to print with authenticated access protection

The Contractor shall supply a maintenance contract for next day service, and all supplies (toner, staples, paper) necessary to meet estimated monthly usage.

The Engineer's Field Office and the equipment included herein including the computer system, and printer shall remain the property of the Contractor at the completion of the project. Disks, flash drives, and card readers with cards shall become the property of the Department.

Compensation for this work will be made at the contract unit price per month which price includes full compensation for all services and equipment, and incidentals necessary to provide equipment, maintenance, insurance as specified and as directed by the Engineer.

ITEM 756. NPDES STORM WATER POLLUTION PREVENTION PLAN LUMP SUM

This Item addresses the preparation and implementation of a Storm Water Pollution Prevention Plan required by the National Pollutant Discharge Elimination System (NPDES) and applicable Construction General Permit (CGP) issued by the U.S. Environmental Protection Agency (EPA).

Pursuant to the Federal Clean Water Act, construction activities which disturb one acre or more are required to apply to the EPA for coverage under the NPDES General Permit for Storm Water Discharges from Construction Activities. The Contractor shall be fully responsible for compliance with the most recently issued CGP and any subsequent revisions. Should a fine or damages be assessed against it, or MassDOT, as a result of a local, state, or federal enforcement action due to non-compliance with the CGP, the Contractor shall take full responsibility.

The NPDES CGP requires the submission of a Notice of Intent (NOI) to the EPA prior to the start of construction (defined as any activity which disturbs land, including clearing and grubbing). There is a fourteen (14) day review period commencing from the date on which EPA enters the Notice into their database. Based on the review of the NOI, EPA may require additional information, including but not limited to, the submission of the Storm Water Pollution Prevention Plan (SWPPP) for review. Work may not commence on the project until final authorization has been granted by EPA. Any additional time required by EPA for review of submittals will not constitute a basis for claim of delay.

In addition, if the project discharges to an Outstanding Resource Water, vernal pool, or is within a coastal ACEC as identified by the Massachusetts Department of Environmental Protection (DEP), a separate notification to DEP is required. DEP may also require submission of the Storm Water Pollution Prevention Plan for review and approval. Filing fees associated with the notification to DEP and, if required, the SWPPP filing to DEP shall be paid by the Contractor.

The CGP also requires the preparation and implementation of a SWPPP in accordance with the afore-mentioned statutes and regulations. The Plan will include the CGP conditions and detailed descriptions of controls of erosion and sedimentation to be implemented during construction. The contractor shall prepare the SWPPP and update it as necessary. The Contractor shall submit the Plan to the Engineer for approval at least four (4) weeks prior to any site activities. It is the responsibility of the Contractor to comply with the CGP conditions and the conditions of any state Wetlands Protection Act Order, Water Quality Certification, Corps of Engineers Section 404 Permit and other environmental permits applicable to the project and to include in the SWPPP the methods and means necessary to comply with applicable conditions of said permits.

It is the responsibility of the Contractor to complete the SWPPP in accordance with the EPA CGP, provide all information required, and obtain any and all certifications as required by the CGP. Any amendments to the SWPPP required by site conditions, schedule changes, revised work, regulations, construction methodologies, and the like are the responsibility of the Contractor. Amendments will require the approval of the Engineer prior to implementation.

ITEM 756. (Continued)

In addition to the CGP requirements for inspections, MassDOT requires inspection of all erosion controls and site conditions on a weekly basis. Inspections are also required at portions of sites that discharge to sediment or nutrient impaired or high quality waters per the CGP when each incidence of rainfall exceeding 0.25 inches in twenty-four hours or after snowmelt discharge from a storm event that produces 3.25 inches or more of snow within twenty-four hours occurs. The CGP requires that inspections be performed by a qualified individual as outlined in the CGP. MassDOT requires proof of completion of a 4 hour minimum sedimentation and erosion control training class current to the latest CGP. This individual can be, but not limited to, someone that is either a certified inspector, certified professional, or certified storm water inspector. The documentation shall be included as an appendix in the SWPPP. The inspector's qualifications shall be submitted to the Engineer for approval prior to beginning any work. This individual shall be on-site during construction to perform these inspections. In addition, if the Engineer determines at any time that the inspector's performance is inadequate, the Contractor shall provide an alternate inspector. Written weekly inspection forms, storm event inspection forms, and Monthly Summary Reports must be completed and provided to the Engineer. Monthly Summary Reports must include a summary of construction activities undertaken during the reporting period, general site conditions, erosion control maintenance and corrective actions taken, the anticipated schedule of construction activities for the next reporting period, any SWPPP amendments, and representative photographs.

The Contractor is responsible for preparation of the Plan, all SWPPP certifications, inspections, reports and any and all corrective actions necessary to comply with the provisions of the CGP. The Standard Specifications require adequate erosion control for the duration of the Contract. All control measures must be properly selected, installed, and maintained in accordance with manufacturer specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or is no longer adequate, it is the responsibility of the Contractor to replace or modify the control for site conditions at no additional cost to the Department. Contractor must maintain all control measures and other protective measures in effective operating conditions and shall consider replacement of erosion controls for each construction season.

The work under this item shall also include the preparation, submission and implementation of a Flood Contingency Plan. The plan shall address the potential need for the temporary relocation of construction and auxiliary equipment situated within the 1% annual chance of flooding zone to designated upland locations above the Base Flood Elevation during flood events. The Flood Contingency Plan shall address any additional MassDEP-required information requirements, as applicable. The Flood Contingency Plan shall be submitted to the Engineer for review and approval at the same time as the SWPPP.

This Item addresses acceptable completion of the SWPPP, any revisions/amendments required during construction, preparation of monthly reports and Flood Contingency Plan. In addition, any erosion controls beyond those specified in bid items which are selected by the

ITEM 756. (Continued)

Contractor to facilitate and/or address the Contractor's schedule, methods and prosecution of the work shall be considered incidental to this item.

The CGP provides specific requirements for temporary and final stabilization. This shall be incorporated into the project schedule. The permit defines specific deadline requirements for Initial Stabilization ("immediately", i.e., no later than the end of the next work day following the day when earth-disturbing activities have temporarily or permanently ceased) and for Complete Stabilization Activities (no later than 14 calendar days after the initiation of stabilization). Stabilization criteria for vegetative and non-vegetative measures are provided in the CGP.

The CGP requires the submission of a Notice of Termination (NOT) from all operators when final stabilization has been achieved, as well as removal and proper disposal of all construction materials, waste and waste handling devices, removal of all equipment and construction vehicles, removal of all temporary stormwater controls, etc. Approval of final stabilization by the Engineer and confirmation of submission of the NOT will be required prior to submission of the Resident Engineer's Final Estimate. The permittee shall use EPA's website to prepare and submit the NOT.

BASIS OF PAYMENT

Item 756 will be paid for at the Contract unit price Lump Sum, which price shall include all labor, materials, equipment, SWPPP & Flood Contingency Plan preparation, revisions/addenda during construction, monthly reports, filing fees, and all incidental costs required to complete the work.

Payment of 50% of the Lump Sum price of this item will be made upon acceptance of the NPDES Stormwater Pollution Prevention Plan & Flood Contingency Plan.

Payment of 40% of the Lump Sum price of this item will be will be paid in equal monthly installments distributed across the time remaining in the accepted baseline schedule until substantial completion.

The remaining 10% of the Lump Sum price of this Item will be paid following accepted submission of a Notice of Termination (NOT) when final stabilization has been achieved.

<u>ITEM 772.337</u>	<u>CEDAR – RED 7 - 8 FEET</u>	<u>EACH</u>
<u>ITEM 783.039</u>	<u>SERVICEBERRY - ALLEGHENY CLUMP 7-8 FEET</u>	<u>EACH</u>

The work to be done under these items shall conform to the relevant provisions of Subsection 771 of the Standard Specifications and the following:

GENERAL

The work under these items shall include all labor, materials, and equipment necessary to furnish and plant and/or transplant specified trees to locations as shown on the plans and/or directed by the Engineer.

METHOD OF MEASUREMENT

Items 772.337 and 783.039 will be measured for payment by the unit EACH in accordance with Subsection 771.80.

BASIS OF PAYMENT

Items 772.337 and 783.039 will be paid at the respective Contract unit bid price per EACH, in accordance with Subsection 771.81.

ITEM 804.3 3 INCH ELECTRICAL CONDUIT TYPE NM – PLASTIC – (UL) FOOT

The work under this item shall conform to the relevant provisions of Subsection 801 of the Standard Specifications and the following:

GENERAL

The work under this item shall include furnishing and installing of a 3-inch diameter non-metallic plastic conduit for street lighting system in accordance with these specifications, as noted on the plans, and as directed by the Engineer.

MATERIALS

The conduit materials shall be Schedule 80 polyvinyl chloride (PVC) plastic conduit.

Controlled Low-Strength Material (CLSM) for backfill of conduit located in roadways shall be in accordance with the latest Supplemental Specifications for Section M4.08.0 CLSM – Manual Excavatable.

Caution tape shall be standard metal foil marking tape, 3-inch wide tape with CAUTION letters and warning messages noted.

CONSTRUCTION METHODS**Conduit In Grass Or In Planted Areas**

Where new conduits are installed in grass and planted areas, no separate payment shall be made for the excavation, sand bedding, gravel backfill, including necessary compaction, or incidental materials, but all costs in connection therewith shall be included in the contract unit price for Item 804.3. Loam and seeding shall be measured and paid for under their respective items. The dimensions of cover to achieve final grade above the conduit and dimensions necessary to install conduit under this Item shall follow the dimensions provided in the plan details.

Conduit in Full Depth Area

Where new conduits are installed in full depth areas, the existing asphalt pavements subject to full depth reconstruction shall be sawcut to a 3 foot-6 inch width. Conduit trenches in roadway shall be not less than 30 inches below finished grade. The existing pavements shall be sawcut through their full depth and the pavement removed. After conduit installation, the trench shall be backfilled with controlled low-strength material (CLSM). CLSM shall be Manual Excavatable type and shall be as specified in Section M4.08.0 of the Standard Specifications and shall be considered incidental to this item. CLSM shall be batched at a concrete plant, shall be flowable, required no vibrating, and the finished product must be excavatable without the use of power tools. Contractor shall provide means to hold conduit in place before filling. The material shall flow under and around the pipe or conduit, sufficient to hold it in place before filling. Controlled low-strength material shall be discharged from the mixer by a reasonable means into the trench area to be filled. The Contractor shall keep the surface clean of debris at all times and shall make the surface thoroughly clean at the end of the work. He shall be responsible for any settlement or damage to curbing, structures, utilities, or roadway, which may occur, as a result of his work. The finished grade of the controlled low-strength material shall be 7 inches below finished pavement surface.

ITEM 804.3 (Continued)**Conduit Under Sidewalk, Median Or Driveways**

Where conduit is installed in a sidewalk, paved median or asphalt driveway areas, no separate payment shall be made for the saw-cutting, excavation, sand bedding, gravel backfill, including necessary compaction, or incidental materials, but all costs in connection therewith shall be included in the contract unit price for Item 804.3. Payment for cement concrete or asphalt pavement shall be paid for under the respective item. The dimensions of cover to achieve final grade above the conduit and dimensions necessary to install conduit under this Item shall follow the dimensions provided in the plan details.

Where conduit crosses roadways, no separate payment shall be made for the saw-cutting of pavement, excavation, sand bedding, controlled low-strength material, or incidental materials, but all costs in connection therewith shall be included in the contract unit price for Item 804.3.

METHOD OF MEASUREMENT

Item 804.3 will be measured for payment by the FOOT in accordance with Subsection 801.80.

BASIS OF PAYMENT

Item 804.3 will be paid at the Contract unit price per FOOT, which price shall be full compensation for all sawcutting, excavation and removal of excavated material, conduit materials, fittings, coupling and bends, Controlled Low-Strength Material for backfilling within roadways or suitable backfill in off-road locations, metal foil marking tape, labor, equipment and incidental costs necessary to install conduits in all locations as noted on the plans or as directed.

Temporary asphalt trench patches shall be installed in areas of proposed full depth pavement construction according to the detail provided in the plans and paid for per Ton under Item 472.

Permanent asphalt trench patches shall be installed in areas of proposed pavement mill and overlay. Permanent asphalt trench patches shall restore the existing pavement thickness or a minimum of 7.5 inches and paid for per Ton complete in place under Item 451.

<u>ITEM 813.40</u>	<u>WIRE TYPE 8 NO. 10 DIRECT BURIAL</u>	<u>FOOT</u>
<u>ITEM 813.42</u>	<u>WIRE TYPE 8 NO. 6 DIRECT BURIAL</u>	<u>FOOT</u>

GENERAL

Work under these items shall conform to the relevant provisions of Subsection 813 of the Standard Specifications and the following:

The Contractor shall be required to furnish and install all materials, equipment and labor necessary to completely wire and operate the street lighting system. All materials and wiring procedures shall conform to the specifications contained herein and to the requirements and standard practices of the Section 800 and the following:

All wire and connectors shall conform to the standards of the National Electrical Manufacturers Association or the Underwriters' Laboratories, Inc., whichever is applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code, Standards of the American Society for Testing and Materials, and any local ordinances that may apply.

Wherever any reference is made to the standards mentioned above, the reference should be construed to mean the standard that is in effect on the day the Notice to Proceed to the Contractor for the work is dated.

Wire sizes shall be based on American Wire Gage (AWG), as applied to copper conductors.

Submittals

Submittals for wire and splice materials shall be made in a timely fashion including all manufacturers data sheets, and shop drawings, as applicable, and specified herein.

MATERIALS

The conductor shall be composed of soft drawn 7-strand copper of the gauge shown on the drawings. The insulation shall be installed as a single jacket of cross-linked polyethylene of Underwriter's Laboratories Type USE-2 or RHH-2-RHW-2 rated at 90 degrees C continuous in wet and dry locations, 600 volt as per the National Electrical Code.

Wire and cable furnished and used shall be new and shall have the size, grade of insulation, voltage and manufacturer's name permanently marked on the outer covering at regular intervals. Wire and cable shall be delivered to the site in complete coils or reels with identifying size, type SS-111 and insulation tags. Wire and cable shall be protected from weather and damage during storage and handling.

ITEMS 813.40 and 813.42 (Continued)**Splicing Materials and Methods**

Splicing shall be in accordance with the contract drawings and the COB standard specifications. All splices shall be suitable for wet locations, including splices in pole bases and load centers. Use of wire nuts is prohibited. Connections in the pole top shall be with insulated pressure connectors.

CONSTRUCTION

No wire shall be drawn in to any conduit until all work that may cause damage to the wire is complete.

All wire shall be continuous from light pole to light pole without running splices in conduits or handholes. Splices are prohibited in handholes except ground conductor.

All wire terminals, taps and splices shall be made secure with connectors, splicing materials and methods as hereinafter specified.

All incoming wires and outgoing wires in highway lighting load centers, handholes and poles shall be banded as indicated on the contract drawings.

Grounding

Coatings and rust on conduits and grounding rods shall be removed at the location where the ground fittings are to be installed.

The bare copper conductor shall be connected to the continuous insulated bonding lead, which shall be identified with green plastic marking tape as noted in the specifications. Bonding leads for lighting fixtures on poles shall be an insulated #10 AWG, marked green, which shall be extended to the nearest handhole and interconnected to the bare copper ground wire in the handhole of gauge shown on the contract drawings and the pig tail conductor shall be connected to the ground rod. The ground wire shall also connect to the ground lug on the handhole frame and be bonded to the handhole cover.

A conductor with the same insulation of the power leads shall be installed in all conduits as a continuous bond wire. All bonding leads from fixtures, pole, control boxes, fittings and ground rods shall be connected to the continuous insulated bonding lead which shall be identified with green plastic marking tape as noted in the specifications.

All grounding shall conform to the applicable provisions of the National Electrical Code.

FIELD TESTS

Upon the completion of each wiring system, and before any connection is made to operating equipment, the Contractor shall perform, in the presence of the Engineer, the following tests of each circuit to determine whether the installations are in acceptable working order.

- a. Tests for continuity
- b. Tests for ground
- c. Tests for insulation resistance (Megger Test) from circuit wires to ground, and between circuit wires.

ITEMS 813.40 and 813.42 (Continued)

Tests for ground shall be performed in accordance with the relevant provisions of Subsection 813 of the Standard Specifications. The entire electrical wiring system shall be tested for continuity, grounds, resistance to ground, insulation, shorts and opens. This shall be done by means of a megohm meter test.

After installation of the wiring system is complete with the required splices, the lamp ballast primary shall be disconnected and each circuit shall be tested with a 1000 volt megger. Tests on each circuit shall be between each conductor. When the measured value is less than 200 megohms between two conductors, the Contractor shall locate the point or points at fault, make proper corrections, and then demonstrate by further test the elimination of such faults. These tests shall be performed in the presence of the Engineer.

The test results shall be submitted to the Engineer for review and approval. If any results are questionable or inconsistent, the Contractor shall repeat the tests and make any necessary corrections at the request of the Engineer. No wiring system will be accepted until these are satisfactorily performed and approved.

The Contractor shall furnish the Engineer with a report of the megohm-meter readings for a permanent project record.

All tests and any necessary repairs or replacements that are indicated by the Engineer to produce a fault-free system will be performed at the Contractor's expense.

WARRANTIES

The Contractor shall provide a performance warranty for one year on the entire work performed under this contract including the performance of all equipment and components of the highway lighting system specified. The performance warranty responsibility of the contractor shall commence after official acceptance by the Town of Abington or the Engineer.

NOTE: The Contractor shall be completely responsible for all maintenance, repairs and replacement of damaged equipment during the functional test and throughout the performance warranty period.

If within 48 hours after notification by the Engineer of a malfunction, and the Contractor fails to make such repairs as necessary, the Engineer will undertake repairs of which all costs are to be reimbursed by the Contractor. The cost of any maintenance necessary, except electrical energy, shall be at the Contractor's expense and will be considered as included in the price paid for the Contract item involved and no additional compensation will be allowed therefore.

ITEMS 813.40 and 813.42 (Continued)**METHOD OF MEASUREMENT**

Items 813.40 and 813.42 will be measured for payment by the FOOT along the center line of the conduit in which the conductor is placed. No allowance will be made for the necessary lengths of slacked cable laid around the sides of manholes, handholes, junction boxes, pull boxes, or extending from foundations for making splices, taps in cable, and connecting the internal components of control cabinets. No allowance will be made for cable in controllers, light poles or other items other than conduit.

BASIS OF PAYMENT

Items 813.40 and 813.42 will be paid at the respective Contract unit prices per FOOT, which prices shall constitute full compensation for furnishing, installing and connecting the street lighting cables, the grounding of the system, testing the lighting circuit wiring, grounding wire testing, and for furnishing any equipment and/or materials required.

The cost of any maintenance necessary, except electrical energy, shall be at the Contractor's expense and will be considered as included in the price paid for the Contract item involved and no additional compensation will be allowed, therefore.

ITEM 813.521 **WIRE TYPE 10 NO. 10 GROUNDING AND BONDING** **FOOT****GENERAL**

Work under this item shall conform to the relevant provisions of Subsection 813 of the Standard Specifications and the following:

The Contractor shall be required to furnish and install all materials, equipment and labor necessary to completely wire and operate the street lighting system. All materials and wiring procedures shall conform to the specifications contained herein and to the requirements and standard practices of the Section 800 and the following:

All wire and connectors shall conform to the standards of the National Electrical Manufacturers Association or the Underwriters' Laboratories, Inc., whichever is applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code, Standards of the American Society for Testing and Materials, and any local ordinances that may apply.

Wherever any reference is made to the standards mentioned above, the reference should be construed to mean the standard that is in effect on the day the Notice to Proceed to the Contractor for the work is dated.

Wire sizes shall be based on American Wire Gage (AWG), as applied to copper conductors.

SUBMITTALS

Submittals for wire and splice materials shall be made in a timely fashion including all manufacturers data sheets, and shop drawings, as applicable, and specified herein.

MATERIALS

The conductor shall be composed of soft drawn 7-strand copper of the gauge shown on the drawings. The insulation shall be installed as a single jacket of cross-linked polyethylene of Underwriter's Laboratories Type USE-2 or RHH-2-RHW-2 rated at 90 degrees C continuous in wet and dry locations, 600 volt as per the National Electrical Code.

Wire and cable furnished and used shall be new and shall have the size, grade of insulation, voltage and manufacturer's name permanently marked on the outer covering at regular intervals.

Wire and cable shall be delivered to the site in complete coils or reels with identifying size, type SS-111 and insulation tags. Wire and cable shall be protected from weather and damage during storage and handling.

SPLICING MATERIALS AND METHODS

Splicing shall be in accordance with the contract drawings and the MassDOT standard specifications. All splices shall be suitable for wet locations, including splices in pole bases and load centers. Use of wire nuts is prohibited. Connections in the pole top shall be with insulated pressure connectors.

ITEM 813.521 (Continued)**CONSTRUCTION METHOD**

No wire shall be drawn in to any conduit until all work that may cause damage to the wire is complete.

All wire shall be continuous from light pole to light pole without running splices in conduits or handholes. Splices are prohibited in handholes except ground conductor.

All wire terminals, taps and splices shall be made secure with connectors, splicing materials and methods as hereinafter specified.

All incoming wires and outgoing wires in highway lighting load centers, handholes and poles shall be banded as indicated on the contract drawings.

GROUNDING

Coatings and rust on conduits and grounding rods shall be removed at the location where the ground fittings are to be installed.

The bare copper conductor shall be connected to the continuous insulated bonding lead, which shall be identified with green plastic marking tape as noted in the specifications. Bonding leads for lighting fixtures on poles shall be an insulated #10 AWG, marked green, which shall be extended to the nearest handhole and interconnected to the bare copper ground wire in the handhole of gauge shown on the contract drawings and the pig tail conductor shall be connected to the ground rod. The ground wire shall also connect to the ground lug on the handhole frame and be bonded to the handhole cover.

A conductor with the same insulation of the power leads shall be installed in all conduits as a continuous bond wire. All bonding leads from fixtures, pole, control boxes, fittings and ground rods shall be connected to the continuous insulated bonding lead which shall be identified with green plastic marking tape as noted in the specifications.

All grounding shall conform to the applicable provisions of the National Electrical Code. SS-112.

FIELD TESTS

Upon the completion of each wiring system, and before any connection is made to operating equipment, the Contractor shall perform, in the presence of the Engineer, the following tests of each circuit to determine whether the installations are in acceptable working order.

- a. Tests for continuity
- b. Tests for ground
- c. Tests for insulation resistance (Megger Test) from circuit wires to ground, and between circuit wires.

ITEM 813.521 (Continued)

Tests for ground shall be performed in accordance with the relevant provisions of Section 813 of the Massachusetts Highway Department Standard Specifications for Highways and Bridges. The entire electrical wiring system shall be tested for continuity, grounds, resistance to ground, insulation, shorts and opens. This shall be done by means of a megohm meter test. After installation of the wiring system is complete with the required splices, the lamp ballast primary shall be disconnected and each circuit shall be tested with a 1000 volt megger. Tests on each circuit shall be between each conductor. When the measured value is less than 200 megohms between two conductors, the Contractor shall locate the point or points at fault, make proper corrections, and then demonstrate by further test the elimination of such faults.

These tests shall be performed in the presence of the Engineer.

The test results shall be submitted to the Engineer for review and approval. If any results are questionable or inconsistent, the Contractor shall repeat the tests and make any necessary corrections at the request of the Engineer. No wiring system will be accepted until these are satisfactorily performed and approved.

The Contractor shall furnish the Engineer with a report of the megohm-meter readings for a permanent project record.

All tests and any necessary repairs or replacements that are indicated by the Engineer to produce a fault-free system will be performed at the Contractor's expense.

WARRANTIES

The Contractor shall provide a performance warranty for one year on the entire work performed under this contract including the performance of all equipment and components of the highway lighting system specified. The performance warranty responsibility of the contractor shall commence after official acceptance by the Town of Abington and/or the Engineer.

NOTE: The Contractor shall be completely responsible for all maintenance, repairs and replacement of damaged equipment during the functional test and throughout the performance warranty period.

If within 48 hours after notification by the Engineer of a malfunction, and the Contractor fails to make such repairs as necessary, the Engineer will undertake repairs of which all costs are to be SS-113 borne by the Contractor. The cost of any maintenance necessary, except electrical energy, shall be at the Contractor's expense and will be considered as included in the price paid for the Contract item involved and no additional compensation will be allowed therefore.

METHOD OF MEASUREMENT

Item 813.521 will be measured for payment by the foot along the center line of the conduit in which the conductor is placed. No allowance will be made for the necessary lengths of slacked cable laid around the sides of manholes, handholes, junction boxes, pull boxes, or extending from foundations for making splices, taps in cable, and connecting the internal components of control cabinets. No allowance will be made for cable in controllers, light poles or other items other than conduit.

ITEM 813.521 (Continued)**BASIS OF PAYMENT**

Item 813.521 will be paid at the Contract unit price per foot, which price shall constitute full compensation for furnishing, installing and connecting the street lighting cables, the grounding of the system, testing the lighting circuit wiring, grounding wire testing, and for furnishing any equipment and/or materials required. The cost of any maintenance necessary to include testing, replacement of lamps, luminaires, wiring splices, grounding, and all appurtenances, except electrical energy, shall be at the Contractor's expense and will be considered as included in the price paid for the contract item.

<u>ITEM 814.</u>	<u>SOLAR POWERED THERMAL MONITOR CAMERA</u>	<u>LUMP SUM</u>
	<u>REMOVED AND RESET</u>	

Work under this item shall conform to Subsection 815 of the Standard Specifications and the following:

The work consists of removing and resetting a solar powered thermal monitor camera.

GENERAL

The work shall include removing, storing, and reinstalling an existing solar powered thermal monitor camera from utility pole #16 to the relocated utility pole as shown on the plans, or as directed by the Town and/or Engineer. Contractor shall coordinate with the Abington Department of Public Works prior to commencement of this work.

The Contractor shall disconnect solar panels, batteries, and camera equipment in accordance with manufacturer recommendations. All components shall be carefully removed to prevent damage and stored in a secure location prior to reinstallation.

The Contractor shall be required to furnish and install all materials, equipment and labor necessary to completely relocate and restore the camera system to full operational condition and to the satisfaction of the Town and/or Engineer.

BASIS OF PAYMENT

Item 814 will be paid at the Contract LUMP SUM price, which price shall include all labor, materials, equipment, brackets, bolts, removing, storing, resetting, testing, and all incidental costs required to complete the work.

ITEM 816.80 TRAFFIC CONTROL SIGNAL REMOVED AND STACKED LUMP SUM

The work under this item shall conform to the relevant provisions of Subsection 815 of the Standard Specifications and the following:

The work consists of removing and stacking Traffic Signal Control Devices in accordance with the applicable portions of Subsection 815 of the Standard Specifications of the Massachusetts Highway Department Standard Specifications for Highways and Bridges, the 2009 Manual on Uniform Traffic Control Devices (MUTCD), the MassDOT amendments to the MUTCD and the following:

GENERAL

The removal and stacking of the existing equipment shall conform to the relevant provisions of Subsection 815.65 of the Standard Specifications and the following:

The Contractor shall remove as directed by the Engineer the existing traffic signal control equipment for the project location including strain poles, foundations, handholes, wires, flashing red/yellow signal heads and stack to location at the Abington Department of Public Works at 350 Summer Street, Abington. Work under this item includes the removal of existing handholes and backfilling as needed and directed by the Engineer.

Old cable and all unusable material, as determined by the Engineer, shall be disposed of by the Contractor. The work shall also include the excavation and backfilling with compacted gravel of the holes resulting from the excavation of the foundations and the replacement, in kind, of any surface material disturbed. The existing strain pole, signs, and appurtenances shall be carefully removed and stacked. Any damage done to this equipment due to the Contractor's operations will be replaced by the Contractor at no additional . Two weeks prior to removal of the system, the Contractor shall notify and receive approval from the Engineer and Town prior to any work.

All traffic signal equipment shall remain the property of the Town, unless the Contractor is notified in writing by the Engineer to dispose of specific items, in which case the Contractor shall dispose of the materials as part of this item without additional compensation. Disposal of existing equipment shall be as specified in the Standard Specifications, except as modified herein.

BASIS OF PAYMENT

Item 816.80 will be paid at the Contract LUMP SUM price, which price shall include all labor, materials, equipment, excavation, backfill, disposal, sawcutting, loading, unloading, removing, stacking, storage, transportation, and all incidental costs required to complete the work.

ITEM 823.60**HIGHWAY LIGHTING LOAD CENTER****LUMP SUM**

Work under this item shall conform to the relevant provisions of Subsections 813 and 820 of the Standard Specifications and the following:

The work to be done under these items shall include, but not be limited to, the installation of all electrical wiring and cabling for the entire load center system, meter sockets, electrical metering, cabinet, distribution panel, circuit breakers, appropriate grounding. This Item shall also include conduit, cabling and related fees to provide an underground service connection to the local utility National Grid Electric.

GENERAL

The work shall include furnishing and installing ground mounted highway lighting load center as shown on the plans or as directed by the Engineer. The Contractor shall provide all labor, materials, equipment, tools, supplies and transportation involved in the installation of electrical equipment as specified.

SUBMITTALS

List of materials and equipment requiring catalog cut or shop drawings shall include:

1. Rigid Conduit
2. Panelboard
3. Service Cabinet
4. Meter Sockets
5. Disconnect Switch
6. Circuit Breakers

MATERIALS

Materials and products furnished shall be designed for the intended use, shall meet all requirements of the latest edition of the National Electric Code (NEC), and all local codes.

Materials shall be manufactured in accordance with the standards indicated in this Section, and typical industry standards and codes for the products specified. Materials and equipment shall be Underwriter's Laboratory (UL) listed.

The materials used shall be new, unused, and of the best quality for the intended use. All equipment shall have the manufacturer's name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information should be marked on durable nameplates that are permanently fastened to the equipment.

Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment shall not be stored outside exposed to the elements. If any equipment or apparatus is damaged, such damage shall be repaired at no additional cost, or replaced at no additional cost as directed by the Engineer.

ITEM 823.60 (Continued)

Obtain all necessary permits and licenses, file necessary plans, and pay all fees for permits and inspections. Permit fees are the responsibility of the Contractor as part of his bid.

Wire & Cable

Unless otherwise noted, conductors for power, lighting, and grounding *above grade* shall be No. 12 through No. 8 AWG, NEC type THWN/THHN, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG.

All conductors shall be annealed copper, 98% conductivity, Class B stranded, except conductors used for power and lighting circuits No. 10 AWG and smaller which may be solid. All conductors should be rated for 600 volts or less, with a thermal rating of 90° C.

The outside covering of all wiring for power, lighting, grounding, and control uses shall be color coded to identify polarity as follows:

<u>Phase</u>	<u>Color</u>
A or 1	Black
B or 2	Red
C or 3	Blue
Neutral	White
Equipment Ground	Green

Raceways (Conduit)

Rigid Metallic Conduit: UL6 and ANSI C80.1.

Flexible Metallic Conduit: UL1. Liquid tight flexible metal conduit shall be used in wet locations.

Minimum size of conduit shall be 3/4". Unless indicated on Drawings, conduit sizes can be sized in accordance with National Electric Code (NEC). Conduit bends shall not have kinks or flats, and shall not be less than standard radii.

Rigid Galvanized Steel (RGS) conduit shall be used for all power, control signal, and instrumentation wiring, except where noted. Conduit shall be fully threaded at both ends and each length shall be furnished with one threaded coupling.

Conduits shall be made electrically continuous at coupling and connections to boxes and cabinets by means of joining fasteners or copper bond wires. Conduit shall be connected to grounded structural steel or the ground network. After assembly all conduit locknuts, all EMT coupling fittings, and all bond wire screws shall be set up tight before installation of wiring. Insulated metallic bushings shall be used on all conduits entering panel cabinets, handholes, and wiring gutters, except on branch lighting circuits.

Expansion fittings shall be provided on all conduits as required by the latest National Electrical Code, and as required by local and state codes. This includes, but is not limited to, vertical conduit risers coming from below-grade.

ITEM 823.60 (Continued)Panelboards

Panelboards: NEMA PB1, and UL 67.

Panelboards shall be door-in-door construction with copper bus. Circuit breakers shall be molded case, thermal magnetic, bolt-on type rated as noted, and rated to match panelboard voltage and interrupting rating (22kA minimum). Circuit breakers should be capable of accepting up to #4 Awg wiring.

Panelboard to be 100A, 1-phase, 120/240V (or 120/208V) with circuit breaker minimum quantities as shown on Contract Drawings. Provide 100A/2Pole main circuit breaker in panel, and sufficient breakers for lighting circuits and receptacle in cabinet.

Meter Sockets

Meter Sockets: UL 414, UL 486B, and ANSI C12.7.

Outdoor meter sockets are to be NEMA 3R, and have vandal-proof covers to protect utility kWh meters (if specified). Unless otherwise noted, meter sockets shall be ringless, with lever bypass, tin plated connections, and have provision for a fifth terminal on single-phase applications.

Meter Socket shall be either heavy duty or medium duty, 200 ampere, ringless, 5 terminal, with approximate dimensions of 19"H x 13"W x 5"D. (manufactured by Milbank, Eaton, Siemens, or approved equal). Socket to meet local utility requirements.

Metering Cabinets

Provide outdoor NEMA 3R metering cabinet. Contractor to size cabinet to coordinate with sizes of panelboard and equipment to be installed within cabinets. Dimensions shown are typical and are for reference only. Cabinet to include all equipment shown or implied and all equipment shall be installed inside of cabinet without physical conflicts and per NEC. Cabinet to be sized for all necessary conduits, whether active, spare or future as listed on panelboard schedules.

Cabinets to be manufactured from 14 gauge minimum stainless steel with 12 gauge steel panel, mounted inside. Cabinets to have integral keyed locking mechanism, keyed alike, with provision for pad-lock. Cabinets shall be ventilated type and **factory painted black powder-coat**. Cabinets to have door hold-open latches.

Provide outdoor-rated 100A meter socket mounted on the side of the cabinet to meet local utility requirements.

Provide non-fused safety switch, rated 100A, 1-phase, 240V maximum, 2-pole inside of cabinet, per local utility requirements.

Metering cabinet to be installed on new concrete foundation as shown and as directed. Contractor responsible for coordinating foundation dimensions to be 6-inches wider than cabinet.

ITEM 823.60 (Continued)**CONSTRUCTION METHODS**

This Section covers the requirements for installation of materials, proper workmanship, testing, cleaning, grounding, and work methods to be followed by the Contractor. This Section also includes specific instructions and to be used in conjunction with the contract Drawings. Any discrepancies noted between the specification, Drawings, and actual installation shall be reported immediately. Failure on the part of the Contractor to report discrepancies immediately will be considered negligent.

Work will be coordinated such that systems can be properly located, and conflicts and delays are avoided.

Materials & Workmanship

The Contractor's work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Material and equipment shall be new and installed according to manufacturer's recommended best practice so that complete installation shall operate safely and efficiently.

Testing, Inspection & Cleaning

The Contractor will test wiring and connections for continuity and grounds before fixtures are connected; demonstrate insulation resistance by megger test as required at not less than 500 volts. Insulation resistance between conductors and grounds for secondary distribution systems shall meet National Electrical Code (NEC) requirements.

Grounding

The Contractor shall ensure bond and ground equipment and systems connected under this Section are in accordance with standards of the NEC and other applicable regulations and codes.

The Conduit system shall be electrically continuous throughout, grounded at service entrance. Equipment frames, enclosures, boxes, etc. shall be grounded by use of green-jacketed (or bare copper) ground, sized as per Table 250-95 of the NEC.

Green bonding jumper shall be installed in flexible conduits.

Copper fittings for ground connections shall conform to the requirements of ASTM B 30. All bolts, u-bolts, cap screws, nuts, and lock washers for copper fitting shall be of approved corrosion-resisting material.

Ground Rods shall be 5/8" diameter and 8' in length, solid copper as required by applicable codes (NEC, NESC). Bonding connections to ground rods shall be permanent, welded or crimped, with copper connectors. All wire used for grounding shall be no smaller than #4 Awg copper, stranded conductor.

Contractor to provide two (2) 5/8" x 8'-0" copper ground rods, to be installed around the base of the new metering cabinets. Grounding to be installed per installation detail.

ITEM 823.60 (Continued)**Electrical Service Conduit Installation**

Conduit sweeps at metering cabinet shall be rigid galvanized steel (RGS), 24" minimum radius (as required by Utility). Provide 3-conductor, #3/0AWG 600V service cable with ground to utility manhole or transformer for new 100A service to metering cabinet.

Electrical Metering Control Cabinet Installation

Contractor to provide new outdoor NEMA 3R stainless steel metering cabinet (factory painted color: black), with 100 amp, 5 terminal, meter socket mounted on the side of meter cabinet as indicated on the Drawings. Contractor to coordinate the incoming underground 100-amp service from the utility to the new metering cabinet. Cabinet must be **painted black by manufacturer**, as field painting is not acceptable.

All exposed hardware fittings and the like shall be colored flat black.

Contractor shall co-ordinate with National Grid Electric on connections to riser pole. The Contractor shall connect conductors at service pedestal and the utility to connect make the connection to its system. Contractor shall be responsible for all charges and fees assessed by National Grid Electric. Paid for under item 813.80

BASIS OF PAYMENT

Item 823.60 will be paid at the Contract LUMP SUM bid price, which payment shall include all labor, materials, equipment required to furnish, install and test, complete in place and operational, the load center as specified herein. This price shall include associated electrical components, miscellaneous hardware, service connection and 3-inch rigid steel conduit required for the service connection. It shall also include furnishing and installing all wiring and related connections, splices and hardware and incidental labor and equipment to complete and make operation the entire related lighting and outlet system.

ITEM 823.992 ORNAMENTAL LIGHT FIXTURE TYPE A (PEDESTRIAN) EACH

The work under this item shall conform to the relevant provisions of Subsections 813 and 820 of the Standard Specifications and the following:

The work shall include all labor, materials, and equipment necessary to furnish and install Streetlights complete and ready for operation. See Contract Drawings for locations of each type of streetlight.

The work shall include, but not be limited to, the installation of Ornamental light poles, light fixtures, bulbs, ballasts, receptacles and appropriate grounding. Contractor shall provide all labor, materials, equipment, tools, supplies and transportation involved in the installation of electrical equipment as specified.

All work under these and other electrical systems shall conform to the requirements of the Electric Utility and the Mass Electrical Code.

SUBMITTALS

Submittals for lighting equipment shall include photometric data. Shop drawings and reports shall employ the terminology, classifications, and methods prescribed by the IES Lighting Handbook, as applicable, for the lighting systems specified. Manufacturer's data shall be submitted for the following:

- Luminaires, including lamps, ballast.
- Lamp Sockets and Lampholders
- Independent Testing Laboratory Photometric Data
- Lighting standards and mounting Brackets.

Shop drawings shall be submitted for the following:

- Luminaire type: fabrication and assembly drawings and paint finish process.
- Lighting standards: including base details, dimensions, wind loading, EPA ratings, pole deflection, and other applicable information.
- Wind load calculations verifying conformance to AASHTO publication "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", 2009 addition. Calculations and shop drawings shall be stamped by a Professional Engineer Registered in the Commonwealth of Massachusetts
- Light Pole Foundation

MATERIALS

Materials and products furnished shall be designed for the intended use, shall meet all requirements of the latest edition of the Mass Electric Code (MEC), and all local codes.

Materials shall be manufactured in accordance with the standards indicated in this Section, and typical industry standards and codes for the products specified.

ITEM 823.992 (Continued)

The materials used shall be new, unused, and of the best quality for the intended use. All equipment shall have the manufacturer's name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information should be marked on durable nameplates that are permanently fastened to the equipment.

Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment (excluding light poles) shall not be stored outside exposed to the elements. If any equipment or apparatus is damaged, such damage shall be repaired at no additional cost, or replaced at no additional cost as directed by the Engineer.

Foundations

Cylindrical foundations for Ornamental light poles shall be specified by lighting manufacture, including number, type and location of anchor bolts. Foundations shall be made of minimum 5,000 psi concrete (at 28 days) and have steel reinforcement meeting ASTM A-615, grade 60 (cover to steel, 1" minimum). Foundations shall have a minimum of two (2) 2" PVC conduits for lighting circuits, 180 degrees apart.

Foundations to be installed flush with finished grade in sidewalk areas.

Wire & Cable

Unless otherwise noted, conductors for power, lighting, and grounding *above grade* shall be No. 12 through No. 8 AWG, NEC type XHHW stranded copper, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG.

All conductors shall be annealed copper, 98% conductivity, Class B stranded, except conductors used for power and lighting circuits No. 10 AWG and smaller which may be solid. All conductors should be rated for 600 volts or less, with a thermal rating of 90° C.

The outside covering of all wiring for power, lighting, grounding, and control uses shall be color coded to identify polarity as follows:

<u>Phase</u>	<u>Color</u>
A or 1	Black
B or 2	Red
C or 3	Blue
Neutral	White
Equipment Ground	Green

ITEM 823.992 (Continued)**Street Light – Type LP**

This portion of the work shall consist of furnishing and installing ornamental light poles, identified as Type LP as detailed on the contract plans.

Poles shall be a cast aluminum, smooth round style and as detailed on the drawings. Poles shall be manufactured by Amerlux (Speclines) or equivalent products by King Luminaire and Streetworks.

Pole Height: 18'-6 1/4"

Color: Black

Arm: 48" Bishop

Luminaires shall be the "DPM" decorative downlight pendant style and as detailed on the drawings. Luminaire shall be manufactured by Amerlux, Speclines or equivalent products by King Luminaire and Streetworks.

Distribution Type: IV

Lumens: 9236

Wattage: 70W

LED: 48 white LEDs

Temp: 3000K

Color: Black

CONSTRUCTION METHODS

This heading covers the requirements for installation of materials, proper workmanship, testing, cleaning, grounding, and work methods to be followed by the Contractor. This heading also includes specific instructions and to be used in conjunction with the Contract Drawings. Any discrepancies noted between the Specification, Drawings, and actual installation shall be reported immediately to the Engineer. Failure on the part of the Contractor to report discrepancies immediately will be considered negligent.

Work will be coordinated such that systems can be properly located, and conflicts and delays are avoided. The Contractor shall consider commencement of work acceptance of existing conditions.

Materials & Workmanship

Work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Material and equipment shall be new and installed according to manufacturer's recommended best practice so that complete installation shall operate safely and efficiently.

Remove all debris caused by Contractor's work.

Installation of Precast Light Pole Foundations

Contractor shall remove existing sidewalk materials, curbing and other masonry to be replaced after light pole foundation is replaced. Existing soil shall be excavated out and disposed of, taking care to not damage surrounding structures, electrical conduits and other utilities. Contractor to barricade areas disturbed until fully repaired unless directed otherwise.

ITEM 823.992 (Continued)

New precast light pole foundation shall be installed in locations as shown. New 2" PVC electrical conduit connections should be attached to new light pole foundation, to maintain continuity of conduit system. New light pole foundation shall be installed level and plumb with existing conditions and at appropriate height above finished grade.

Grounding

Grounding of all Ornamental light poles and fixtures shall be in accordance Section 250 of the latest edition of the Mass Electrical Code. Equipment bonding conductor shall be installed from branch feeder circuit into adjacent electric handhole and into light pole base. Bonding conductor to be permanently attached to metal light pole per grounding stud provided by manufacturer or field installed if not provided. Bonding conductor to be bonding to metal handhole cover, if present. Provide #10Awg copper bonding conductor vertically up length of pole shaft along with power conductors and bond to fixture ground stud. Test all bonding conductors to be continuous back to source. Perform ground resistance test at each pole location. Should ground resistance be less than 25 ohms, the Contractor shall provide additional ground rod electrode at pole foundation, in accordance with MEC requirements and re-test to determine if resistance is below 25 ohms. Report all instances where ground resistance is above 25 ohms. All grounding conductors to be provided with either green outer jacket or green marking tape.

Testing, Inspection & Cleaning

Test wiring and connections for continuity and grounds before fixtures are connected; demonstrate insulation resistance by megger test as required at not less than 500 volts. Insulation resistance between conductors and grounds for secondary distribution systems shall meet Mass Electrical Code (MEC) requirements.

Test lighting fixtures with specified lamps in place for 100 hours. Replace lamps that fail within 1 year after acceptance.

Installation of Lighting Fixtures

Verify construction of light pole foundations is suitable, and provide fixtures, poles, hardware, and other accessories suitable for construction encountered.

The Contractor to provide (furnish and install) new Ornamental light poles and light fixtures. These light poles and fixtures shall be installed on precast concrete foundation, in locations as indicated on the Contract Drawings. The Contractor to provide poles and fixtures. All poles are to be provided with factory installed 120V weatherproof receptacle, mounted near the top of the pole. Contractor to provide necessary field wiring for all light fixtures and receptacles. Light poles to be installed with one set of galvanized steel washers and nuts, sized per manufacturer's requirements.

Coordinate installation of fixtures with installation of surrounding materials. Investigate lighting fixture locations and foundation supports to ensure that no interference exists between lighting fixtures, supports, and other equipment including that provided by other trades. Report any possible interference's to the Engineer.

Install 4/C - #10 Awg cable (2 hot, neutral and ground) from each light fixture to light pole base; to be connected to #6 Awg cable feeder from metering cabinet. The Contractor shall wire fixture, per manufacturer's instruction.

ITEM 823.992 (Continued)**METHOD OF MEASUREMENT**

Item 823.992 will be measured for payment per EACH Light Fixture unit installed complete in place.

BASIS OF PAYMENT

Item 823.992 will be paid at the Contract unit price per EACH, which price shall constitute full compensation for furnishing, installing and integrating ornamental lights into the roadway lighting system. The work shall include, but not be limited to, furnishing and installing new luminaires, posts and bases, conduit sweeps, internal wiring, testing, assembly, all cable and wire, conduit (not otherwise provided under other items in the contract), and all labor and miscellaneous materials.

Conduit, Handholes, Foundations and Wire will be paid for under their respective Items.

ITEM 852.11
ITEM 852.12**TEMPORARY PEDESTRIAN BARRICADE**
TEMPORARY PEDESTRIAN CURB RAMP**FOOT**
EACH**Description**

Work under these items consist of furnishing, deploying, maintaining in proper operating conditions, and removing temporary pedestrian barricades and temporary pedestrian ramps as part of a Temporary Pedestrian Access Route (TPAR) in order to guide pedestrians around a fully- or partially-closed sidewalk. These devices are intended to prevent pedestrians from entering the work area and to prevent pedestrians from inadvertently entering the vehicle travel lane by providing visual and physical separation between each space.

Materials

The Temporary Pedestrian Barricade shall have a continuous bottom rail or edge no more than two (2) inches above the ground and eight (8) inches in height (minimum) to accommodate cane users, have a smooth and continuous hand railing along the top edge no less than 32 inches above the ground and not obstruct or project into the pedestrian path of travel. Barricade walls shall be nearly vertical and generally within the same plane.

If exposed to traffic, Temporary Pedestrian Barricades shall be crashworthy.

The Temporary Pedestrian Curb Ramp shall provide a 48 inch minimum width, with a firm, stable, and non-slip surface. Protective edging with a two (2) inch minimum height shall be installed when the curb ramp or landing platform has a vertical drop of six (6) inches or greater.

The Temporary Pedestrian Curb Ramp walkway and landing area surface shall be of a solid, continuous, contrasting color abutting up to the existing sidewalk.

If a Temporary Pedestrian Curb Ramp leads to a crosswalk, a detectable warning pad must be used at the base of the ramp; if it leads to a protected path that does not conflict with vehicular traffic then a detectable pad shall not be used.

Construction Methods

The Temporary Pedestrian Barricade shall be placed in an area that will provide pedestrians with a TPAR on a smooth, continuous hard surface for its entirety. The geometry and alignment of the facility shall meet the applicable requirements of the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities” and the Massachusetts Architectural Access Board.

The recommended width of the TPAR is 60 inches, but if constraints exist a minimum clear width of 48 inches shall be provided along its entirety. If a 60 inch width cannot be accommodated in full, a 60 inch by 60 inch passing space shall be provided every 200 feet or less along the TPAR.

Turning areas shall be 60 inches by 60 inches minimum.

Lateral joints between any surfaces shall not exceed 0.5 inches. Lateral edges may be vertical up to 0.25 inches high and shall be beveled at 1V:2H between 0.25 inches and 0.5 inches.

ITEMS 852.11 and 852.12 (Continued)

The TPAR shall be kept clear of debris, snow, and ice and the Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall not obstruct drainage.

Removal and/or resetting of Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall be considered incidental.

COMPENSATION

Payment for Temporary Pedestrian Barricades will be made at the contract price per foot installed in place, including all incidental items. This price shall include the cost of furnishing, installing, resetting, removal, and maintaining in good working condition.

Payment for Temporary Pedestrian Curb Ramps will be made at the contract price per each unit installed in place, including all incidental items. This price shall include the cost of furnishing, installing, resetting, removal, and maintaining in good working condition.

ITEM 874.**STREET NAME SIGN****EACH****GENERAL**

The work under this item shall conform to the relevant provisions of Subsection 828 of the Standard Specifications, MUTCD and the following:

Street sign sizes, background color, border and legend size and color, shall be as noted on the plans, and as noted in the **11th Edition of Manual of Uniform Traffic Control Devices**. Legend shall be FHWA Series D 2000. Street name legends shall consist of 6 inch uppercase letters with 4.5 inch lowercase letters. The Town Seal shall be provided on all street name signs and considered incidental to Item 874.

METHOD OF MEASUREMENT

Item 874 will be measured for payment, complete in place, per EACH unit in accordance with Subsection 828.80.

BASIS OF PAYMENT

Item 874 will be paid at the Contract unit price per EACH, in accordance with Subsection 828.81,

Payment for street sign supports will be paid for separately under Item 847.1.

Rock Excavation will be paid for under Item 144 Class B Rock Excavation.

ITEM 874.2**TRAFFIC SIGN REMOVED AND RESET****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 828 of the Standard Specifications and the following:

GENERAL

Work to be done under this item shall include the dismantling, removal, temporary storage, transporting and resetting of the existing signs at the location indicated on the plans. The work also includes removal and disposal of the existing sign supports and foundations.

The Contractor shall exercise particular care in the dismantling, removal, storing, transporting and resetting of the existing signs designated to be reused. Any sign panel damaged by the Contractor's operations shall be replaced at the Contractor's expense.

Signs, attachment hardware and sign support posts lost, damaged or otherwise made unsuitable for reuse while being removed, transported, stored or reset shall be replaced with new material at no additional cost to the Owner. New attachment hardware shall be furnished and installed as necessary to replace any missing or unusable existing hardware.

The existing signs shall not be removed and reset without permission from the Engineer.

The Contractor shall backfill with compacted gravel all holes resulting from the removal of the existing signs and their foundations and restore the area to match existing conditions of adjacent areas.

METHOD OF MEASUREMENT

Item 874.2 will be measured for payment per EACH sign removed and reset.

BASIS OF PAYMENT

Item 874.2 will be paid at the Contract unit price per EACH, sign removed and reset as designated to its final location, which price shall be full compensation for dismantling, loading, transporting and resetting of the signs as designated above, the excavation, removal and disposal of their supports and concrete foundation, the gravel backfill, all labor, materials, equipment, and all incidental costs required to complete the work.

New posts, if required, will be paid for under Item 847.1.

ITEM 874.4**TRAFFIC SIGN REMOVED AND STACKED****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 828 of the Standard Specifications and the following:

GENERAL

Work under this item consists of dismantling, removal, transporting and stacking of the existing roadside traffic signs and street signs as required by the Engineer including the removal and disposal of the sign supports and their foundations. Traffic signs shall be carefully removed, transported and stacked on boards at the Abington DPW at 350 Summer Street, Abington or designated by the Engineer.

The work shall include removing the supports, excavating the existing foundation, the disposal of the concrete and supports, the backfilling with compacted gravel of the holes resulting from the excavation and removal of the supports and the replacement, in kind, of any surface material disturbed. The existing signs shall not be removed until the new signs and structures replacing them are ready for installation or until the Engineer orders their removal.

Non-salvageable material, as determined by the Engineer, shall become the property of the Contractor and shall be legally disposed of offsite at no additional compensation.

METHOD OF MEASUREMENT

Item 874.4 will be measured for payment per EACH sign removed and stacked.

BASIS OF PAYMENT

Item 874.4 will be paid at the Contract unit price per EACH, which price shall be full compensation for all labor, equipment, materials, dismantling, loading, transporting, and stacking the signs and supports as designated above, the excavation and disposal of the existing foundations, the supplying and placing of compacted gravel backfill where foundations and posts are removed, restoration of surface, and all other incidental costs necessary for the proper completion of this item.

ITEM 996.01**WALL STRUCTURE, WALL NO. 3****LUMP SUM**

The work under this Item shall conform to the relevant provisions of Subsection 995 of the Standard Specifications and the following:

GENERAL

Work under this Item shall include all materials, equipment and labor needed to construct the following:

- Cast-in-place concrete cantilever retaining wall
- Precast concrete highway guardrail transitions and their base;
- Bridge railing (3 Rail), Steel (Type S3-MTL4)
- Cement concrete form liner (Architectural) for the above wall;
- Steel reinforcement for structures, including epoxy coated bars;.
- Damp-proofing:
- Temporary shoring or underpinning
- All items included hereinafter under Basis for Partial Payments.

The work does not include any items listed separately in the proposal. Payment for materials shown on the Plans as being part of this wall structure or which may be incidental to its construction and are not specifically included for payment under another Item shall be considered incidental to the work performed under this Item and shall be included in the unit price of the component of which they are part.

The work relevant to this special provision include all labor, equipment, materials necessary for a complete construction in accordance with the Drawings and Specification that requires to construct a cast-in-place cement concrete retaining wall and precast concrete highway guardrail transition, furnish and install bridge railing in front of House No. 852 Hancock Street as shown on the plans. This work includes but is not limited to excavation, shoring or underpinning, and construction of the wall structure.

5000 PSI, HP CEMENT CONCRETE

The work to be done under this heading shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

All concrete shall be placed in the dry.

The various classes of concrete shall be used as specified on the Plans, and generally described as follows:

5000 PSI, 3/4", 685 HP cement concrete shall be used to construct the Cast In-Place Retaining Wall No.3, including the wall footings and stems.

Included in the work are the furnishing and installing of preformed fillers and other items incidental to the furnishing and placing of concrete.

ITEM 996.01 (Continued)

The work under this Item does not include the various classes of excavation, gravel borrow for backfilling structures and pipes, or crushed stone. Any temporary support of excavation required to construct the proposed retaining walls shall be incidental to the excavation items. Locations of the temporary excavation support shall be designed and provided by the Contractor for approval from the Engineer.

METAL BRIDGE RAILING (3 RAIL), STEEL (TYPE S3-MTL-4)

The work to be done under this heading shall conform to the relevant provisions of Subsection 975 of the Standard Specifications and the following:

This work shall consist of furnishing and installing bridge railing (Type S3-MTL4) on the top of the cast-in-place cement concrete retaining wall and connect to the precast concrete highway guardrail transitions on both ends of the railings, as shown on the plans, as directed by the Engineer and in accordance with the plans and these specifications.

ARCHITECTURAL STONE FACE FORM LINER

The work to be done under this heading shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

This work shall consist of furnishing and installing concrete form liners that will be used to produce a simulated stone facing on the exposed faces of the cast-in-place concrete retaining wall located in front of House No. 852 Hancock Street as shown on the plans, as directed by the Engineer and in accordance with the plans and these specifications.

All form lined concrete surfaces shall be stained to match the existing adjacent stone masonry surfaces. See photographs below for reference:

MATERIALS:

The concrete form liners shall be as manufactured by one of the following:

Custom Rock Form Liner, by Custom Rock International, Inc., St. Paul, MN 55116
Fitzgerald Form Liner, 1341 East Pomona Street, Santa Ana, CA 92705
SpecFormliners, Inc., 530 East Dyer Road, Santa Ana, CA 92707
Symons, by Dayton Superior, Symons, 1125 Byers Road, Miamisburg, OH: 45342

ITEM 996.01 (Continued)

Below is the pattern from the manufacturer that the MassDOT will be interested in installing. Contractor shall coordinate the actual pattern with the MassDOT and the Town at the time of construction.



Wall – 1218-Mount-MN Pattern

The form liners shall be made of high-strength urethane and not compress more than 3/16” when concrete is poured at a rate of 10 vertical feet per hour. All form liners for the project shall be from a single supplier.

The release agent shall be compatible with the form liners, simulated stone masonry and with the color stain system, as recommended by the manufacturer.

The form ties shall be designed to separate at least 1 inch back from the finished surface, leaving only a neat hole that can be plugged with patching material. Patching material shall be Portland Cement Mortar (Class S).

Staining shall be done by special penetrating stain mix as provided by the manufacturer. The stain mix shall achieve color variations present in the natural stone being simulated by the pattern selected for the project. The stain shall create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, alkali, fungi, sunlight or weathering. The stain shall be a water borne, low V.O.C. material less than 180 grams/liter, and shall meet the requirements of weathering resistance – 2000 hours accelerated exposure in accordance with the 3-bulb test of ASTM G23, scrub test – 100 revolutions, abrasion resistance (Tabor CF-10) – 500 cycles, adhesion – 1.00 mm cross cuts on glass pass 3 or higher on a scale of 1 to 5 in accordance with ASTM D3359, chemical resistance – ASTM D1308.

CONSTRUCTION METHODS

The manufacturer of the simulated stone form liners and custom coloring systems shall demonstrate at least three (3) years of experience making custom simulated stone form liners and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors. Evidence and color pictures of projects actually constructed over the last three years shall be submitted prior to approval.

ITEM 996.01 (Continued)

The Contractor or subcontractor who is to install the form liners and perform the work shall demonstrate at least three (3) years of experience placing vertically formed architectural concrete, including training in the manufacturer's special techniques as may be required in achieving realistic surfaces.

An authorized representative from both the form liner manufacturer and the color stain manufacturer shall be present at the site for installation of the facing test panel and during the placing of all structural concrete utilizing form liners.

Prior to initiating any work, a meeting shall be scheduled by the Contractor to assure full understanding of the work by all parties involved to coordinate the work. Included for attendance shall be the manufacturer's authorized representatives, the Contractor, the subcontractor (installer), and the Engineer.

The Contractor shall submit the following for approval by the Engineer prior to beginning the forming operations:

Photographs

Color photographs of at least three (3) similar projects recently performed by the Contractor (or his/her subcontractor) and at least three (3) similar projects recently produced by the manufacturer.

Form Tie Sample

A sample, description and demonstration of the form tie the Contractor proposes to use. Layout Plans (3 copies).

Layout plans shall be the plan, elevation and details showing the overall pattern, joint locations, form tie locations, weep hole locations and any other special conditions.

Concrete Facing Test Panel

At least 30 days prior to placing structural concrete requiring form liners, a concrete test panel is to be built on site, using the same materials and methods of work force that will be used for the project. The Engineer shall approve the location of the test panel. The concrete test panel shall conform to the following:

The size of the test panel shall be 50 square feet, or larger if needed to adequately illustrate the pattern selected.

The test panel shall contain an area demonstrating the continuation of the pattern through an expansion joint.

The test panel shall include staining as may be required for the selected pattern.

The test panel shall be removed when it is no longer needed, to the satisfaction of the Engineer.

ITEM 996.01 (Continued)

When form liner is used on adjacent faces at wall corners, the stone coursing (horizontal relief) lines shall be aligned across the corner on both faces. The first vertical relief lines from the wall corner on each face of each course shall be placed such that it gives the appearance of full stones being placed at the corners.

After the form liners are removed, all honeycombed areas and tie holes shall be filled and textured to match the surrounding areas. Seamlines and other unnatural protrusions shall be ground down to match adjacent areas with a hand-held power grinder using disks made for concrete. Patching tie holes and honeycombed areas and grinding of seams shall be performed immediately after removal of the form liners. The process of wall patching shall be to the satisfaction of the Engineer and conform to Section 901.

All color staining shall be performed by the manufacturer, or his/her authorized representative, and the hardened concrete shall be a minimum of 30 days old before color staining is applied. The Contractor shall power wash the wall to free it from laitance, dirt, oil and other objectionable materials. After the wall has dried, the color staining process is applied using colors approved by the Engineer. Color staining shall be applied in such a way that the stones shall have individual colorations from one to the other. Water-based stains shall be used in air temperatures ranging from 50 degrees F to 100 degrees F. Solvent-based stains shall be used in air temperatures of 50 degrees F and below, but in no case when the temperature of the hardened concrete is 40 degree and falling. All staining work shall be scheduled after adjacent earthwork is completed to avoid contamination or damaging the surface. Topsoil, riprap, backfill, etc. shall be placed after staining is complete and approved.

STEEL REINFORCEMENT FOR STRUCTURES – EPOXY COATED

The work under this heading shall conform to the applicable provisions of Subsection 901 of the Standard Specifications.

Shall be used in cast-in-place retaining wall, foundations, precast concrete highway guardrail transition, street light pole anchor, as shown on the Drawings and/or as directed by the Engineer.

PRECAST CONCRETE HIGHWAY GUARDRAIL TRANSITIONS

The work under this Heading consists of fabricating, transporting and installing precast concrete highway guardrail transitions and includes all necessary labor, materials, and equipment to complete the work as shown on the Plans. The Precast Concrete Bridge Elements shall meet the requirements of Section M4: Cement Concrete and Related Materials.

ITEM 996.01 (Continued)**MATERIALS**

Materials shall conform to M4.09.1 and the following:

Non-Shrink Grout Products	M4.04.5
Controlled Low-Strength Material – Structural Non-Excavatable	M4.08.0
Welded Steel Wire Fabric	M8.01.2
Mechanical Reinforcing Bar Splicer	M8.01.9
Lifting Devices	PCI MNL-116
Corrugated Metal Pipe	AASHTO M 36

1. Vertical Adjustment Assembly.

Vertical Adjustment Assembly details and material requirements shall be as shown on the plans. Alternate devices may be used provided that they are adjustable and can support the anticipated loads. The design of the leveling devices, with necessary calculations, shall be submitted to the Engineer of Record for approval.

2. Threaded Inserts.

Threaded inserts are permissible to facilitate forming the keyway pours. Threaded inserts shall be hot dip galvanized or made of stainless steel. The number of threaded inserts shall be minimized, and the inserts shall not come in contact with the reinforcing steel.

3. Corrugated Metal Pipe.

Corrugated Metal Pipe to be used for forming voids as specified on the plans shall be fabricated from steel and shall have a protective metallic coating of zinc (galvanizing).

CONSTRUCTION METHODS – PLANT FABRICATION**A. Pre-Production Meeting.**

The Contractor shall notify the MassDOT Research and Materials Section to determine if a pre-production meeting will be required to review the specification, shop drawings, curing plan, schedule, and discuss any specific requirements. The meeting shall be held prior to scheduling a MassDOT Inspector (refer to M4.09.4 *Department Acceptance*), and at least seven (7) days prior to the scheduled casting of any Precast Concrete Bridge Element or control section. The Contractor shall schedule the meeting, which shall include representatives of the Fabricator and MassDOT.

B. Reinforcement.

The reinforcing bars shall be installed in accordance with Subsection 901.35, including tolerances for cover and horizontal spacing of bars. Components of mechanical reinforcing bar splicers shall be set with the tolerances shown on the plans. The reinforcing bars and mechanical reinforcing bar splicers shall be assembled into a rigid cage that will maintain its shape in the form and which will not allow individual reinforcing bars to move during the placement of concrete. This cage shall be secured in the form so that the clearances to all faces of the concrete, as shown on the plans, shall be maintained.

ITEM 996.01 (Continued)

Where reinforcing bars are to protrude from one Precast Concrete Bridge Element in order to mate with reinforcing bar splicers in a second precast concrete element, the fabricator shall set the reinforcing bars and the reinforcing bar splicers with a template in order to ensure proper fit up within the tolerances specified on the plans.

C. Tolerances.

Fabrication shall comply with tolerances specified on the plans. Tolerances for steel reinforcement placement shall be in accordance with Subsection 901.35. In the absence of specifications on the plans, tolerances shall comply with the latest version of the PCI MNL 135, Precast Tolerance Manual.

D. Forms.

Concrete shall be cast in rigidly constructed forms, which will maintain the Precast Concrete Bridge Elements within specified tolerances to the shapes, lines and dimensions shown on the approved fabrication drawings. Forms shall be constructed from flat, smooth, non-absorbent material and shall be sufficiently tight to prevent the leakage of the plastic concrete. When wood forms are used, all faces in contact with the concrete shall be laminated or coated with a non-absorbent material. All worn or damaged forms, which cause irregularities on the concrete surface or damage to the concrete during form removal, shall be repaired or replaced before being reused. If threaded inserts are cast into the elements for support of formwork, the inserts shall be recessed a minimum of 1 inch and shall be plugged after use with a grout of the same color as that of the precast cement concrete.

CONSTRUCTION METHODS – FIELD CONSTRUCTION**A. General.**

All of the Contractor's field personnel involved in the erection and assembly of the Precast Concrete Bridge Elements shall have knowledge of and follow the approved Erection Procedure.

Prior to installation, the following documentation shall be reviewed and confirmed by the MassDOT Resident Engineer or designee:

- (a) QC Compressive Strength Test Report Forms attaining Design Strength, f'_c for the Precast Concrete Bridge Element's representative subplot.
- (b) Certificate of Compliance generated by the Fabricator as described under the Fabricator Quality Control section.
- (c) QC Inspection Reports signed by the Quality Control Manager.

Field construction staff shall verify that the Resident Engineer has accepted all Precast Concrete Bridge Elements prior to installation.

B. Erection Procedure.

Prior to the erection, the Contractor shall submit an Erection Procedure for approval by the Engineer. This submittal shall include computations and drawings for the transport, hoisting, erection and handling of the Precast Concrete Bridge Elements. The Erection Procedure shall be prepared and stamped by a Professional Engineer registered in the Commonwealth of Massachusetts with working knowledge of the Contractor's equipment, approved shop drawings, and materials to build the bridge. The Erection Procedure shall, at a minimum, include the following:

ITEM 996.01 (Continued)**1. Erection Procedure**

The Erection Procedure shall be prepared to conform to the requirements of 960.61, Design, Fabrication and Erection and the applicable sections in Chapter 8 of the PCI Design Handbook (eighth edition) for handling, erection, and bracing requirements. At a minimum, the Erection Procedure shall provide:

- (a) Minimum concrete compressive strength for handling the Precast Concrete Bridge Elements.
- (b) Concrete stresses during handling, transport, and erection.
- (c) Crane capacities, pick radii, sling geometry, and lifting hardware.
- (d) Verification that the equipment can handle all pick loads and weights with the required factor of safety.
- (e) Evaluation of construction sequence and evaluation of any geometric conflicts in the lifting of the Precast Concrete Bridge Elements and setting them as shown on the plans.
- (f) Design of crane supports including verification of subgrade for support.
- (g) Location and design of all temporary bracing that will be required during erection.

Non-shrink grout and concrete materials, approved by the Engineer, shall be placed as shown on the plans. Fill joints, keyways, and voids, in strict accordance with the specifications and manufacturer's recommendations and instructions.

For footings, approach slabs and highway guardrail transitions, once these Precast Concrete Bridge Elements have been set to the correct horizontal and vertical alignment, the void between them and the supporting soil shall be filled with Controlled Low-Strength Material – Structural Non-Excavatable to the limits as shown on the plans. Add additional grout ports in the footings to facilitate the bedding process if required.

Except in approach slabs, joints shall be filled flush to the top with non-shrink grout, and any vertical misalignment between adjacent elements shall be feathered out on a slope of 1 to 12.

Curing of grout or concrete shall be performed in strict accordance with the specifications and manufacturer's recommendations. Filling shall not be completed in cold weather when either the ambient temperature or the precast member's temperature is below the manufacturer's recommendation. No localized heating of either the precast members or of the air surrounding the element will be permitted in an attempt to reach application temperatures.

If the joints or voids are not filled within five days after the Precast Bridge Elements are erected, the Contractor shall cover and protect the openings from weather and debris until they are filled.

C. Survey and Layout.

Working points, working lines, and benchmark elevations shall be established prior to placement of all elements. The Contractor is responsible for field survey as necessary to complete the work. MassDOT reserves the right to perform additional independent survey. If discrepancies are found, the Contractor may be required to verify previous survey data.

ITEM 996.01 (Continued)**D. Preparation of Closure Pours and Grouted Keyways.**

Immediately prior to erecting the Precast Concrete Bridge Elements, the closure pours and grouted keyways shall be cleaned at the job site of all dust, dirt, carbonation, laitance, and other potentially detrimental materials which may interfere with the bonding of the closure pour concrete or grout and precast concrete using a high-pressure water blast. Any exposed reinforcing steel in the precast concrete shall be protected from damage during the cleaning of the keyways. Damaged epoxy coating of steel reinforcement shall be repaired, and the reinforcing steel shall be cleaned as directed by the Engineer. The surfaces of the closure pours and grouted keyways shall be wetted so that the surfaces shall have a Saturated Surface Dry (SSD) condition for at least 24 hours prior to the placement of the closure pour concrete.

E. Erection.

The elements shall be placed in the sequence and according to the methods outlined in the Erection Procedure. As the erection proceeds, the Contractor shall constantly monitor the assembly to ensure that the precast concrete bridge element is within proper horizontal and vertical location and tolerances prior to releasing it from the crane and setting the next unit. The Contractor may use shims to maintain proper setting tolerances.

The concrete elements shall be lifted only by the lifting devices, and the utmost care shall be taken to prevent distortion of the elements during handling, transportation or storage.

This approval will be contingent on the Contractor demonstrating by calculations, prepared by a Professional Engineer registered in Massachusetts, that the elements will not be damaged by the non-vertical lifting force and by documentation that the capacity of the lifting devices is adequate for the non-vertical lifting force.

After all Precast Concrete Bridge Elements have been placed, the actual overall dimensions of the structure both horizontal and vertical, as laid out shall not deviate from the nominal dimensions shown on the plans beyond a tolerance of +0 inches and -1 inches. Once the layout of Precast Concrete Bridge Elements has been accepted by the Engineer, the Contractor shall cut all lifting devices off below the surfaces of the elements.

F. Filling of Blockouts for Lifting Devices and Threaded inserts.

If the blockouts in the Precast Concrete Bridge Elements where the lifting devices were located will be exposed and visible after assembly is complete, the Contractor shall fill these blockouts with Mortar (M4.04.5).

After the formwork has been removed, all threaded inserts that have been cast into the precast concrete bridge deck for support of the formwork shall be filled with a grout of the same color as that of the precast concrete.

ITEM 996.01 (Continued)**DAMP-PROOFING**

The work to be done under this heading shall conform to the relevant provisions of Subsection 970, supplemented and amended as follows:

Damp-proofing to be applied as shown on the plans shall consist of a primer and damp-proofing material. If material other than that specified herein is permitted to be used, the method of application shall conform to the published specifications of the manufacturer.

SHORING OR UNDERPINNING

The shoring or underpinning system for the construction of the concrete retaining wall shall be the sole responsibility of the Contractor to design, furnish, install, maintain, and remove as necessary. The design shall ensure stability, structural integrity, and safety throughout all phases of construction, considering soil conditions, surcharge loads, groundwater levels, and any adjacent structures. The shoring system shall comply with all applicable codes, regulations, and industry standards, and shall be designed by a qualified Professional Engineer licensed in Massachusetts. The Contractor shall submit detailed design calculations, drawings, and specifications for review and approval prior to installation, ensuring that the system meets the required performance criteria. without compromising the integrity of the retaining wall.

BASIS OF PAYMENT

Item 996.01 will be paid for at the Contract LUMP SUM price, which price shall include all labor, materials, equipment, sawcutting, excavation, backfilling, bracing, shoring, compaction, cement concrete wall and foundation, stone face lining, reinforcement, bridge railings, damp-proofing, crushed stone, and all incidental costs required to complete the work.

Payment for excavation for the construction of the retaining wall shall be measured for payment by the Cubic Yard under Item 141. Class A Trench Excavation.

SCHEDULE OF BASIS FOR PARTIAL PAYMENTS

Within ten (10) days after the date of the Notice to Proceed, the Contractor shall submit, in duplicate, for the approval of the Engineer, a schedule of unit prices for the major components of total wall structure Lump Sum cost for the wall No. 3. The Lump Sum breakdown quantities provided in the proposal form are estimated and not guaranteed. The total of all partial payments to the Contractor shall equal the Lump Sum contract price regardless of the accuracy of the quantities furnished by the Engineer for the individual bridge components.

ITEM 996.01 (Continued)

Sub- Item	Description	Quantity	Unit	Unit Price	Amount
156.	Crushed Stone	20	CY		
693.	Architectural Stone Face Form Liner	47	SY		
904.3	5000 PSI, 3/4 IN., 685 HP Cement Concrete	100	CY		
910.1	Steel Reinforcement for Structures – Epoxy Coated	8,370	LB		
962.	Precast Highway Guardrail Transitions	2	EA		
970	Damp-proofing	615	SF		
975.1	Metal Bridge Railing (3 Rail) Steel (Type S3-MTL-4)	90	FT		
Total Cost of Item 996.01 =					

The cost of labor and materials for any Item not listed but required to complete the work shall be considered incidental to Item 996.01 and no further compensation will be allowed.

DOCUMENT A00802

DETAIL SHEETS

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PRELIMINARY ESTIMATE OF QUANTITIES – DETAIL SHEET

CITY/TOWN: Abington **YEAR:** **2026**
STATION: STA 52+30 – STA 59+90 **ROAD:** Hancock Street
STA 101+00 – STA 107+00 **ROAD:** Chestnut Street

TYPE OF PROJECT: HIGHWAY – CONSTRUCTION

Excavation

Unclassified Excavation	4,780	CY	Gravel Borrow	2,580	CY
Class “A” Trench Excavation	320	CY	Gravel Borrow for Backfilling	960	CY
			Structures and Pipes		
Class “B” Trench Excavation	25	CY	Crushed Stone	130	TON
Class “B” Rock Excavation	1,460				

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT: AREA= 35,438 SF

PAVEMENT: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC 12.5) OVER
ASPHALT EMULSION FOR TACK COAT RS1-H @ 0.07 GAL/SY
OVER
1.75" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)
OVER ASPHALT EMULSION FOR TACK COAT RS1-H OVER

BASE: 3.75" SUPERPAVE BASE COURSE (SBC-37.5) OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW, (TYPE b)

PROPOSED PAVEMENT MILLING AND OVERLAY: AREA = 5,004 SF

SURFACE: 1.75" – SUPERPAVE SURFACE COURSE (SSC 12.5)
OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) OVER

****LEVELING:** VARIABLE DEPTH AS DIRECTED OVER

MILLING: VARIABLE DEPTH AS DIRECTED OVER

PROPOSED CEMENT CONCRETE PEDESTRIAN CURB RAMP: AREA = 2,126 SF

SURFACE: 4" CEMENT CONCRETE OVER

BASE: 8" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE SIDEWALK/ SPLITTER ISLANDS: AREA = 8,800 SF

SURFACE: 4" CEMENT CONCRETE OVER

BASE: 8" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE DRIVEWAY: AREA = 3,571 SF

SURFACE: 6" CEMENT CONCRETE OVER

BASE: 8" GRAVEL BORROW, TYPE B

PROPOSED HMA DRIVEWAY / SIDEWALK: AREA = 11,751 SFDRIVEWAY:SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC 12.5)

SUBBASE: 8" GRAVEL BORROW, (TYPE b)

SIDEWALK:SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2.0" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC 12.5)

SUBBASE: 8" GRAVEL BORROW, (TYPE b)

PROPOSED CEMENT CONCRETE TRUCK APRON AREA = 4,831 SFSURFACE: 9" STAMPED COLORED CONCRETE 4000 PSI, 0.75", 610,
AIR-ENTRAINED WITH PENETRATE SEALER OVER

SUBBASE: 8" GRAVEL BORROW (TYPE b)

PROPOSED LOAM & SEED: AREA = 21,860 SF

SURFACE: 4" LOAM BORROW

SUBBASE: VARIABLE DEPTH SUITABLE EXCAVATED MATERIAL
OR ORDINARY BORROW (AS DIRECTED BY THE TOWN
AND/OR ENGINEER)

ITEM 101.**CLEARING AND GRUBBING**

Baseline	STA	TO	SIDE
Chestnut Street	102+41	102+82	LT
Chestnut Street	102+76	102+97	LT
Chestnut Street	104+87	105+27	RT
Chestnut Street	105+53	105+97	RT
Hancock Street	54+03	54+23	LT
Hancock Street	53+85	54+34	RT
Hancock Street	55+23	56+55	LT
Hancock Street	55+68	56+66	RT

ITEM 102.511**TREE PROTECTION – ARMORING AND PRUNING**

STREET	STA	SIDE
Chestnut Street	101+00	LT
Chestnut Street	101+07	LT
Chestnut Street	101+13	LT
Chestnut Street	101+24	LT
Chestnut Street	106+11	RT
Chestnut Street	106+29	RT
Chestnut Street	106+43	RT
Hancock Street	55+40	RT
Hancock Street	59+83	RT

ITEM 103.**TREE REMOVED – DIAMETER UNDER 24 INCHES**

STREET	Tree Diameter	STA	SIDE
Hancock Street	15	54+56	RT
Hancock Street	12	54+80	RT
Hancock Street	18	55+11	RT
Hancock Street	12	55+75	RT
Hancock Street	20	55+75	RT
Hancock Street	12	55+75	RT

And as required.

ITEM 104.**TREE REMOVED – DIAMETER 24 INCHES & OVER**

STREET	Tree Diameter	STA	SIDE
Chestnut Street	36	105+11	RT

ITEM 105.**STUMP REMOVED**

STREET	Tree Diameter	STA	SIDE	COUNT
Hancock Street	20	55+75	RT	1

ITEM 120.1**UNCLASSIFIED EXCAVATION**

This item shall include the removal of existing utility pipes.

STREET	DRAINAGE	STA	TO	STA
Hancock Street	12" CLAY	53+52		53+77
Hancock Street	12" PVC	53+80		54+44
Hancock Street	12" PVC	54+46		55+62
Hancock Street	12" RCP	55+85		56+06

STREET	DRAINAGE	STA	TO	STA
Hancock Street	12" RCP	55+64		57+35
Hancock Street	6" PVC	56+45		56+96
Hancock Street	12" RCP	56+19		56+96
Hancock Street	15" RCP	57+38		58+34
Chestnut Street	12" RCP	105+15		105+17
Chestnut Street	12" RCP	104+54		105+16

STREET	SEWER	STA	TO	STA
Hancock Street	8" PVC	54+37		54+99
Hancock Street	8" PVC	55+02		56+17

STREET	WATER MAIN	STA	TO	STA
Hancock Street	6" CIP	53+45		58+59
Hancock Street	6" CIP	56+70		57+01
Chestnut Street	6" CIP	103+98		105+68
Hancock Street	12" PVC	53+45		57+05
Chestnut Street	12" PVC	101+52		104+42

And as required.

ITEM 141. **CLASS A TRENCH EXCAVATION**

For retaining wall excavation

Wall No. 1 - Stone Masonry Retaining Wall (Sta 54+71.22 to Sta. 54+94.22 RT)

Wall No. 2 - Stone Masonry Retaining Wall (Sta 54+99.59 to Sta. 56+00.77 RT)

Wall No. 3 - Cast-in-Place Retaining Wall (Sta 57+39.56 to Sta. 58+36.64 LT)

ITEM 145. **DRAINAGE STRUCTURE ABANDONED**

STREET	STA	OFFSET	SIDE
Hancock Street	57+41.27	32.63	RT
Hancock Street	57+94.24	15.40	LT

ITEM 146. **DRAINAGE STRUCTURE REMOVED**

STREET	STA	OFFSET	SIDE
Chestnut Street	104+52.67	18.80	LT
Chestnut Street	105+17.34	18.51	LT
Chestnut Street	105+15.26	13.24	RT
Hancock Street	58+51.46	18.69	RT
Hancock Street	57+94.24	15.40	LT
Hancock Street	57+41.27	32.63	RT
Hancock Street	57+36.95	35.45	RT
Hancock Street	56+17.19	25.39	RT
Hancock Street	55+84.30	8.48	LT
Hancock Street	55+63.32	19.63	RT
Hancock Street	54+45.39	15.98	RT
Hancock Street	53+78.87	13.64	RT
Hancock Street	53+51.58	13.71	LT

ITEM 160.1 **CONTROLLED LOW-STRENGTH MATERIAL –
MANUAL EXCAVATABLE (<= 100 PSI)**

Under the direction of the Engineer, for backfilling trench pipe crossings located in the roadway when proper compaction using conventional methods cannot be achieved due to obstructions.

ITEM 201.**CATCH BASIN**

STREET/CB-ID	STA	OFFSET	SIDE
Chestnut Street/CB-1	103+49.76	23.8	RT
Chestnut Street/CB-2	103+47.74	25.6	LT
Chestnut Street/CBCI-1	105+30.35	15.4	LT
Chestnut Street/CBCI-2	105+54.63	14.6	LT
Chestnut Street/CB-7	105+42.12	17.0	RT
Chestnut Street/CBCI-4	105+62.88	16.2	RT
Hancock Street/CB-3	57+34.01	18.9	LT
Hancock Street/CB-4	57+47.24	28.2	RT
Hancock Street/CB-5	57+98.00	44.0	RT
Hancock Street/CB-6	58+38.56	13.5	LT
Hancock Street/CBCI-5	53+99.99	13.0	LT
Hancock Street/CBCI-6	53+99.98	13.0	RT
Hancock Street/CBCI-7	55+59.51	16.9	LT
Hancock Street/CBCI-8	55+56.25	17.7	RT
Hancock Street/CBCI-9	59+40.00	13.0	RT
Hancock Street/CBCI-10	59+60.35	13.1	RT

ITEM 202.**MANHOLE**

STREET/DMH-ID	STA	OFFSET	SIDE
Chestnut Street/DMH-2	104+32.04	25.5	LT
Chestnut Street/DMH-3	105+25.17	10.3	LT
Chestnut Street/DMH-4	105+47.77	9.6	LT
Hancock Street/DMH-5	54+07.65	8.8	RT
Hancock Street/DMH-6	55+61.51	12.5	RT
Hancock Street/DMH-7	56+25.19	36.4	RT
Hancock Street/DMH-8	57+42.42	8.6	RT
Hancock Street/DMH-9	58+04.26	7.7	RT
Hancock Street/DMH-10	58+38.78	17.9	RT
Hancock Street/DMH-11	59+34.77	17.9	RT
Hancock Street DMH-12	59+53.61	18.4	RT

ITEM 202.2**MANHOLE (9 TO 14 FOOT DEPTH)**

STREET/DMH-ID	STA	OFFSET
Chestnut Street/DMH-1	103+37.95 LT	10.6

ITEM 210.**SANITARY SEWER MANHOLE**

STREET	STA	OFFSET	SIDE
Hancock Street	54+35.00	6	RT
Hancock Street	55+20.00	2.5	RT
Hancock Street	56+20.00	10	RT

ITEM 210.02**SANITARY SEWER MANHOLE REMOVED**

STREET	STA	OFFSET
Hancock Street	55+00.35 RT	6

ITEM 220.**DRAINAGE STRUCTURE ADJUSTED**

Adjusted 2x more for new installed drainage structures for Item 201., 202., and 202.2 during the course of temporary grading where major cut and fill areas

Existing Drainage Structures to be retained and Adjusted

STREET	STRUCTURE	STA	SIDE	OFFSET
Chestnut Street	DMH	101+85	LT	4
Chestnut Street	CB	101+98	LT	14
Chestnut Street	CB	101+98	RT	17
Chestnut Street	CB	106+61	RT	15
Chestnut Street	DMH	106+78	LT	11
Chestnut Street	DMH	106+82	LT	5
Chestnut Street	CB	106+87	LT	15

ITEM 220.2**DRAINAGE STRUCTURE REBUILT**

As directed by the Engineer

ITEM 220.6**SANITARY STRUCTURE REBUILT**

STREET	STA	OFFSET	SIDE
Chestnut Street	103+47	1	LT
Hancock Street	56+48	8	RT
Hancock Street	56+86	3	RT
Hancock Street	58+50	7	LT

ITEM 220.7**SANITARY STRUCTURE ADJUSTED**

Adjusted 2x more for new installed sewer structures for Item 210. during the course of temporary grading where major cut and fill areas

Adjusted 3x for rebuilt sewer structures for Item 220.6 during the course of temporary grading where major cut and fill areas

Existing Sewer Structures to be retained and Adjusted once

STREET	STA	OFFSET	SIDE
Chestnut Street	106+50	2	LT
Chestnut Street	106+83	3	RT
Hancock Street	52+66	6	RT
Hancock Street	59+79	2	LT

ITEM 220.8**SANITARY STRUCTURE REMODELED**

STREET	STA	OFFSET	SIDE
Chestnut Street	103+47	1	LT
Hancock Street	56+48	8	RT
Hancock Street	56+86	3	RT
Hancock Street	58+50	7	LT

ITEM 222.3**FRAME AND GRATE (OR COVER)
MUNICIPAL STANDARD**

From Items 201, 202, 202.2, 210, and as required.

ITEM 223.1**FRAME AND GRATE (OR COVER) REMOVED
AND STACKED**

From Items 146, 210.2, and as required.

ITEM 238.12**12 INCH DUCTILE IRON PIPE**

STREET	STA		STA
Chestnut Street	105+25	TO	104+32
Hancock Street	56+25	TO	57+42
Hancock Street	55+60	TO	55+62
Hancock Street	59+35	TO	59+40
Hancock Street	59+54	TO	59+60

ITEM 241.12**12 INCH REINFORCED CONCRETE PIPE CLASS III**

STREET	STA		STA
Hancock Street	54+08	TO	55+62
Hancock Street	54+00	TO	54+08
Hancock Street	54+00	TO	54+08
Hancock Street	55+56	TO	55+62
Hancock Street	55+62	TO	56+25
Hancock Street	57+47	TO	57+42
Hancock Street	57+34	TO	57+42
Hancock Street	57+98	TO	58+04
Hancock Street	58+39	TO	58+39
Chestnut Street	105+42	TO	105+25
Chestnut Street	105+63	TO	105+48
Chestnut Street	105+25	TO	105+30
Chestnut Street	105+48	TO	105+55
Chestnut Street	105+48	TO	105+25
Chestnut Street	104+32	TO	103+38
Chestnut Street	103+50	TO	103+38
Chestnut Street	103+48	TO	103+38

ITEM 241.15**15 INCH REINFORCED CONCRETE PIPE CLASS III**

STREET	STA		STA
Hancock Street	57+42	TO	58+04
Hancock Street	58+04	TO	58+39
Hancock Street	58+39	TO	58+52
Hancock Street	59+35	TO	59+54

ITEM 250.06**6 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE**

STREET	STA		STA
Hancock Street	55+26	TO	55+31
Hancock Street	55+39	TO	55+44

ITEM 250.08**8 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE**

STREET	STA		STA
Hancock Street	54+35	TO	55+20
Hancock Street	55+20	TO	56+20

ITEM 302.06**6 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)**

STREET	STA		STA
Chestnut Street	103+51	TO	103+55
Chestnut Street	105+32	TO	105+68
Hancock Street	53+42	TO	53+42

ITEM 302.08**8 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)**

STREET	STA		STA
Chestnut Street	104+06	TO	105+32
Hancock Street	56+95	TO	58+59

ITEM 302.12**12 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET)**

STREET	STA		STA
Hancock Street	53+40	TO	56+95
Hancock Street	101+52	TO	104+03

ITEM 309.**DUCTILE IRON FITTINGS FOR WATER PIPE**

	12"x12" CROSS	53+43 LT
	12"X6" REDUCER	53+43 LT
	6x6" TEE	53+43 LT
Hancock St	12" 45d BEND ELBOW	53+45 LT
	12" 45d BEND ELBOW	53+50 LT
	12" 5d BEND ELBOW	56+00 LT
	12"x8" TEE	56+64 LT
	12"x12" TEE	56+95 LT
	12"X8" REDUCER	56+98 LT
	8" 22.5d BEND ELBOW	57+12 LT
	8" 5d BEND ELBOW	58+39 LT
	8"x6" TEE	58+55 LT
	8"x6 REDUCER	58+58 LT'
Chestnut St	12"x6" TEE	101+60 LT
	12"x12" TEE	101+56 LT
	12"x6" TEE	103+55 LT
	8"x6 REDUCER	105+35 RT

And as required.**ITEM345.01****1 INCH TEMPORARY BYPASS PIPE**

Hancock Street	55+05	LT
Hancock Street	54+69	RT
Hancock Street	57+36	RT
Hancock Street	57+30	LT
Hancock Street	58+27	RT
Chestnut Street	105+21	RT
Chestnut Street	101+68	LT

ITEM345.02**2 INCH TEMPORARY BYPASS PIPE**

Hancock Street TO Chestnut Street 53+39 LT TO 105+22 LT

ITEM345.04**4 INCH TEMPORARY BYPASS PIPE**

Chestnut Street TO Hancock Street 105+22 LT TO 58+56 LT

ITEM345.06**6 INCH TEMPORARY BYPASS PIPE**

Hancock Street TO Chestnut Street 58+56 LT TO 101+60 LT

ITEM345.12**12 INCH TEMPORARY BYPASS PIPE**

Hancock Street TO Chestnut Street 53+31 LT TO 101+56 LT

ITEM 347.1**1 INCH COPPER TUBING TYPE K**

Chestnut Street	105+21 RT	22 FT
Chestnut Street	101+68 LT	7 FT
Hancock Street	55+05 LT	16 FT
Hancock Street	54+69 RT	26 FT
Hancock Street	57+36 RT	59 FT
Hancock Street	57+30 LT	11 FT
Hancock Street	58+27 RT	49 FT

ITEM 350.06**6 INCH GATE AND GATE BOX**

Hancock Street	Connect to existing 6" Main	53+44 LT
Hancock Street	Connect to 6" bypass	58+56 LT
Chestnut Street	Connect to Hydrant	103+54 LT

ITEM 350.08**8 INCH GATE AND GATE BOX**

Hancock Street	Connect from prop 12" main to prop 8" main	56+97 LT
Hancock Street	Connect to exist. 8" main	58+54 LT
Chestnut Street	Connect to 12" main at Hancock St	104+32 RT
Chestnut Street	Connect to exist. 6" main from prop 8" main	105+32 RT

ITEM 350.12**12 INCH GATE AND GATE BOX**

Hancock Street	Connect to 12" bypass	53+43 LT
Hancock Street	Connect to exist. 12" main	53+50 LT
Hancock Street	Gate for Chestnut Connection	56+45 LT
Hancock Street	Gate for Chestnut Connection	56+95 LT
Hancock Street	Gate for Chestnut Connection	56+95 LT
Chestnut Street	Connect to exist. 12" main	101+63 LT
Chestnut Street	Connect to exist. 12" bypass	101+55 LT

ITEM 355.06**6 INCH GATE AND GATE BOX REMOVED AND STACKED**

Hancock Street	6" WG	56+60 LT
Hancock Street	6" WG	56+70 LT
Hancock Street	6" WG	57+00 LT
Chestnut Street	6" WG	105+27 RT
Chestnut Street	6" WG	104+25 RT
Chestnut Street	6" WG	104+35 RT

Contingency as encountered during construction

ITEM 355.12**12 INCH GATE AND GATE BOX REMOVED AND STACKED**

Hancock Street	12" WG	56+71 LT
Hancock Street	12" WG	57+02 LT
Chestnut Street	12" WG	103+80 LT
Chestnut Street	12" WG	104+42 LT
Chestnut Street	Hydrant	103+64 LT

Contingency as encountered during construction

ITEM 358.**GATE BOX ADJUSTED**

Gate Box Adjust to final elevation	6" (item 350.06)	X2
Gate Box Adjust to final elevation	8" (item 350.08)	X2
Gate Box Adjust to final elevation	12" (item 350.12)	X2

ITEM 363.1**1 INCH CORPORATION COCK**

Hancock Street	54+69 RT
Hancock Street	55+05 LT
Hancock Street	57+36 RT
Hancock Street	57+30 LT
Hancock Street	58+27 RT
Chestnut Street	105+21 RT
Chestnut Street	101+68 LT

Contingency as required.

ITEM 367.06.**6 INCH CAST IRON PLUG**

Hancock Street	53+44 LT	CAP X2

ITEM 367.12**12 INCH CAST IRON PLUG**

Hancock Street	53+48 LT	CAP

ITEM 371.06**6 INCH COUPLING**

Hancock Street	53+41 LT
Hancock Street	58+59 LT
Chestnut Street	105+69 RT

ITEM 371.12**12 INCH COUPLING**

Hancock Street	53+43 LT
Chestnut Street	101+52 LT

ITEM 375.06**6 INCH INSERTION VALVE AND BOX**

Hancock Street	53+25 LT
Hancock Street	58+78 LT
Chestnut Street	106+05 RT

ITEM 375.12**12 INCH INSERTION VALVE AND BOX**

Hancock Street	53+25 LT
Chestnut Street	101+12 LT

ITEM 376.1**HYDRANT – EXCLUDING COST OF HYDRANT**

Chestnut Street	103+51 LT

ITEM 376.3**HYDRANT – REMOVED AND STACKED**

Chestnut Street	103+62 LT

ITEM 381.**SERVICE BOX**

Hancock Street	54+69 RT
Hancock Street	55+05 LT
Hancock Street	57+36 RT
Hancock Street	57+30 LT
Hancock Street	58+27 RT
Chestnut Street	105+21 RT
Chestnut Street	101+68 LT
Contingency as required	

ITEM 381.3.**SERVICE BOX ADJUSTED**

Hancock Street	54+69 RT
Hancock Street	55+05 LT
Hancock Street	57+36 RT
Hancock Street	57+30 LT
Hancock Street	58+27 RT
Chestnut Street	105+21 RT
Chestnut Street	101+68 LT
Contingency as required.	

ITEM 384.**CURB STOP**

Hancock Street	54+69 RT
Hancock Street	55+05 LT
Hancock Street	57+36 RT
Hancock Street	57+30 LT
Hancock Street	58+27 RT
Chestnut Street	105+21 RT
Chestnut Street	101+68 LT

Contingency as required.

ITEM 451.**HMA FOR PATCHING**

- Permanent patching for utility trench within milling and overlay limits
And as required.

ITEM 472.**TEMPORARY ASPHALT PATCHING**

- For temporary trench patching for drainage, sewer, and water main work
- For temporary sidewalk
- And as required
- For temporary paving during full depth excavation and filling.
- Roundabout Approach:

ROUNDBOUT TO FOUR APPROACHES:
STA 52+50 to STA 54+85 FDR LIMITS (S)
STA 58+25 to STA 59+50 FDR LIMITS (N)
STA 101+75 to STA 103+00 FDR LIMITS (W)
STA 105+27 to STA 106+70 FDR LIMITS (E)

ITEM 503.**GRANITE CURB TYPE VA3 – STRAIGHT**

STREET	STA		STA	
Chestnut Street	104+86	TO	105+11	RT

ITEM 503.1.**GRANITE CURB TYPE VA3 – CURVED**

STREET	STA		STA	
Chestnut Street	104+78	TO	104+86	RT

ITEM 506.1.**GRANITE CURB TYPE VB – CURVED**

STREET	STA		STA	SIDE
Chestnut Street	103+00	TO	103+12	AROUND ISLAND
Chestnut Street	103+33	TO	103+52	AROUND ISLAND
Chestnut Street	103+51	TO	103+70	RT
Chestnut Street	103+55	TO	103+69	LT
Chestnut Street	103+95	TO	104+28	LT/RT
Chestnut Street	104+49	TO	104+85	RT
Chestnut Street	104+78	TO	104+90	LT
Chestnut Street	104+71	TO	104+86	AROUND ISLAND
Chestnut Street	105+14	TO	105+26	AROUND ISLAND
Hancock Street	55+56	TO	55+74	AROUND ISLAND
Hancock Street	55+74	TO	55+82	RT
Hancock Street	55+83	TO	56+05	AROUND ISLAND
Hancock Street	55+89	TO	56+23	RT
Hancock Street	56+07	TO	56+32	LT
Hancock Street	57+05	TO	57+40	LT
Hancock Street	57+28	TO	57+36	RT
Hancock Street	57+24	TO	57+44	AROUND ISLAND
Hancock Street	57+67	TO	57+81	AROUND ISLAND

ITEM 507.1.**GRANITE CURB TYPE T-100 -- CURVED**

STREET	STA		STA	SIDE
Chestnut Street	103+71	TO	104+53	LT/RT
Chestnut Street	104+65	TO	104+91	LT
Hancock Street	57+18	TO	57+45	RT

ITEM 509. GRANITE TRANSITION CURB FOR PED. CURB RAMPS - STRAIGHT

STREET	STA		STA	SIDE
Chestnut Street	101+28	TO	101+43	RT
Chestnut Street	101+57	TO	101+69	LT
Chestnut Street	101+75	TO	101+82	LT
Chestnut Street	102+02	TO	102+17	LT
Chestnut Street	102+86	TO	102+92	LT
Chestnut Street	103+11	TO	103+19	LT
Chestnut Street	103+16	TO	103+23	RT
Chestnut Street	103+22	TO	103+25	LT
Chestnut Street	103+33	TO	103+48	LT
Chestnut Street	104+87	TO	104+98	RT
Chestnut Street	105+12	TO	105+15	RT
Chestnut Street	104+89	TO	104+99	LT
Chestnut Street	105+07	TO	105+13	LT
Chestnut Street	105+22	TO	105+26	RT
Chestnut Street	105+42	TO	105+49	RT
Chestnut Street	106+21	TO	106+26	LT
Chestnut Street	106+35	TO	106+42	RT
Chestnut Street	106+58	TO	106+66	RT
Chestnut Street	106+60	TO	106+67	LT
Chestnut Street	106+84	TO	106+92	LT
Hancock Street	52+54	TO	52+63	RT
Hancock Street	52+78	TO	52+85	RT
Hancock Street	52+95	TO	53+09	RT
Hancock Street	53+25	TO	53+31	RT
Hancock Street	53+44	TO	53+59	RT
Hancock Street	53+77	TO	53+83	RT
Hancock Street	54+44	TO	54+59	RT
Hancock Street	54+71	TO	54+78	RT
Hancock Street	55+59	TO	55+74	RT
Hancock Street	55+68	TO	55+75	LT
Hancock Street	55+83	TO	55+90	LT
Hancock Street	57+41	TO	57+52	RT
Hancock Street	57+44	TO	57+48	LT
Hancock Street	57+56	TO	57+63	LT
Hancock Street	57+59	TO	57+65	RT
Hancock Street	57+90	TO	58+05	RT
Hancock Street	58+22	TO	58+28	RT
Hancock Street	58+37	TO	58+48	LT
Hancock Street	58+48	TO	58+58	RT
Hancock Street	58+74	TO	58+80	RT
Hancock Street	58+87	TO	58+93	LT
Hancock Street	58+99	TO	59+08	RT
Hancock Street	59+24	TO	59+31	RT
Hancock Street	59+56	TO	59+62	LT

ITEM 509.1. GRANITE TRANSITION CURB FOR PED. CURB RAMPS -- CURVED

	STA		STA	SIDE
STREET	103+32	TO	103+51	RT
Chestnut Street	53+23	TO	53+29	LT
Hancock Street	53+57	TO	53+62	LT
Hancock Street Hancock	53+80	TO	53+86	LT
Street Hancock Street	54+85	TO	54+90	LT
Hancock Street Hancock	55+16	TO	55+22	LT
Street Hancock Street	55+82	TO	55+91	RT
Hancock Street	57+36	TO	57+41	RT
	57+32	TO	57+43	LT

ITEM 514. GRANITE CURB INLET -- STRAIGHT

STREET	CB-ID	STA	SIDE	OFFSET
Chestnut Street	CBCI-1	105+30.39	LT	15.90
Chestnut Street	CBCI-2	105+62.15	LT	14.80
Chestnut Street	CBCI-4	105+68.85	RT	15.90
Chestnut Street	CBCI-5	53+99.99	LT	13.00
Chestnut Street	CBCI-6	53+99.98	RT	13.00
Hancock Street	CBCI-7	55+59.51	LT	16.90
Hancock Street	CBCI-8	55+56.25	RT	17.70
Hancock Street	CBCI-9	59+38.49	RT	13.00
Hancock Street	CBCI-10	59+51.86	RT	13.30

ITEM 666. CHAIN LINK FENCE REMOVED AND RESET

STREET	STA		STA	SIDE
Hancock Street	57+76	TO	57+82	RT

ITEM 670. FENCE REMOVED AND RESET

STREET	STA		STA	SIDE
Chestnut street	105+35		105+47	LT
Chestnut street	105+47	TO	105+55	LT
Chestnut street	105+59		105+83	LT
Chestnut street	105+86		105+91	LT

ITEM 706.8 MISCELLANEOUS SURFACE WALKWAY OR DRIVEWAY REMOVED AND RESET

STREET	STA	
Hancock Street	54+98 RT	Reset pavers
Hancock Street	58+43 RT	Reset pavers

ITEM 710.4**BOUND - PLAIN GRANITE**

- Token – as directed by Engineer.

ITEM 711.**BOUND – REMOVED AND RESET**

STREET	STA
Hancock Street	54+01 22' LT
Chestnut Street	105+66 25' RT

ITEM 804.2**2 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)**

STREET/DESIGNATION	STA	SIDE	OFFSET
Hancock St - LP - 01	55+92	LT	34
Hancock St - LP - 02	56+20	LT	52
Chestnut St - LP - 03	103+15	RT	32
Chestnut St - LP - 04	103+39	LT	36
Hancock St - LP - 05	57+12	LT	49
Hancock St - LP - 06	57+65	LT	28
Hancock St - LP - 07	57+48	RT	42
Chestnut St - LP - 08	105+10	LT	30
Chestnut St - LP - 09	104+90	RT	33
Hancock St - LP - 10	56+11	RT	54
Hancock St - LP - 11	55+68	RT	31

ITEM 804.3**3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)**

STREET/DMH-ID	STA	OFFSET		STA	OFFSET
Hancock St – LP-01 to LP-02	55+92	34 LT	TO	56+20	52 LT
Hancock St – LP-02 to Cabinet	56+20	52 LT	TO	103+60	50 RT
Chestnut St – Cabinet to LP-03	103+60	50 RT	TO	103+15	32 RT
Chestnut St – Cabinet to UP#15	103+60	50 RT	TO	103+47	46 RT
Chestnut St – LP-03 to LP-04	103+15	32 RT	TO	103+39	36 LT
Chestnut St – LP- 04 to LP-05	103+39	36 LT	TO	57+12	49 LT
Hancock St – LP-05 to LP-06	57+12	49 LT	TO	57+65	28 LT
Hancock St – LP-07 to Handhole	57+48	42 RT	TO	104+94	30 LT
Chestnut St – Handhole to LP-08	104+94	30 LT	TO	105+10	30 LT
Chestnut St – Handhole to LP-09	104+94	30 LT	TO	104+90	33 RT
Chestnut St – LP-09 to LP-10	104+90	33 RT	TO	56+11	54 RT
Hancock St – LP-10 to Handhole	56+11	54 RT	TO	55+85	32 RT
Hancock St – Handhole to LP-01	55+85	32 RT	TO	55+92	34 LT

CONCRETE ENCASED

Chestnut St – Handhole to Handhole	103+27	29 RT	TO	103+28	30 LT
Chestnut St – Handhole to Handhole	104+84	35 RT	TO	104+94	30 LT
Hancock St – Handhole to Handhole	55+90	31 LT	TO	55+85	32 RT

ITEM 811.22**ELECTRIC HANDHOLE - SD2.022**

STREET/DMH-ID	STA	SIDE	OFFSET
Hancock St - LP - 01 (Handhole)	55+90	LT	31
Hancock St - LP - 02 (Handhole)	56+20	LT	49
Chestnut St - LP - 03 (Handhole)	103+27	RT	30
Chestnut St - LP - 04 (Handhole)	103+28	LT	30
Chestnut St - LP - 04 (Handhole)	103+38	LT	33
Hancock St - LP - 05 (Handhole)	57+09	LT	49
Hancock St - LP - 06 (Handhole)	57+59	LT	29
Hancock St - LP - 07 (Handhole)	57+46	RT	20
Chestnut St - LP - 08 (Handhole)	104+94	LT	30
Chestnut St - LP - 08 (Handhole)	105+08	LT	27
Chestnut St - LP - 09 (Handhole)	104+84	RT	36
Hancock St - LP - 10 (Handhole)	104+55	RT	52
Hancock St - LP - 11 (Handhole)	55+85	RT	32

ITEM 812.10**LIGHT STANDARD FOUNDATION SD3.010****ITEM 823.992****ORNAMENTAL LIGHT FIXTURE TYPE A (PEDESTRIAN)**

STREET/DMH-ID	STA	SIDE	OFFSET
Hancock St - LP - 01	55+92	LT	34
Hancock St - LP - 02	56+20	LT	52
Chestnut St - LP - 03	103+15	RT	32
Chestnut St - LP - 04	103+39	LT	36
Hancock St - LP - 05	57+12	LT	49
Hancock St - LP - 06	57+62	LT	30
Hancock St - LP - 07	57+48	RT	42
Chestnut St - LP - 08	105+10	LT	30
Chestnut St - LP - 09	104+90	RT	33
Hancock St - LP - 10	56+11	RT	54
Hancock St - LP - 11	55+68	RT	31

ITEM 812.2**LIGHTING LOAD CENTER FOUNDATION****ITEM 823.60****HIGHWAY LIGHTING LOAD CENTER**

Chestnut St 103+60 – 50' RT

ITEM 816.80**TRAFFIC CONTROL SIGNAL REMOVED AND STACKED**

For the Existing Strain Poles, Flashing Yellow/Red Signals, Heads, Foundations, overhead wires.

ITEM 901.

4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE

For

- Cement Concrete Steps
- Concrete Coping and Footing for Cemented Stone Masonry Wall No. 1 & 2

ITEM 903.

3000 PSI, 1.5 INCH, 470 CEMENT CONCRETE

For

- Water Thrust Block

*** END OF DOCUMENT ***

DOCUMENT A00804

NATIONAL GRID

GENERAL GUIDELINES FOR WORKING AROUND GAS UTILITIES

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170 Data Drive
Walham, Massachusetts
02451-1120

copper. Never assume that a pipe is not gas. At times gas lines are inserted into older lines to save excavation cost. Contact National Grid damage prevention if there are questions around any pipe being a live gas facility.

Exposure of Gas Facilities

If any gas mains or services become exposed, National Grid must be notified to inspect the line before backfilling. Also any damage that may have been made to the pipe or pipe coating will need to be repaired by National Grid before backfilling. See Language for Backfill and Compaction around Gas Pipes, below.

Support In Place

Care must be exercised when saw cutting over any gas infrastructure, the exact depth of gas mains and services vary. Undermined gas pipe must be adequately supported and protected from damage. Steel and plastic gas facilities may be supported in accordance with standard CNST-6045. Please contact National Grid prior to exposing and supporting any natural gas pipe or facility. **See appendix 1**

Cast Iron gas main requires special attention, plans should be reviewed by National Grid prior to excavation and supporting in place. Refer to Encroachments section below for additional information.

Encroachments

Massachusetts state law requires the replacement of encroached gas pipe per DPU ruling: 220 CMR 113, National Grid treats encroachments as an emergency. Cast iron gas pipe 8" in diameter and smaller may need to be replaced with steel or plastic pipe prior to construction to prevent encroachments from occurring. Where crossing existing cast iron facilities, the use of smaller buckets and hand tools is recommended to limit trench openings to 36" in width. This will greatly reduce the number of encroachments requiring replacement and repair.

Cast iron gas pipe larger than 8" in diameter are not covered under the encroachment guidelines and cannot be encroached by law. However, National Grid does not allow more than 10 linear feet of large diameter cast iron gas main or more than (1) bell and spigot joint to be exposed and supported at a time, whichever is more restrictive.

Protection of Exposed Pipe

Hand excavation or vacuum excavation shall be used when exposing gas pipe or in the close vicinity of gas pipe. If a gas facility becomes exposed, contact National Grid for review and analyses prior to backfilling.

Where gas facilities are exposed, the pipe must be protected from damage. The use of tools or equipment directly on or near our pipe, as well as any construction activity that could move or damage our pipeline or pipe coating, will not be permitted by National Grid. If a gas facility becomes exposed, the use of construction blankets, plywood, rock shielding, fiberglass reinforcement protection wraps, or other means must be used to protect the gas pipe coating from debris and damage. Small nicks, holes, and discontinuation in the pipe wall/pipe coating can become a weak spot that hastens corrosion and could lead to premature failure.



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02451-1120

Vibration

Low levels of vibration must be maintained when working around gas facilities. If activities may impose increased levels of vibrations on our gas pipe, contact National Grid for review. Construction activities may include, but are not limited to pile driving, ledge removal and blasting, certain methods of soil compaction, micro-tunneling, jacking, directional drilling, etc.

Blasting

National Grid must be notified of any blasting that will take place within 200 feet of a gas utility. National Grid must be supplied with a detailed blast plan for blasting in the vicinity of gas facilities. The evaluation of the blast plan by a National Grid engineer may take some time, therefore, blast plan data should be submitted at least two weeks prior to the planned blasting. As a general rule, blasting will not be permitted within 10 feet of a gas line and PPV at the nearest gas pipe shall not exceed 2 in/sec without approval from National Grid. PPV at the nearest gas main shall be monitored.

Clearances

Except under special applications which may require greater clearances (steam lines, high voltage cables, etc.), underground structures and utilities installed parallel to National Grid's gas facilities must maintain a minimum of three (3) feet separation.

Except under special applications which may require greater clearances (steam lines, high voltage cables, etc.), underground structures and utilities must be installed with a minimum separation of twelve (12) inches from National Grid's gas facilities.

Contact National Grid engineer for guidance if the above separations cannot be maintained.

Regulator Stations

Gas regulator stations are critical facilities and National Grid must be contacted prior to the commencement of work within 200 feet of a station. Regulator stations are typically in buried vaults accessed through either manhole covers or aluminum doors. Only authorized National Grid employees shall open a regulator station vault. Be aware that a complex nest of piping and valves often exists in the vicinity outside the vaults.

Valves - NEVER OPERATE A GAS VALVE. ONLY NATIONAL GRID SHALL OPERATE GAS VALVES.

Access to gas valves must be maintained throughout construction and left at grade at the end of construction. Contact Gate Valve Adjustment/Damage Prevention prior to restoration to coordinate the adjustment of road boxes. Grade adjustments overtop transmission pipeline should be coordinated with National Grid engineering prior to construction. The adjustment of road boxes, manholes, or vaults that house valves/purges/blowoffs/etc. on transmission pipeline may require design work and the procurement of non-stock items with long lead times.

Valve boxes and covers associated with retired main may be removed or abandoned by removing their covers and filling with compacted soil after confirming with a national grid representative.



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Pipeline Markers:

Pipeline markers and above ground signage indicating the presence of high pressure transmission pipeline **must remain in place at all times**. If the location of existing markers need to be relocated for any reason, contact National Grid Damage Prevention prior to removal.

Excavations Involving gas Transmission Pipelines

If the proposed construction is within close proximity of high pressure transmission gas main, contact National Grid's Damage Prevention Department for specific requirements. It is recommended that:

- A National Grid representative is on site continuously during any excavation/subsurface work within 15 feet of a transmission facility.
- When working within 15' of the outside perimeter of any transmission pipeline, hand tools and vacuum excavation must be used until the exact alignment has been verified
- When working within 15' of the outside perimeter of any transmission pipeline, verification holes should be dug using hand tools/vacuum excavation at 50 ft intervals over transmission main that runs adjacent to a proposed individual construction excavation.
- Where crossing transmission gas pipe with utilities and underground structures, test holes must be dug at the crossing to confirm the depth, invert elevation, and separation.
- Once the exact alignment of transmission piping has been verified using hand tools and vacuum excavation, powered excavation may be used within 15' of the pipeline, **but no closer than the transmission pipeline Safety Zone ($18'' + \frac{1}{2}$ the diameter of the pipeline)**.



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Guidelines for Backfill and Compaction Around Gas Pipes Permanent Backfill and Compaction

This work shall consist of backfilling and compacting all disturbed material at and around existing gas pipes and facilities. Size of pipe, material, length of exposed pipe, location of pipe, etc. will all follow the same set of Standards and Specifications stipulated by Nationalgrid Company. If design plans call for gas pipes to be exposed and supported (sheeting methods not used), then at the time of backfill, all disturbed material below the invert of the gas pipe shall be removed and replaced with suitable roadway or trench excavation material or bedding material. The contractor will not be allowed to replace this disturbed material with the same existing material if it has now been mixed with adjacent silty subsoil (clays) and fines. Well-graded gravel and sands will be used to replace the unsuitable material when no excess suitable material is available on site. Soils with high humus or mineral content should not be used to for backfill because they can promote electrolytic or bacterial attack.

Backfilling the gas pipe should begin immediately after the work in that location is complete. The region within 6" alongside and on top of the gas pipe shall be backfilled with padding sand (free of cinders, ash, and rock). In no case shall the material used for backfilling in this region contain any stones. Backfill shall consist of suitable materials (medium to coarse sands with little or no silts) placed in layers of not more than 8" to 12" after compaction.

Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The layers shall be mechanically compacted to the industry standard of 95% or until a density comparable to the unexcavated material is achieved. In some instances, flooding with water is an acceptable method of compaction but only if the back-fill material is clean, coarse, and adequate drainage is existent. The above specified backfill material is essential in order to attain the degree of compaction necessary to avoid future settlement.

Tracing Wire, if necessary, shall be installed 2" to 6" above Plastic gas pipes. Tracer wire must be installed and repaired by qualified personnel only, contact National Grid if tracer wire has been damaged during excavation.

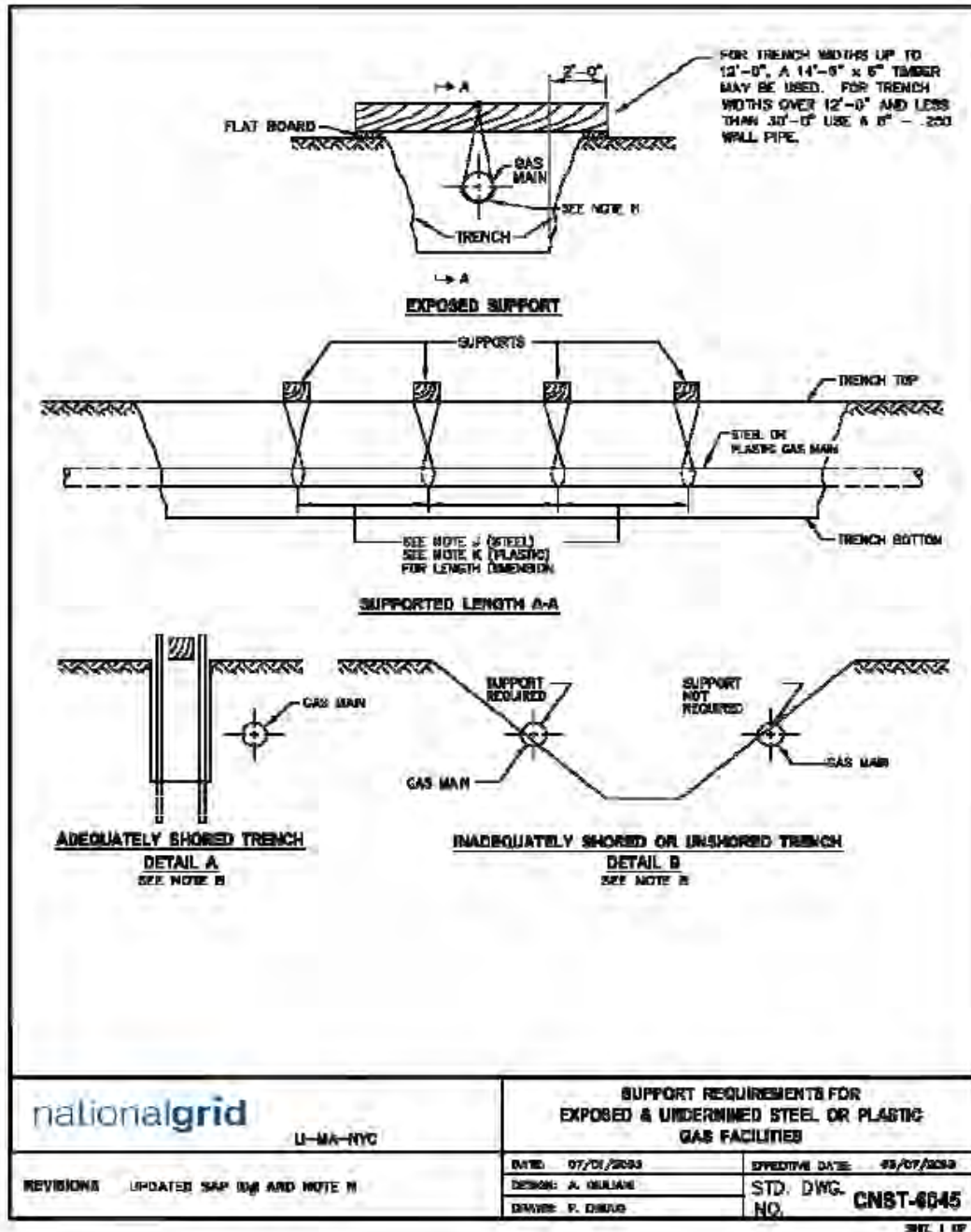
Warning Tape shall be installed approximately 12" above the gas pipe. If warning tape is exposed during excavation, immediately stop excavation and contact National Grid for further review

A minimum of 2" temporary pavement shall be applied over the trench as soon as possible.

nationalgrid

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Appendix 1



609440- Abington - Hancock Street at Chestnut Street Intersection Improvements
Gas Leaks & Emergencies - 800-233-5325

170 Data Drive
Waltham, Massachusetts
02451-1120**NOTES:**

- A. THIS CONSTRUCTION STANDARD SHALL BE USED TO SUPPORT PLASTIC OR STEEL GAS FACILITIES WHICH ARE UNDERMINED AND EXPOSED BY CONSTRUCTION ACTIVITY.
- B. IF AN EXCAVATION IS MADE AT ANY DISTANCE PARALLEL TO THE GAS FACILITY WITH ADEQUATE OSHA STRUCTURAL SHORING, AS SHOWN IN DETAIL "A", OR IF A STABLE SOIL CONDITION WITH SUFFICIENT COVER ABOVE THE PIPE'S CENTERLINE EXISTS, AS SHOWN IN DETAIL "B", THEN SUPPORTS ARE NOT REQUIRED. UNSTABLE SOIL IS DEFINED AS A SOIL WHICH CAN CAUSE "SOIL RUN OUT" FROM BENEATH THE PIPE (e.g., WASHOUT, SOFT CLAY, etc.,) OR CAN SHIFT DUE TO CONSTRUCTION ACTIVITY, VIBRATIONS, etc.; AND CAUSE A SOIL SCENARIO TO OCCUR AS SHOWN IN DETAIL "B" TO REQUIRE PIPE SUPPORT.
- C. IF AN EXCAVATION CROSSES OR RUNS PARALLEL TO A GAS FACILITY, SUPPORTS MAY NOT BE REQUIRED IF THE EXPOSED SECTION OF PLASTIC PIPES IS 3' OR LESS AND STEEL PIPES 7' OR LESS.
- D. ALL EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONE CALL DIG SAFE PROGRAM USING THE APPROPRIATE MARK OUT, TEST HOLES AND EXCAVATION TO AVOID DAMAGE TO PIPE OR PIPE COATINGS:
 - NEW YORK STATE CODE RULE 753
 - MA CHAPTER 82 - SECTION 40, GENERAL LAWS, REGULATING NOTICE REQUIREMENTS FOR EXCAVATION IN PUBLIC WAYS
- E. USE OF THIS CONSTRUCTION STANDARD DOES NOT RELIEVE THE CONSTRUCTION AGENCY OR AUTHORITY OR THEIR RESPECTIVE CONTRACTORS OF RESPONSIBILITY FOR DAMAGES. ALL DAMAGES WILL BE REPAIRED IN ACCORDANCE WITH EXISTING STANDARDS AND THE APPROPRIATE PARTY SHALL BE BILLED FOR ALL EXPENSES.
- F. GAS FACILITIES SHOULD NOT BE UNDERMINED WITHOUT ADEQUATE SUPPORT (DETAIL A). ALL SUPPORT LINES SHALL BE TENSIONED SO THAT NO DEFLECTION WILL OCCUR WHEN THE FACILITY IS UNDERMINED. THIS TENSION SHALL BE CHECKED AT THE START AND END OF EACH DAY AND ADJUSTED AS NECESSARY.
- G. WHERE A COUPLING, GAS SERVICE, CLAMP, VALVE, DRIP LINE OR OTHER APPURTENANCE EXISTS ON THE EXPOSED SECTION OF MAIN, AN ADDITIONAL SUPPORT SHALL BE INSTALLED AT THE LOCATION.
- H. WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD (ITEM ID 9340226), OR OTHER LIKE MATERIAL CUT TO A MINIMUM WIDTH OF $\frac{1}{2}$ THE SUPPORTED PIPE DIAMETER. SUPPORT LINES SHALL BE A MINIMUM OF $\frac{3}{4}$ " POLYPROPYLENE OR BETTER. FRP SHEILDS MAY ALSO BE USED FOR THIS PURPOSE PROVIDED THEY EXTEND A MINIMUM OF $\frac{1}{2}$ WAY UP THE PIPE TO PROTECT FROM SIDE LOADING.
- I. SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.
- J. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR STEEL FACILITIES SHALL BE AS FOLLOWS: 7' SPACING FOR $\frac{3}{4}$ " AND 1 $\frac{1}{4}$ " STEEL

Gas Leaks & Emergencies - 800-233-5325

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02451-1120

10' SPACING FOR 2" STEEL
15' SPACING FOR 3" AND 4" STEEL
20' SPACING FOR 6" AND LARGER STEEL

- K. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR PLASTIC FACILITIES SHALL BE AS FOLLOWS :
- 3 ' SPACING FOR 2" AND SMALLER PLASTIC
 - 6' SPACING FOR 4" AND LARGER PLASTIC
- L. VIBRATING MACHINES ARE ALLOWED OVER STEEL OR PLASTIC FACILITIES WITH 24" OR GREATER COVER. HAND HELD MECHANICAL TAMPER IS ACCEPTABLE OVER ANY FACILITY WITH 12" OR GREATER COVER.
- M. WHEN CONSTRUCTION ACTIVITY IS COMPLETED, CLEAN FILL SHALL BE COMPACTED AROUND AND UNDER THE GAS FACILITY BEFORE REMOVING SUPPORTS.
- N. [CONTACT NATIONAL GRID FOR REPLACEMENT REQUIREMENTS OF CAST IRON PIPE.](#)

Gas Leaks & Emergencies - 800-233-5325

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DOCUMENT A00808

PROJECT UTILITY COORDINATION FORM

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CONTACTS AND GENERAL UTILITY INFORMATION

[illegible]

Unless otherwise noted by Contract, the MassDOT Contractor is to provide the District Construction Office with 7 Calendar Days advance notification in order to validate the current progress and provide the required 30 Days advance notice-to-proceed for the first Utility - and each subsequent Utility. These advance notifications are to be identified in the Contractor's Schedules (Pre-Con preparation, Baseline, Subnets, and Updated/Monthly Schedules) as specified in Subsection 8.02 (for DBB Contracts) and/or Section 9 (of DB Contracts). Note: The durations included below do not include these lead-times. See Additional 'Important Basis notes for Contractor' - on last PUC Form page.

Suggested Sequence of Relocation (Based on Consultant proposed construction staging)

The sequence as detailed on the following pages is based on the consultants proposed staging plan. This information was compiled through meetings that included all of the utilities listed below along with the designer and the Town of Abington. The information provided is the best available information prior to project advertisement.

PUC FORM - CONTINUED

Is 'enabling' (prep) work, by the Contractor, necessary prior to the start of the first series of utility relocations:	Yes	No
	X	
Has any of the Utility work been identified to work concurrently	Yes	No
		X



RESPONSIBLE PARTY	DESCRIPTION - Utility Relocation Phases, Tasks and Activities	Estimated Duration (Work Days) by Utilities (Lead time not included)	Concurrent / Exclusive Utility Work				Access Restraint & Limitations of Operations Notes	
			Exclusive Utility on site	Concurrent Utilities with other	No Contractor physical construction operations on-site (while Utility Contractor and Utility are working on-site - but NOT in the same vicinity)	Potential Access Restraint	(Yes/No)	Reason/Note (optional)
C = Contractor U = Utility Co.								Should an AR be considered for the Contractor ?
C	>Contractor to notify Utilities 60 days prior to starting work. >Contractor to perform clearing & grubbing, tree trimming, individual tree removal, required slope work, and roadway grading. >Contractor to construct retaining walls as necessary to allow installation of proposed utility poles.							
	Utility Operations - Underground							
Task 1	National Grid - Gas							
U	National Grid-Gas - Trench and install approx 280 FT of 4-inch 60 PSIG Plastic Gas Main and 500 FT of 8-inch 60 PSIG plastic gas main		X					
U	National Grid-Gas - Excavate & Shore		X					
U	National Grid-Gas - Main Connections/Bypass/Tie-ins	50	X					
U	National Grid-Gas - Service Transfers & Meter work (as needed)		X					
U	National Grid-Gas - Stop/Tap/Purge/Cut/Cap		X					
U	National Grid-Gas - Backfill/Compaction/Restoration		X					
	Sub-Total	50						
	Utility Operations - Aerial							
Task 2	National Grid - Electric							
U	National Grid-Electric - Site Readiness: Dig-safe, pre-checks, etc.	10	X					
U	National Grid-Electric - Relocate QTY 7 poles, replace QTY 4 poles, install QTY 3 poles for road expansion. Install 9 new anchors / 4 new pushbraces	20	X					
U	National Grid-Electric - Frame Poles and replace conductors from P12 - P16 Chestnut St with 3-477 TW.	20	X					
U	National Grid-Electric - Replace all secondary with 1/0 Triplex from P12 - P16 Chestnut St & P12 - P19 Hancock St & associated services.	5	X					
U	National Grid-Electric - Relocate QTY 2 Transformers to new pole locations, P16 Chestnut St & P17 Hancock St.	5	X					
U	National Grid-Electric - Switching and Outage Coordination	10	X					
U	National Grid-Electric - Tree Trimming: Additional tree trimming if needed	10	X					
	Sub-Total	80						
Task 3	Abington Fire Department							
U	Abington Fire Department - Removal and Disposal of municipal fire alarm wire and associated terminal boxes and hardware.	1	X					
	Sub-Total	1						
Task 4	Holbrook RECC							
U	Holbrook RECC - Place new Fiber Optic Cable on Chestnut - Hancock.	1	X					
U	Holbrook RECC - Transfer existing fiber cable.	1	X					
U	Holbrook RECC - Splicing / Cutover old fiber cable to the newly Placed Fiber Optic Cables.	1	X					
	Sub-Total	3						
Task 5	Abington DPW							
C	** Abington DPW - Relocate pole mounted camera to relocated pole.	1	X					
	Sub-Total	1						

RESPONSIBLE PARTY		DESCRIPTION - Utility Relocation Phases, Tasks and Activities	Estimated Duration (Work Days) by Utilities (Lead time not included)	Concurrent / Exclusive Utility Work				Access Restraint & Limitations of Operations Notes	
C = Contractor U = Utility Co.	Comcast			Exclusive Utility on site	Concurrent Utilities	Contractor Off-Site	Contractor Concurrent	Potential Access Restraint (Yes/No)	Reason/Note (optional)
Task: 6				Utility working with no other utilities in vicinity	Utility working with other utilities on site	No Contractor physical construction operations on-site (while Utility Contractor and Utility are working on-site but NOT in the same vicinity)			

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DOCUMENT A00810

MassDOT Herbicide Use Report

Proposal No. 609440-134070

MassDOT Herbicide Use Report

Date Submitted:

*Use multiple sheets for multiple application techniques or sites as needed.***Contractor
Performing Work:****Project or Contract No:****Town/s:****Associated Route:****Project
Description:****MDAR ALERT*:****Treatment
Description:****Area Treated (as applicable)****Acres:****Sq Yds:****Miles:****Weeds
Targeted:****Gallons Formula Used:****Application
Method:****Date/Time Began:****Date/Time End:****Product Used:**

Name: _____
EPA Reg. No: _____
% Active Ingredient
Dry: _____
Liquid: _____
Formulation (dilution rate): _____

Name: _____
EPA Reg. No: _____
% Active Ingredient
Dry: _____
Liquid: _____
Formulation (dilution rate): _____

Name: _____
EPA Reg. No: _____
% Active Ingredient
Dry: _____
Liquid: _____
Formulation (dilution rate): _____

Additional products used (surfactants, etc.) or other information:**Applicators:****License Numbers:**

*** Please note:**

EDRR Species (MAM, Hogweed, Pepperweed, Kudzu, etc.)

Tree of Heaven 1) stands of >20 trees; 2) >5 trees near nursery, landscape company, or highway rest area where trucks stop

Upon completion, please submit form to MassDOT District Engineer and Landscape Design Section in Boston office.

07/18/2018

DOCUMENT A00811

WATERING LOG for MassDOT Plantings

Watering Log for MassDOT Plantings

Project Description:

Contract No:

Project No:

Notes:

Plant Locations/s:
(Attach planting
plan/s as
necessary)

	Separate logs shall be kept to track areas or plants with different watering schedules. Trees shall receive a minimum of 10 gallons with each watering and shrubs a minimum of 5 gallons. Provide note that if watering is not performed as scheduled due to rain. Record date of rainfall and amount.											
Date Watered												
Landscape Contractor Initial												
Prime Contractor Initial												
Date Watered												
Landscape Contractor Initial												
Prime Contractor Initial												

Each week, following watering, Log shall be submitted to the MassDOT Engineer.
6/15/2018

DOCUMENT A00820

**Massachusetts Department of Transportation
Conditions of Custody****REQUEST FOR RELEASE OF MASSDOT AUTOCAD FILES FORM**

(Only to be used following award of contract)

City/Town: ABINGTONProject File Number: 609440Contract Number: 134070Project Description: Intersection Improvements at Hancock Street and Chestnut Street

All AutoCAD files are provided solely as a courtesy to facilitate public access to information. MassDOT attempts to provide current and accurate information but cannot guarantee so. MassDOT provides such documents, files or other data "as is" without any warranty of any kind, either expressed or implied, including but not limited to, accuracy, reliability, omissions, completeness and currentness. The Commonwealth of Massachusetts and its Consultants shall not be liable for any claim for damages, including lost profits or other consequential, exemplary, incidental, indirect or special damages, relating in any way to the documents, files or other data accessible from this file, including, but not limited to, claims arising out of or related to electronic access or transmission of data or viruses. Because data stored on electronic media can deteriorate undetected or be modified without our knowledge, MassDOT cannot be held liable for its completeness or correctness. MassDOT makes no representation as to the compatibility of these files beyond the version of the stated CAD software.

By signing this form, I agree that it shall be my responsibility to reconcile this electronic data with the conformed contract documents, and that only the conformed contract documents shall be regarded as legal documents for this Project. I understand that this authorization does not give me the right to distribute the files. I agree to the terms above and wish to receive the AutoCAD files.

This signed form shall be emailed to the Highway Design Engineer at the MassDOT -Highway Division at the following email address:

DOTHighwayDesign@dot.state.ma.us

Attn: AutoCAD Files

Name of person requesting AutoCAD files: _____

Affiliation/Company: _____

Address: _____

Telephone number: _____

Email address: _____

Signature/Date: _____

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DOCUMENT A00844

U.S. FISH AND WILDLIFE SERVICE

NLAA CONCURRENCE VERIFICATION LETTER

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:

04/11/2025 19:50:01 UTC

Project code: 2025-0079129

Project Name: 609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET

Federal Nexus: yes

Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for
'609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET'

Dear Hana Isihara:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on April 11, 2025, for '609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET' (here forward, Project). This project has been assigned Project Code 2025-0079129 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your Project, the Project may need to apply***

Project code: 2025-0079129

04/11/2025 19:50:01 UTC

the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office.

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	NLAA
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed	NLAA
	Endangered	

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete for northern long-eared bat and/or tricolored bat and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat or tricolored bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat or tricolored bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat and/or tricolored bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat and Tricolored Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

Project code: 2025-0079129

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The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0079129 associated with this Project.

Project code: 2025-0079129

04/11/2025 19:50:01 UTC

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET

2. Description

The following description was provided for the project '609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET':

609440 - ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET

The project includes safety and operational improvements at the Chestnut Street and Hancock Street intersection in Abington. Specific work items on this project include: constructing a roundabout at the intersection of Hancock Street and Chestnut Street, changing the roadway profile and improving topography at the intersection and its approaches, full depth roadway reconstruction, pavement milling and overlay, constructing cement concrete sidewalks and driveways, installing granite curbing, constructing cement concrete pedestrian curb ramps to meet current ADA/AAB/MASSDOT accessibility requirements, retaining walls, street lighting, drainage system improvement, water main replacement, landscaping, traffic signs and new pavement markings, and safety signing for traffic management.

Monarch Butterfly: Proposed Threatened Species only. The project action will not have an intentional take on the species and therefore will not jeopardize the continued existence of the proposed species.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.13047915,-70.97787925879534,14z>



Key Version Publish Date: 01/08/2025

- 11 / 14 -

Project code: 2023-0033794

03/12/2025 19:21:02 UTC

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

Yes

Project code: 2023-0033794

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7. FHWA, FRA, and FTA have completed a range-wide programmatic consultation for transportation- related actions within the range of the Indiana bat, northern long-eared bat and tricolored bat.

Does your proposed action fall within the scope of this programmatic consultation?

Note: If you are unsure, but your action is transportation related, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key (FHWA DKey) in IPaC to determine if the programmatic consultation is applicable to your action. Return to this key and answer 'no' to this question if it is not.

No

8. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

9. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

10. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

11. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

12. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

No

13. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

No

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14. Will the action cause effects to a bridge?

Note: Covered bridges should be considered as bridges in this question.

No

15. Will the action result in effects to a culvert or tunnel at any time of year?

No

16. Are trees present within 1000 feet of the action area?

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

17. Does the action include the intentional exclusion of bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

18. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**?

No

19. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

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21. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

22. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

23. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

24. Will the action include drilling or blasting?

No

25. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

26. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

27. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

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28. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

29. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

Yes

30. Will the action use only downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting) when installing new or replacing existing permanent lights?

Or for those transportation agencies using the Backlight, Uplight, Glare (BUG) system developed by the Illuminating Engineering Society, will all three ratings (backlight, uplight, and glare) be as close to zero as is possible, with a priority of "uplight" of 0?

Yes

31. Will the action direct any temporary lighting away from suitable northern long-eared bat or tricolored bat roosting habitat when bats may be present?

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

32. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

33. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

No

34. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

No

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35. Does the project intersect with the 0- 9.9% forest density category?

Automatically answered

No

36. Does the project intersect with the 10.0- 19.9% forest density category map?

Automatically answered

Yes

37. Does the project intersect with the 20.0- 29.9% forest density category map?

Automatically answered

No

38. Does the project intersect with the 30.0- 100% forest density category map?

Automatically answered

No

39. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 5 acres in total extent?

No

40. Will the proposed action result in the use of prescribed fire?

Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

No

41. Does the action area intersect the northern long-eared bat species list area?

Automatically answered

Yes

42. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

Automatically answered

No

43. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

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44. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?

If unsure, answer "Yes."

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

45. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

Yes

46. Was the survey conducted within the last 5 years?

Yes

47. Did you coordinate with your Ecological Services Field Office (ESFO) and receive approval of the results? If NO, please contact the appropriate local ESFO before completing this determination key - you may change your answer to 'yes' only after coordinating with the ESFO and uploading survey results.

Yes

SUBMITTED DOCUMENTS

- 608744_rpt_provincetown_nleb_survey_20221025.pdf <https://ipac.ecosphere.fws.gov/project/VUDRYWXZDZDBJANS2M4YROTMNY/projectDocuments/121153265>

48. Did survey results demonstrate the probable absence of northern long-eared bats?

Yes

49. Does the action area intersect the tricolored bat species list area?

Automatically answered

Yes

50. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

51. Has a presence/probable absence bat survey targeting the [tricolored bat](#) and following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

Yes

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52. Was the presence/probable absence survey conducted within the last 5 years?

Yes

53. Did you coordinate with your Ecological Services Field Office (ESFO) and receive approval of the results? If NO, please contact the appropriate local ESFO before completing this determination key - you may change your answer to 'yes' only after coordinating with the ESFO and uploading survey results.

Yes

54. Did survey results demonstrate the probable absence of tricolored bats?

Yes

55. Do you have any documents that you want to include with this submission?

No

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PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

2.7

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IPAC USER CONTACT INFORMATION

Agency: Massachusetts Department of Transportation
Name: Julia Hoogeboom
Address: 10 Park Plaza
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

DOCUMENT A00846

BAT PRESENCE/PROBABLE ABSENCE ACOUSTIC SURVEY

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November 4, 2024

Dave Paulson
 Wildlife and Endangered Species Program Supervisor
 Massachusetts Department of Transportation – Highway Division
 Ten Park Plaza, Room 7360
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Project	Bat Presence/Probable Absence Acoustic Survey
MassDOT Project #	609440
MassDOT Project Title	Intersection Improvements at Hancock Street and Chestnut Street
Town	Abington, Massachusetts
Surveyor Name/Firm	Emma Baron / Normandeau Associates, Inc.
Detector Operation Dates	August 7-19, 2024
Acoustic Survey Results	NLEB NOT DETECTED
Acoustic Survey Results	PESU DETECTED
Acoustic Survey Results	MYLU DETECTED
Acoustic Survey Results	MYLE NOT DETECTED

Dear Mr. Paulson,

This report contains the results of the Massachusetts Department of Transportation (MassDOT) bat summer presence/ probable absence survey performed for the MassDOT Project #609440, *Intersection Improvements at Hancock Street and Chestnut Street*, in Abington, Massachusetts. Acoustic detectors deployed by *Normandeau Associates, Inc.* detected the following species:

- *Did not* detect the presence of federally endangered northern long-eared bat (*Myotis septentrionalis*, hereafter NLEB) as 0 calls were classified and confirmed via qualitative assessment.
- *Did* detect the presence of federally proposed endangered and state endangered tri-colored bat (*Perimyotis subflavus*) as 38 calls were confirmed as such during our qualitative assessment.
- *Did* detect the presence of state endangered little brown bat (*Myotis lucifugus*) as 27 calls were confirmed as such during our qualitative assessment.
- *Did not* detect the presence of state endangered eastern small-footed bat (*Myotis leibei*) as 0 calls were confirmed as such during our qualitative assessment.



Sincerely,

A handwritten signature in black ink that reads "Jamie O'Brien". The signature is fluid and cursive, written over a light gray rectangular background.

Jamie O'Brien, CWB®
Project Manager

Attachments: Bat Survey Report for Abington 609440

Bat Presence/Probable Absence Acoustic Survey MassDOT Project District 5

#609440, Intersection Improvements at Hancock Street and Chestnut Street

Abington, MA

Prepared For

Dave Paulson

Wildlife and Endangered Species Program Supervisor
Massachusetts Department of Transportation – Highway Division
10 Park Plaza, Room 7360
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Prepared By

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November 4, 2024

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Summary

An ultrasonic acoustic survey was conducted to inventory the federally and state endangered northern long-eared bat (NLEB; *Myotis septentrionalis*, or MYSE), tricolored bat (TCB; *Perimyotis subflavus*, or PESU), proposed for federal listing, and other state listed bat species within the proposed limits of work for the Massachusetts Department of Transportation (MassDOT) project #609440, Intersection Improvements at Hancock Street and Chestnut Street, located in the Town of Abington, MA. The survey was designed specifically to sample for NLEB and TCB in accordance with the United States Fish and Wildlife Service (USFWS) Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines, and one detector was placed in one location along the project corridor between August 7 and August 19, 2024. Zero bat passes were identified by the Kaleidoscope Pro software package with high certainty of probable presence for the NLEB during its auto-identification. More than 10 call passes were identified by analysis software as TCB and the Maximum-Likelihood Estimator (MLE) value was > 0.05 for all site nights; therefore, per USFWS guidelines, manual review was required for TCB. Bat species potentially or likely present, based on Kaleidoscope Pro (KPro) auto-identification results that met the MLE threshold (prior to review by an analyst), consisted of big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), eastern small-footed bat (*Myotis leibii*, or MYLE), and little brown bat (*Myotis lucifugus*, or MYLU). Additionally, MassDOT requested review of state listed species (MYSE, MYLE, MYLU, and PESU). **The following species were confirmed as present during our qualitative analysis: eastern red bat, little brown bat, and tricolored bat.** Lower frequency call passes typical of big brown bat, hoary bat, silver-haired bat, and some eastern red bat calls were not specifically reviewed by the acoustic analyst.

1 Project Overview

Project #609440, Intersection Improvements at Hancock Street and Chestnut Street, located in the Town of Abington, MA, involves the construction of a roundabout to address safety deficiencies and improve traffic (Project). The Project proposes clearing approximately 0.20 acres and 5 trees within the Project area. The total length of the Project is about 0.24 kilometers (km; 0.15 miles) and a one-kilometer (0.62 mile) Project envelope was used during the acoustic survey for consistency with linear survey guidance.

The Project is within the range of the federally and state endangered NLEB, which encompasses all of Massachusetts. The Project is also within the anticipated range of the TCB, which has been proposed for listing under the federal Endangered Species Act and is a state endangered species. These tree-roosting bat species use forested habitats during their active season, from April 15 through October 31. The Project has the potential to affect these species through tree clearing and limbing.

Normandeau Associates, Inc. (Normandeau) identified the portion(s) of the Project area that required a presence/ probable absence survey based on presence of suitable habitat and then conducted an acoustic survey in this location as described below. All habitat assessments and presence/ probable absence surveys conducted were consistent with the USFWS' [2024 Range-wide Indiana Bat & Northern Long-eared Bat Survey Guidelines](#)¹ (Guidelines). The protocols for NLEB summer surveys are described in the Guidelines, which explicitly include the NLEB and provide NLEB-specific guidance. The Guidelines indicate that the same NLEB guidance can be used for TCB. Results of the survey are summarized below, and these results include all elements consistent required from Appendices C and F of the Guidelines. The Project does not occur within the known summer range of the Indiana bat (*Myotis sodalis*), the only other federally listed (endangered) species in the northeast region.

2 Methods

The survey was conducted in conformance with the methods and approach outlined in the Guidelines. The field survey and the data analysis were conducted by personnel trained and qualified to conduct their respective tasks. Staff resumes are included in Appendix G.

Habitat Assessment

The general habitat suitability on this site was assessed by examining recent aerial photography (Google Earth™) prior to deploying the detector. In the field, habitat characteristics were examined to confirm suitability in all locations where acoustic detectors were placed. The desktop assessment of the vegetation within the Project area was conducted by Emma Baron, Environmental Scientist, and quality assurance of this location was verified by Jamie O'Brien, Certified Wildlife Biologist® (CWB®). On-site characteristics and detector deployment was

¹ https://www.fws.gov/sites/default/files/documents/2024-04/final_usfws_rangewide_ibat-nleb_survey_guidelines_508-compliant_.pdf

conducted by Emma Baron. Characteristics of the overall habitat within the Project area are presented in Section 3.1.

Detector Deployment

Normandeau conducted surveys using equipment from Wildlife Acoustics, Inc. This included 1) Song Meter SM4BAT Recorders, full-spectrum ultrasonic acoustic detectors; and 2) SMM-U2 Ultrasonic receivers, omnidirectional microphones designed specifically for ultrasonic monitoring and analysis. No weatherproofing was used on the microphone.

As defined by the Guidelines, the Project was categorized as a linear project, and required four detector nights (e.g., one detector deployed for four nights) of survey effort per kilometer (0.62 miles) of Project length. The approximately 1 km Project was surveyed using one detector that was placed in suitable roosting habitat within the proposed limits of work. The acoustic detector was left in place to collect data on at least four nights with suitable weather conditions as described in the Guidelines. This provided the minimum four total successful detector nights needed for the Project.

The sampling location was selected based on a combination of factors including access, minimizing potential for human interference, an open cone of detection for the microphone to sample, and apparent bat habitat quality (e.g., mature trees, snags, hollows and crevices, and wetland and/or foraging habitat). The detector set-up adhered to specifications detailed in the 2024 Guidelines, which include deployment of microphones: a) at least 10 feet (3 meters) in any direction from vegetation or other obstructions; b) in areas without, or with minimal, vegetation within 100 feet (30 meters) of highly directional microphones or 33 feet (10 meters) from other microphones; c) parallel to woodland edges; and d) at least 49 feet (15 meters) from known or suitable roosts (e.g., trees/snags, buildings, bridges, bat houses, cave or mine portal entrances). Photos of this location are provided in Appendix C and a field data sheet is presented in Appendix D.

To ensure that the detector was functioning correctly during every survey period, settings were checked upon retrieval of the detector in a similar fashion as to when they are deployed: 1) the microphone was checked for proper recording of sounds and archiving of data onto the internal drive/SDXC (SD cards); and 2) the program settings including recording times and acoustic range were verified.

Call Analysis

Each full spectrum acoustic file was processed as required by the 2024 Guidelines using Kaleidoscope Pro version 5.4.7 (KPro) and the Bats of North America 5.4.0 classifier with -1 More Sensitive (Liberal) setting, which is one of the USFWS-approved automated bat call classification software packages and settings for full spectrum calls². The software analyzes bat call passes and uses a multinomial likelihood-ratio test known as maximum-likelihood estimator

² <https://www.fws.gov/media/automated-acoustic-bat-id-software-programs>

(MLE) to determine the probability of presence (P-value) of a certain bat species. Any MLE $p < 0.05$ is considered a statistically significant value and is interpreted to mean that a species was detected for that site night, with a likelihood greater than 95%. Any site night that meets the MLE standard for NLEB presence is required to be manually reviewed by an acoustic analyst according to the Guidelines. Additionally, for linear projects, if the MLE is > 0.05 for all site nights and ten or more call passes are auto classified as potentially belonging to TCB at any site night, manual review of TCB call passes are required or TCB presence is assumed. Furthermore, MassDOT requested manual review of state listed species as follows:

1. If there are between 1 and 10 auto classified call passes of an individual species per site night, manually review and confirm all call passes.
2. If there are between 11 and 100 auto classified call passes of an individual species per site night, manually review at least 10 call passes and until at least one call pass is confirmed.
3. If there are more than 100 auto classified call passes of an individual species per site night, manually review and confirm at least 10 percent of the call passes and until at least one call pass is confirmed

The analyst can use a combination of programs to assess the call pass and call characteristics to make their determination of species. Analook W Version 4.5z by Titley Scientific can be used to identify NLEB presence based on minimum slope parameters of zero cross calls, when call quality allows.

Acoustic analyst Dr. Eran Amichai conducted the manual review. Results of the manual review are in Appendix E and representative calls for state and/or federal species (if identified) are provided in Appendix F. Dr. Amichai's resume is provided in Appendix G.

Particular call characteristics are used to make a determination regarding species identification. Specifically, the myotis call characteristics are as follows:

- a) MYLU calls are identified by the following characteristics: a characteristic frequency (Fc) of 38-41 kilohertz (kHz), minimum frequency (Fmin) 27-43 kHz, longer duration and a curved look (average characteristic slope [Sc] 60-110), a maximum frequency (Fmax) usually below 80 kHz and the presence of a Myotis tail;
- b) MYLE calls are identified by the following characteristics: an Fc of 40-45 kHz, Fmin 31-44 kHz, shorter duration and near vertical in slope, a maximum frequency of 95 kHz and a slightly different look near Fc than other Myotis species and the presence of a Myotis tail;
- c) MYSE calls are identified by the following characteristics: an Fc of 38-47 kHz, Fmin 25-50 kHz, shortest duration (<5 ms) with the most vertical pulse (>75 kHz), slight or no slope to pulse (Sc 210+), a maximum frequency above 105 kHz, the presence of a Myotis tail and usually quieter than other Myotis. A call with minimum slope of >200 octaves per second (OPS) in Analook W was also considered diagnostic.

Call characteristics specific to tricolored bats include:

- a) PESU calls are identified by the following characteristics: an Fc of 40-43 kHz, Fmin 34-46 kHz, and a steady Fmin across the call sequence. The narrowband (flat) calls have a higher frequency (40 kHz) than other species calls that have a taller call at the same frequency.

3 Results

3.1 Overall Habitat Assessment

The Project area, depicted in Figure A-1, Appendix A, contains large expanses of forest surrounding medium density residential development as well as a school and convenience store within one thousand feet of the Project. The forested areas to the west contain wetlands and the associated Cushing Pond. The on-site trees consisted primarily of Eastern white pine (*Pinus strobus*), and Norway maple (*Acer platanoides*) with several other species in less abundance such as Northern red oak (*Quercus rubra*), Black cherry (*Prunus serotina*), and Japanese maple (*Acer palmatum*). Details of the habitat at the detector location are described in Section 3.2.

3.2 Deployment Details

One acoustic detector was deployed facing northwest to the intersection of Hancock Street and Chestnut Street. The detector was programmed to run from 19:32 EDT until 6:01 EDT the following morning for each night of deployment. This recording range was selected as it encompasses approximately one hour prior to official sunset and after official sunrise times across New England for the duration of the acoustic survey season (May 15 through August 15). The detector was placed in one location along the Project corridor (Figure A-1, Appendix A). Details of the survey for each of the recording nights are summarized in Table 1 and specifications of the detector and microphone used are summarized in Table 2. Kaleidoscope Pro Software Settings are presented in Table 3.

The hourly weather conditions from Norwood, Norwood Memorial Airport (KOWD), the NOAA weather reporting station nearest to the Town of Abington, MA, are presented in Appendix B for each of the survey nights.

Table 1. Deployment Details, Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

Deployment Date	Begin	End	Sunset	Hi Temp (°F) ^a	Low Temp (°F) ^a	Max wind (mph) ^b	Precipitation (in) ^c	Weather ^a
08/07/2024	19:32	6:01	19:56	69.1	55.9	3	0.00	Fair
08/08/2024	19:32	6:01	19:55	66.9	64.9	5	0.00	Overcast
08/09/2024	19:32	6:01	19:53	82.0	78.1	17, G36	0.00	Overcast
08/10/2024	19:32	6:01	19:52	78.1	64.9	6	0.00	Fair
08/11/2024	19:32	6:01	19:51	73.0	68.0	10	0.00	Fair
08/12/2024	19:32	6:01	19:49	68.0	60.1	6	0.00	Fair
08/13/2024	19:32	6:01	19:48	70.0	59.0	Calm	0.00	Fair, Fog

Deployment Date	Begin	End	Sunset	Hi Temp (°F) ^a	Low Temp (°F) ^a	Max wind (mph) ^b	Precipitation (in) ^c	Weather ^a
08/14/2024	19:32	6:01	19:46	72.0	61.0	Calm	0.00	Fair, Fog
08/15/2024	19:32	6:01	19:45	66.9	64.0	8	0.04	Rain
08/16/2024	19:32	6:01	19:44	68.0	59.0	3	0.00	Fog
08/17/2024	19:32	6:01	19:42	70.0	66.0	5	0.00	Fair
08/18/2024	19:32	6:01	19:41	72.0	69.1	6	0.00	Fog

Note: Cells highlighted in gray did not meet weather requirements listed in the Guidelines (Temperatures fall below 50°F (10°C) during first five hours of survey period; Precipitation, including rain and/or fog, that exceeds 30 minutes or continues intermittently during the first five hours of the survey period; Sustained wind speeds greater than 9 miles/hour (4 meters/second; 3 on Beaufort scale) for 30 minutes or more during the first five hours of the survey period).

Source: Sunset times are from Sunrisesunset.com, weather information is from weather.gov

a High temp, low temp, max wind speed, and weather within the first five hours of survey. NOAA records values hourly, and this table summarizes conditions across those five values.

b NOAA reports wind speeds hourly; "Max Wind" is the highest speed reported over the first 5 hours of the survey period. The Guidelines specify no wind speeds of >9mph for >30 minutes during this period. If a maximum wind speed >9 mph was reported during the first or last hour of the survey, survey start time (i.e. sunset time) was used to determine if the wind speed lasted 30 minutes or more.

c Precipitation is a cumulative total of inches recorded during the first five hour increments of the survey period.

Table 2. Acoustic Monitoring Equipment Settings

Detector Setting	Specification	Microphone Setting	Specification
Amplifier Gain	12 dB	Recording format	Single-channel 16-bit PCM, Differential
16k High Filter	off		
Sample Rate	384 kHz	Sample rates	Full spectrum (256kHz)
Min Duration	1.5 ms	Directional pattern	Cardioid
Max Duration	none		
Min Trig Freq	16 kHz		
Trigger Level	12 dB		
Trigger Window	3 seconds		
Max Length	00m:15s		
Compression	None		

Table 3. Kaleidoscope Pro Software Settings

System and Batch Settings		Signal Parameters	
Version	5.4.7	Minimum and maximum frequency range (kHz)	8-120
Classifier	NA 5.4.0 (Deselected Indiana Bat per current range map ³ and	Minimum and maximum length of detected pulses (ms)	2-500

³ <https://www.fws.gov/species/indiana-bat-myotis-sodalis/map>

System and Batch Settings		Signal Parameters	
	USFWS communication)		
Settings	"-1" sensitivity	Maximum inter-syllable gap (ms)	500
Call Type	Full spectrum	Minimum number of pulses	2

A habitat description at the detector location follows below, and photos of the detector set-up and surrounding area are presented in Appendix C.

- Segment 1** – The detector was deployed facing northwest approximately 308 degrees towards the intersection of Hancock Street and Chestnut Street. The horizontal distance to the nearest vegetation was approximately 1 meter and ground-level vegetation was about 1 meter tall. A metal utility pole was located approximately 3 meters north of the detector. The vertical orientation of the microphone was less than 10 degrees (nearly parallel with the ground), and the detector height was 12 ft (3.6 m). The surrounding land use observed during deployment included roadways and medium density residential development. The following habitat features were present within the adjacent deployment area that would be suitable for NLEB and/or TCB: building, barn, bridge, or bat house. Tree species observed near the detector (within approximate 100') averaged 6 inches diameter at breast height (DBH) across all species. White pine (*Pinus strobus*) was the dominate tree observed with an maximum DBH of approximate 12 inches followed by Norway maple (*Acer platanoides*) at about 6 inches. Additional tree species observed included Northern red oak (*Quercus rubra*, 5" max DBH), Black cherry (*Prunus serotina*, 4" max DBH), and Japanese maple (*Acer palmatum*, 8" max DBH). Northern red oaks were observed with crack(s) and Black cherry was observed with exfoliating bark, both of which could serve as potential roost features. Neither Japanese maple, White pine, or Norway maple possessed any notable potential roost features. Additionally, a residential structure east of (behind) the detector was damaged from fire resulting in multiple possible entry points from the surrounding environment.

3.3 Survey Results

Upon retrieval from the field, all SD cards were backed up to an external drive for long term storage. A copy of these files was saved to a separate external drive for processing through KPro, and the SD cards were erased for use on future projects. Prior to KPro processing, a separate folder was created for call passes recorded during microphone testing at deployment, battery changes, and retrieval. Additionally, the log files were examined to ensure the detector was functioning properly for the duration of the survey. All survey files were run through KPro using nightly subdirectories with the Bats of North America classifier and -1 sensitivity setting. Massachusetts was selected as Region and Indiana bat was deselected, resulting in bat calls being assigned to one of eight remaining Massachusetts bat species. Noise files were deleted and WAV files as well as zero cross files were output to a new directory using a Time Expansion

Factor of 1. All output files from KPro processing were saved to the Normandeau network drive for additional backup. KPro processing was completed by Jamie O'Brien, CWB®.

The number of call passes recorded by species and location is presented in Table 4. Blue cells are those with likelihood of presence values <0.05 and correspond to species considered by KPro to be present. Calls from six species, consisting of big brown bat, eastern red bat, hoary bat, silver-haired bat, eastern small-footed bat, and little brown bat, were recorded with p-values of less than 0.05.

Table 4. Acoustic Survey Results by Date, Site, and Species for Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

Location	Detector Night	EPFU	LABO	LACI	LANO	MYLE	MYLU	MYSE	PESU
Number of calls recorded									
Segment 1	20240807	10	12	72	24	1	8	1	6
	20240808	13	18	40	5		4	1	5
	20240809	29	12	35	21	1	4		4
	20240810	76	24	75	125		8		8
	20240811	85	19	61	37		5		12
	20240812	9		11	11				
	20240813	70	27	60	48		6		6
	20240814	235	27	52	42	1	9		7
	20240815	41		34	44	1			
	20240816	88	13	59	35	1	11		6
	20240817	58	28	48	45	2	6		16
	20240818	112	31	37	105	1	11		11
Presence P-Value									
Segment 1	20240807	0.567736	0	0	0.223997	0.248103	0.036615	0.928118	0.600391
	20240808	0.000633	0	0	1	1	0.9933	0.549033	1
	20240809	0	0	0	0.220593	0.134624	0.828298	1	0.989732
	20240810	0	0	0	0	1	0.699338	1	0.978843
	20240811	0	0	0	0.633986	1	0.995954	1	0.160656
	20240812	0.007879	1	0.000002	0.051558	1	1	1	1
	20240813	0	0	0	0.006552	1	0.999363	1	1
	20240814	0	0	0	1	0.277927	0.47346	1	1
	20240815	0	1	0	2.7E-06	0.032269	1	1	1
	20240816	0	0	0	0.831687	0.304788	0.008233	1	0.693191
	20240817	0	0	0	0.000963	0.011951	1	1	0.135874
	20240818	0	0	5E-07	0	0.332105	0.427254	1	0.890446

Note: EPFU= *Eptesicus fuscus*, LABO= *Lasiurus borealis*, LACI= *Lasiurus cinereus*, LANO= *Lasionycteris noctivagans*, MYLE= *Myotis leibii*, MYLU= *Myotis lucifugus*, MYSE= *Myotis septentrionalis*, PESU= *Perimyotis subflavus*

Cells highlighted in gray indicate detector nights that did not meet suitable weather conditions as described in the Guidelines. Cells highlighted in blue are species calls/MLE considered by KPro to be present.

Detector nights beyond the required four passing weather nights are due to transportation logistics.

4 Appendices

Appendix A. Figures

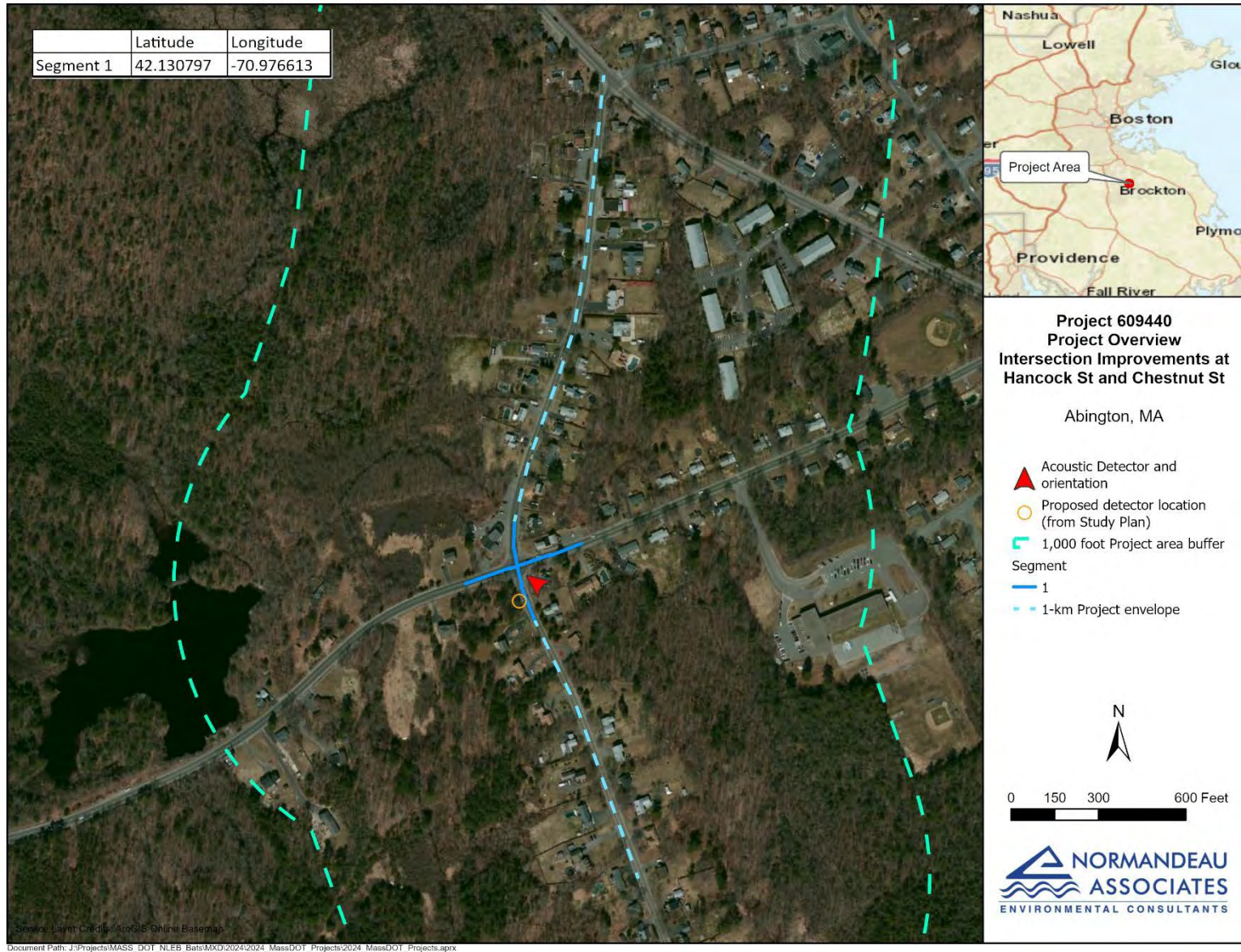


Figure A- 1 Overview of Project area showing 1-km survey segment for Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

Appendix B. Weather Data

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
8/7/2024																	
7	18:53	NE 3	10	Fair	CLR	70	61			73%			30.05	1017.6			
7	19:53	NE 3	10	Overcast	OVC120	69.1	60.1	73	68	73%			30.05	1017.6			
7	20:53	Calm	10	Fair	CLR	66.9	61			81%			30.07	1018.3			
7	21:53	Calm	10	Fair	CLR	64	60.1			87%			30.09	1018.7			
7	22:53	Calm	10	Fair	CLR	62.1	59			90%			30.09	1018.9			
7	23:53	Calm	10	A Few Clouds	FEW002	57	55.9			96%			30.09	1018.8			
8	0:53	Calm	0.75	Fog/Mist	CLR	55.9	54			93%			30.09	1018.9			
8	1:53	Calm	10	Partly Cloudy	SCT002	57	55	66	55	93%			30.09	1019			
8	2:53	Calm	1.5	Fog/Mist	FEW002	55.9	54			93%			30.1	1019.2			
8	3:53	Calm	0.5	Fog	VV001	55	54			96%			30.11	1019.6			
8	4:53	Calm	10	A Few Clouds	FEW003	53.1	51.1			93%			30.12	1019.8			
8	5:53	Calm	0.25	Fog	VV002	53.1	51.1			93%			30.14	1020.5			
8	6:53	Calm	10	Overcast	OVC080	59	55.9			90%			30.15	1021			
8/8/2024																	
8	18:53	NE 5	10	Overcast	OVC017	68	62.1			81%			30.18	1021.8			
8	19:53	NE 3	1.75	Fog/Mist	BKN030 OVC040	64.9	63	73.9	64.9	93%			30.18	1021.8			
8	20:53	Calm	10	Overcast	OVC014	66	63			90%			30.18	1021.8			
8	21:53	NE 3	10	Overcast	OVC008	66	64			93%			30.18	1021.8			
8	22:53	E 5	10	Overcast	BKN007 OVC014	66.9	64			91%			30.17	1021.5			
8	23:53	E 5	10	Overcast	OVC005	66	64			93%			30.16	1021.3			
9	0:53	NE 3	9	Overcast	OVC004	66	64			93%			30.15	1020.8			
9	1:53	E 6	3	Fog/Mist	OVC004	66	64	66.9	64.9	93%			30.13	1020.2			
9	2:53	NE 3	6	Fog/Mist	OVC003	66.9	64			91%			30.12	1019.8			
9	3:53	Calm	6	Fog/Mist	OVC005	66.9	64			91%			30.1	1019.3			
9	4:53	Calm	2.5	Fog/Mist	OVC005	66.9	64.9			93%			30.09	1018.7			
9	5:53	Calm	1.5	Fog/Mist	OVC003	66.9	64.9			93%			30.08	1018.5			

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
9	6:53	Calm	0.5	Fog	VV003	66.9	66			97%			30.07	1018.2			
8/9/2024																	
9	18:53	S 24 G 36	10	Overcast and Breezy	SCT026 BKN033 OVC050	82.9	73.9			74%		89	29.86	1011.1			
9	19:53	S 15 G 31	10	Overcast	BKN024 OVC032	82	75	88	82	79%		89	29.86	1011.2			
9	20:53	S 15 G 30	10	Overcast	BKN018 OVC024	80.1	75			85%		85	29.85	1010.8			
9	21:53	S 17 G 36	6	Overcast with Haze	BKN017 BKN033 OVC047	80.1	75			85%		85	29.85	1010.8			
9	22:53	S 16 G 29	10	Overcast	FEW014 BKN029 OVC035	80.1	75			85%		85	29.84	1010.5			
9	23:53	S 10 G 18	10	Overcast	SCT011 BKN019 OVC026	78.1	75			90%		81	29.83	1010.1			
10	0:53	S 10 G 22	10	Overcast	BKN018 BKN030 OVC070	79	75			88%		83	29.83	1010.2			
10	1:53	S 12 G 30	8	Overcast	FEW013 BKN040 OVC075	78.1	73.9	81	78.1	87%		81	29.82	1009.6			
10	2:53	S 8	10	Overcast	FEW080 OVC100	77	73			88%		78	29.8	1009			
10	3:53	S 7	5	Fog/Mist	BKN010 BKN046 OVC060	75.9	73			91%		76	29.8	1008.9			
10	4:53	S 6	2.5	Fog/Mist	BKN010 OVC017	77	73.9			90%		78	29.81	1009.2			
10	5:53	S 7	2	Fog/Mist	SCT009 BKN016 OVC038	77	73.9			90%		78	29.82	1009.8			
10	6:53	SW 7	9	Overcast	FEW008 BKN013 OVC048	77	73.9			90%		78	29.84	1010.5			
8/10/2024																	
10	18:53	W 9	10	Fair	CLR	82	57.9			44%		82	29.87	1011.3			

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
10	19:53	NW 6	10	A Few Clouds	FEW055	78.1	60.1	88	78.1	54%		79	29.88	1011.9			
10	20:53	Calm	10	Fair	CLR	70	62.1			76%			29.91	1012.7			
10	21:53	NW 3	10	Fair	CLR	69.1	63			81%			29.92	1013			
10	22:53	Calm	10	Fair	CLR	66	62.1			87%			29.92	1013.2			
10	23:53	Calm	10	Fair	CLR	64.9	62.1			90%			29.94	1013.7			
11	0:53	Calm	10	A Few Clouds	FEW070	64.9	61			87%			29.95	1014.3			
11	1:53	Calm	10	Overcast	OVC075	68	63	78.1	64.9	84%			29.96	1014.4			
11	2:53	Calm	10	Fair	CLR	63	60.1			90%			29.96	1014.3			
11	3:53	Calm	10	Mostly Cloudy	BKN065	63	60.1			90%			29.96	1014.6			
11	4:53	Calm	9	Fair	CLR	60.1	57.9			93%			29.97	1014.7			
11	5:53	Calm	10	Fair	CLR	61	57.9			90%			29.98	1015.1			
11	6:53	E 3	10	Fair	CLR	62.1	60.1			93%			29.99	1015.6			
8/11/2024																	
11	18:53	S 6	10	Fair	CLR	77	61			58%		79	29.91	1012.7			
11	19:53	S 5	10	Fair	CLR	73	61	82.9	73	66%			29.92	1013			
11	20:53	S 5	10	Fair	CLR	68	61			78%			29.93	1013.3			
11	21:53	SW 3	10	Fair	CLR	70	60.1			71%			29.93	1013.6			
11	22:53	SW 6	10	Fair	CLR	70	60.1			71%			29.94	1013.7			
11	23:53	W 10	10	Fair	CLR	69.1	60.1			73%			29.95	1014.2			
12	0:53	W 7	10	Fair	CLR	68	57.9			70%			29.95	1014.2			
12	1:53	Calm	10	Fair	CLR	64	57.9	73	63	81%			29.94	1013.7			
12	2:53	Calm	10	Fair	CLR	60.1	57			90%			29.93	1013.5			
12	3:53	SE 3	9	Fair	CLR	57	54			90%			29.94	1013.6			
12	4:53	Calm	10	Fair	CLR	60.1	55			84%			29.93	1013.5			
12	6:53	W 6	10	Fair	CLR	63	55.9			78%			29.95	1014.1			
8/12/2024																	
12	18:53	Calm	10	Partly Cloudy	SCT050 SCT065	66.9	64			91%			29.9	1012.5			
12	19:53	Calm	10	Mostly Cloudy	FEW050 SCT075 BKN090	66	64	80.1	66	93%			29.92	1013			

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
12	20:53	W 6	10	A Few Clouds	FEW050	68	63			84%			29.93	1013.4			
12	21:53	E 5	10	Fair	CLR	63	61			93%			29.94	1013.6			
12	22:53	Calm	10	Fair	CLR	63	61			93%			29.94	1013.7			
12	23:53	Calm	10	Fair	CLR	60.1	57.9			93%			29.94	1013.6			
13	0:53	Calm	10	Fair	CLR	61	57			87%			29.93	1013.5			
13	1:53	S 3	10	A Few Clouds	FEW002	57.9	55.9	69.1	55.9	93%			29.93	1013.4			
13	2:53	Calm	9	Fair	CLR	57.9	55			90%			29.92	1013.3			
13	3:53	S 5	10	Fair	CLR	55.9	53.1			90%			29.93	1013.5			
13	4:53	S 5	10	Fair	CLR	57.9	55.9			93%			29.94	1013.8			
13	5:53	Calm	5	Fog/Mist	CLR	57	54			90%			29.96	1014.3			
13	6:53	Calm	10	Fair	CLR	60.1	57			90%			29.96	1014.6			
8/13/2024																	
13	18:53	NW 5	10	Fair	CLR	78.1	60.1			54%	79		29.95	1014.2			
13	19:53	Calm	10	Fair	CLR	70	62.1	82.9	70	76%			29.96	1014.6			
13	20:53	Calm	10	Fair	CLR	66	61			84%			29.98	1015.2			
13	21:53	Calm	10	Fair	CLR	63	60.1			90%			29.99	1015.6			
13	22:53	Calm	8	Fair	CLR	62.1	60.1			93%			30	1015.9			
13	23:53	Calm	10	Fair	CLR	61	60.1			97%			30.01	1016			
14	0:53	Calm	0.25	Fog	VV003	59	57			93%			30	1015.9			
14	1:53	Calm	10	A Few Clouds	FEW003	57.9	55.9	66.9	57.9	93%			29.99	1015.6			
14	2:53	Calm	4	Fog/Mist	CLR	57.9	55.9			93%			29.99	1015.5			
14	3:53	Calm	0.25	Fog	VV003	57.9	55.9			93%			29.99	1015.4			
14	4:53	Calm	5	Fog/Mist	CLR	55.9	54			93%			30	1015.7			
14	5:53	Calm	1	Fog/Mist	VV003	55.9	54			93%			30	1016			
14	6:53	Calm	10	Fair	CLR	57	55			93%			30.02	1016.3			
8/14/2024																	
14	18:53	N 5	10	Fair	CLR	78.1	64			62%	80		30.02	1016.3			
14	19:53	Calm	10	Fair	CLR	72	64.9	86	72	79%			30.02	1016.7			
14	20:53	Calm	10	Fair	CLR	68	63			84%			30.05	1017.5			

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
14	21:53	Calm	8	Fair	CLR	64	62.1			93%			30.06	1017.7			
14	22:53	Calm	0.5	Fog	VV004	63	62.1			97%			30.05	1017.4			
14	23:53	Calm	0.25	Fog	VV003	61	59			93%			30.04	1017.1			
15	0:53	Calm	0.25	Fog	VV004	61	59			93%			30.04	1017.2			
15	1:53	Calm	0.25	Fog	VV004	60.1	57.9	71.1	59	93%			30.03	1016.8			
15	2:53	Calm	0.75	Fog/Mist	VV004	59	57.9			96%			30.02	1016.4			
15	3:53	Calm	4	Fog/Mist	SCT004	59	57			93%			30.01	1016.1			
15	4:53	Calm	0.5	Fog	VV005	60.1	57.9			93%			30	1015.9			
15	5:53	Calm	0.25	Fog	VV004	57.9	55.9			93%			30.02	1016.3			
15	6:53	Calm	6	Fog/Mist	CLR	59	57.9			96%			30.03	1016.9			
8/15/2024																	
15	18:53	Calm	8	Thunderstorm in Vicinity Rain	FEW110	68	64.9			90%			30.02	1016.5			
15	19:53	W 5	9	Thunderstorm in Vicinity Rain	BKN110	66.9	64	88	66	91%			30.02	1016.4			0.3
15	20:53	Calm	8	Thunderstorm in Vicinity Rain	OVC110	66.9	64			91%			30.03	1016.8			
15	21:53	NW 8	9	Thunderstorm in Vicinity Rain	SCT012 SCT060 BKN110	66	64			93%			30.06	1017.8			
15	22:53	Calm	6	Rain Fog/Mist	FEW065 SCT120	64.9	63			93%			30.04	1017.2	0.04	0.04	
15	23:53	Calm	4	Rain Fog/Mist	CLR	64.9	63			93%			30.04	1017.2			
16	0:53	Calm	0.5	Rain Fog	SCT010 BKN065	64	62.1			93%			30.04	1017.2			
16	1:53	Calm	1.25	Rain Fog/Mist	BKN006 OVC042	63	61	66.9	61	93%			30.04	1017.2			0.04
16	2:53	SE 3	0.25	Rain Fog	VV008	59	57.9			96%			30.03	1016.8	0.01		
16	3:53	Calm	1.5	Rain Fog/Mist	OVC005	63	61			93%			30.04	1017.1			
16	4:53	Calm	0.5	Rain Fog	VV003	63	61			93%			30.04	1017		0.01	
16	5:53	Calm	0.5	Rain Fog	OVC005	64	62.1			93%			30.05	1017.5			
16	6:53	Calm	3	Rain Fog/Mist	OVC006	64.9	63			93%			30.06	1017.8			
8/16/2024																	

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
16	18:53	E 3	10	Fair	CLR	72	64			76%			30.06	1017.8			
16	19:53	E 3	9	Fair	CLR	68	63	79	68	84%			30.07	1018.2			
16	20:53	E 3	9	Fair	CLR	66.9	63			87%			30.08	1018.4			
16	21:53	Calm	5	Fog/Mist	CLR	64.9	62.1			90%			30.08	1018.7			
16	22:53	Calm	0.75	Fog/Mist	VV011	63	61			93%			30.09	1018.7			
16	23:53	Calm	0.25	Fog	BKN008 OVC028	61	59			93%			30.09	1018.8			
17	0:53	Calm	0.5	Fog	VV008	59	57			93%			30.08	1018.5			
17	1:53	Calm	7	Fair	CLR	59	57	66.9	57.9	93%			30.08	1018.5			
17	2:53	Calm	0.5	Fog	FEW014 BKN029	59	57.9			96%			30.08	1018.5			
17	3:53	Calm	0.25	Fog	VV006	60.1	57.9			93%			30.07	1018.1			
17	4:53	Calm	5	Fog/Mist	SCT013 BKN029	60.1	59			96%			30.07	1018.1			
17	5:53	Calm	0.5	Fog	VV002	63	61			93%			30.07	1018.3			
17	6:53	Calm	0.25	Fog	VV002	63	62.1			97%			30.07	1018.3			
8/17/2024																	
17	18:53	SE 6	10	Fair	CLR	73	66			79%			30	1015.7			
17	19:53	SE 5	10	Fair	CLR	70	66	79	70	87%			30	1015.9			
17	20:53	Calm	9	Fair	CLR	68	64			87%			30.01	1016.3			
17	21:53	SE 3	8	Fair	CLR	66	63			90%			30.01	1016.3			
17	22:53	Calm	7	A Few Clouds	FEW013	66	63			90%			30.01	1016.3			
17	23:53	Calm	7	Mostly Cloudy	BKN014	66	63			90%			30.02	1016.5			
18	0:53	SE 3	8	Overcast	OVC014	66	63			90%			30.01	1016.1			
18	1:53	Calm	9	Overcast	OVC016	66.9	63	70	64	87%			30	1015.7			
18	2:53	Calm	9	Overcast	OVC013	68	63			84%			29.99	1015.3			
18	3:53	Calm	9	Overcast	OVC011	68	63			84%			29.99	1015.3			
18	4:53	Calm	8	Overcast	OVC008	66.9	64			91%			29.98	1015.2			
18	5:53	Calm	5	Fog/Mist	OVC006	66.9	64			91%			29.99	1015.3			
18	6:53	Calm	2.5	Fog/Mist	OVC006	66.9	64			91%			29.99	1015.4			
8/18/2024																	

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond. ^a	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					Altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min								
18	18:53	SE 6	8	Overcast	OVC085	73	68			84%			29.86	1011.1			
18	19:53	SE 3	9	Overcast	OVC080	72	68	75.9	72	87%			29.86	1011.2			
18	20:53	SE 6	8	Partly Cloudy	FEW075 SCT100	71.1	66.9			87%			29.86	1011.1			
18	21:53	SE 3	8	Mostly Cloudy	FEW013 SCT075 BKN090	70	66.9			90%			29.86	1010.9			
18	22:53	Calm	7	Mostly Cloudy	BKN008	70	66.9			90%			29.85	1010.8			
18	23:53	Calm	6	Fog/Mist	FEW047	69.1	66.9			93%			29.84	1010.5			
19	0:53	E 3	4	Fog/Mist	FEW026 BKN045 OVC110	69.1	66.9			93%			29.82	1009.7			
19	1:53	SE 3	4	Fog/Mist	CLR	69.1	66.9	72	68	93%			29.79	1008.6			
19	2:53	E 5	5	Fog/Mist	BKN007 BKN036 BKN110	70	68			93%			29.77	1008.1			
19	3:53	Calm	4	Fog/Mist	BKN006 BKN060 OVC110	70	68			93%			29.76	1007.6			
19	4:53	Calm	6	Fog/Mist	FEW015 OVC025	70	68			93%			29.75	1007.5			
19	5:53	NE 3	5	Fog/Mist	BKN011 BKN120	70	68			93%			29.74	1007.1			
19	6:53	Calm	6	Fog/Mist	FEW008 FEW016 BKN110	71.1	68			90%			29.74	1007.1			

Note: NA is a National Weather Service designation and is believed to refer to values that are negligible and/or below the detection limit for the given parameter

Source: Weather.gov

a CLR: Sky clear; FEW: Few, 1/8-2/8 of sky covered; SCT: Scattered, 3/8-4/8 of sky covered BKN: Broken, 5/8-7/8 of sky covered; OVC: Sky completely covered; Three digits represent the height of the cloud layer in hundreds of feet

Appendix C. Photos of Detector Set-up & Habitat

#609440, Intersection Improvements at Hancock Street and Chestnut Street Bat Presence/Probable Absence Acoustic Survey MassDOT Project District 5



Figure C-1. Project 609440, Segment 1: Detector Set up



Figure C-2. Project 609440, Segment 1: Cone of Detection



Figure C-3. Project 609440, Segment 1: Detector Facing North



Figure C-4. Project 609440, Segment 1: Detector Facing East

#609440, Intersection Improvements at Hancock Street and Chestnut Street Bat Presence/Probable Absence Acoustic Survey MassDOT Project District 5



Figure C-5. Project 609440, Segment 1: Detector Facing South



Figure C-6. Project 609440, Segment 1: Detector Facing West



Figure C-7. Project 609440, Segment 1: Fire damaged house behind hedge row

Appendix D. Field Data Sheet

Field Notes – Project #609440, Segment 1 (August 7, 2024)

Deployment Details

Observers:	Emma Baron, Avery McClain, Colleen Clausen	Project Number:	609440
Deployment Date:	August 7, 2024	Segment/Location:	1
Deployment Time:	10:40		
Comments:	Shrub hedge 5' behind mic. Metal pole 10' away		

Equipment Details

Detector Number:	19
Detector Type:	SM4 Bat FS (omnidirectional)
Mic Number:	19
Mic Type:	SMM-U2 Ultrasonic Microphone
SD Card number (Slot A):	10
SD Card number (Slot B):	13
Approximate Latitude:	42.1307738934061
Approximate Longitude:	-70.9766116765534



Detector placement details

Detector Height:	12 ft (3.6 m)	Detector Horizontal Orientation:	308
Height of ground-level vegetation (m):	1	Detector vertical orientation (0= parallel with ground):	Less than 10
Horizontal distance to nearest vegetation/ obstruction (m):	1	Is detector parallel to woodland edge?	No
Is detector 10+ ft from clutter?	No	Clutter explanation, if applicable:	Shrub line behind detector 5 ft away
Is detector 49+ ft from potential roost(s)?	Yes	Roost explanation, if applicable:	
Is detector 200+ m from other detectors?	Yes	Spacing explanation, if applicable:	
Is detector location consistent with study plan?	No	Study plan explanation, if applicable:	Opposite side of the road for clear overhead space
Weatherproofing used?	No		
Ambient noise considered during placement?		Yes, loud road	
Excessive noise observed or suspected at deployment?		Suspected, particularly during daylight hours	
Source of excessive background noise?		Interstate or major state route	
Call reflections considered during deployment?		Yes, metal pole about 10' away	

Habitat Details

Surrounding habitat/land use:	Developed roadways, High density residential
Suitable habitat present for NLEB/TCB?	Building, barn, bridge, bat house
Average DBH for tree strata (approx. 100')	6

Tree Species	Tree Features	Tree DBH	Dominant species?	Tree Comment
Japanese maple (<i>Acer palmatum</i>)	None	8	No	Multiple trunked tree in a yard
Northern red oak (<i>Quercus rubra</i>)	Crack	5	No	
White pine (<i>Pinus strobus</i>)	None	12	Yes	
Black cherry (<i>Prunus serotina</i>)	Exfoliating bark	4	No	
Norway maple (<i>Acer platanoides</i>)	None	6	Yes	Secondary dominant

Appendix E. Summary of Call Analyst's Findings

This appendix summarizes the findings of the manual call analysis, by location. As required by the USFWS Guidelines, if KPro indicates probable presence of NLEB with high levels of certainty (MLE/p-value(s) <0.05) for any site night, all high frequency (>35 kHz) call passes recorded for that site night at that location are required to be examined by a qualified call analyst.

Additionally, if the MLE is >0.05 for all site nights and ten or more passes are auto identified as potentially belonging to TCB at any site night, manual vetting is necessary for linear projects or presence for TCB should be assumed. Manual review confirms or refutes species identified by KPro when the call quality allows for such determinations. Some call passes, however, are determined by the analyst as 'Unkn HiFreq' 'Multi_Unkn', or 'No ID'. These passes are generally of poor quality and/or contain characteristics for multiple species of interest. Because of this ambiguity, these call passes cannot be ruled out as belonging to state and/or federally listed species. Additionally, call sequences should be identified during search phase. However, often, the call passes collected are only in approach phase or show a feeding buzz. In these instances, the call parameters can meet certain criteria but may not accurately represent the species that made the call. Ultimately, presence of federal species as indicated by the guidelines requires visual confirmation, therefore, unless the acoustic analyst can make a definitive identification of the species through its call sonogram(s), the species is considered not present within the Project area. In the following table, the call passes confirmed through manual review as state listed species calls (MYLE, MYLU, and PESU) are highlighted in green. Call passes confirmed as federally listed species (NLEB) are highlighted in orange. Zero site nights meeting MLE standards for probable presence of NLEB were auto-identified by Kaleidoscope Pro software. State listed species calls were reviewed as requested by MassDOT according to the parameters in Section 2.

#609440, Intersection Improvements at Hancock Street and Chestnut Street
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Bat Presence/Probable Absence

Table E-1. Summary of the call analyst's findings at Segment 1 for Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

Date, Time	Kpro ID	Analyst ID	Analyst Notes, Conclusions
08/07/2024 19:53:10	MYLU	Noise	
08/07/2024 20:20:11	MYLU	Noise	
08/07/2024 20:43:52	PESU	Noise	
08/07/2024 21:02:41	PESU	Noise	
08/07/2024 21:08:51	MYLU	Noise	
08/07/2024 21:56:18	PESU	Noise	
08/07/2024 22:06:51	MYLU	Noise	
08/07/2024 22:26:10	PESU	Noise	
08/07/2024 22:59:10	MYLE	Noise	
08/07/2024 23:01:30	PESU	Noise	
08/07/2024 23:58:00	MYLU	Noise	
08/08/2024 00:16:49	MYLU	MYLU	
08/08/2024 04:55:27	MYSE	MYLU	buzz id'ed as MYSE
08/08/2024 04:55:51	PESU	PESU	
08/08/2024 05:49:22	MYLU	Noise	
08/08/2024 05:57:38	MYLU	Noise	
08/08/2024 19:32:48	MYLU	Noise	
08/08/2024 19:45:39	MYLU	Noise	
08/08/2024 19:51:50	PESU	Noise	
08/08/2024 19:56:48	PESU	Noise	
08/08/2024 20:15:18	PESU	PESU	
08/08/2024 20:36:04	MYSE	MYLU	
08/08/2024 21:14:14	MYLU	Noise	
08/08/2024 22:56:48	PESU	Noise	
08/09/2024 00:36:56	MYLU	PESU/MYLU	Approach so not ideal for ID
08/09/2024 02:46:49	PESU	PESU	
08/09/2024 19:32:40	MYLU	Noise	
08/09/2024 19:59:27	PESU	Noise	
08/09/2024 20:31:26	PESU	PESU	
08/09/2024 20:42:54	PESU	Noise	
08/09/2024 21:30:15	MYLU	Noise	
08/09/2024 21:31:00	MYLU	Noise	
08/09/2024 21:44:37	MYLU	PESU/LABO	
08/09/2024 22:31:44	PESU	PESU	
08/09/2024 23:56:42	MYLE	Noise	
08/10/2024 19:38:17	MYLU	Noise	
08/10/2024 19:39:58	MYLU	Noise	
08/10/2024 19:43:34	MYLU	Noise	
08/10/2024 20:26:10	PESU	PESU	
08/10/2024 20:28:17	PESU	PESU	

#609440, Intersection Improvements at Hancock Street and Chestnut Street
Acoustic Survey MassDOT Project District 5

Bat Presence/Probable Absence

Date, Time	Kpro ID	Analyst ID	Analyst Notes, Conclusions
08/10/2024 20:30:38	PESU	Noise	
08/10/2024 20:32:26	PESU	Noise	
08/10/2024 21:35:33	MYLU	PESU/LABO	leaning towards PESU, EPFU present as well
08/10/2024 21:52:29	PESU	Noise	
08/10/2024 22:31:36	MYLU	MYLU	
08/10/2024 23:20:24	PESU	LABO	
08/11/2024 00:12:26	MYLU	MYLU	
08/11/2024 00:16:30	MYLU	MYLU	
08/11/2024 01:28:19	MYLU	MYLU	
08/11/2024 04:35:26	PESU	Noise	
08/11/2024 05:36:45	PESU	Noise	
08/11/2024 19:47:57	PESU	Noise	
08/11/2024 20:39:39	PESU	PESU	
08/11/2024 20:43:20	MYLU	Noise	
08/11/2024 21:07:48	PESU	PESU	
08/11/2024 21:59:53	PESU	Noise	
08/11/2024 22:04:18	PESU	PESU	
08/11/2024 22:19:00	PESU	Noise	
08/11/2024 22:24:07	PESU	Noise	
08/12/2024 00:06:33	PESU	PESU	
08/12/2024 01:33:25	PESU	PESU	
08/12/2024 02:02:55	MYLU	MYLU	
08/12/2024 02:36:15	PESU	PESU	
08/12/2024 02:52:59	PESU	PESU	
08/12/2024 04:16:34	PESU	PESU	
08/12/2024 04:47:17	MYLU	Noise	
08/12/2024 04:56:31	MYLU	Noise	
08/12/2024 05:02:50	MYLU	Noise	
08/13/2024 20:17:41	PESU	PESU	
08/13/2024 20:23:00	MYLU	Noise	
08/13/2024 20:27:42	MYLU	Noise	
08/13/2024 21:19:37	PESU	PESU	
08/13/2024 21:47:43	PESU	Noise	
08/13/2024 21:54:16	PESU	Noise	
08/13/2024 22:43:13	MYLU	LABO	
08/13/2024 23:15:17	PESU	Noise	
08/13/2024 23:27:36	MYLU	MYLU	
08/14/2024 02:56:08	MYLU	MYLU	
08/14/2024 05:45:28	PESU	Noise	
08/14/2024 05:51:43	MYLU	Noise	
08/14/2024 19:46:08	MYLU	Noise	
08/14/2024 19:52:38	PESU	Noise	

#609440, Intersection Improvements at Hancock Street and Chestnut Street
Acoustic Survey MassDOT Project District 5

Bat Presence/Probable Absence

Date, Time	Kpro ID	Analyst ID	Analyst Notes, Conclusions
08/14/2024 20:08:10	PESU	Noise	
08/14/2024 21:21:11	MYLU	MYLU	
08/14/2024 21:32:08	MYLU	MYLU	
08/14/2024 21:37:15	MYLE	Noise	
08/14/2024 22:10:24	PESU	Noise	
08/14/2024 23:44:39	PESU	PESU	
08/14/2024 23:54:05	MYLU	Noise	
08/15/2024 00:31:03	MYLU	MYLU	
08/15/2024 00:50:55	MYLU	MYLU	
08/15/2024 02:10:45	MYLU	MYLU	
08/15/2024 02:51:25	MYLU	MYLU	
08/15/2024 03:28:14	PESU	PESU	
08/15/2024 04:21:49	MYLU	MYLU	
08/15/2024 05:27:16	PESU	PESU	
08/15/2024 05:51:47	PESU	Noise	
08/16/2024 01:36:13	MYLE	MYLU/MYLE	not great quality, leaning towards MYLU
08/16/2024 19:43:38	MYLU	Noise	
08/16/2024 20:42:30	PESU	Noise	
08/16/2024 20:53:04	MYLU	Noise	
08/16/2024 21:00:21	MYLU	Noise	
08/16/2024 21:05:51	MYLU	Noise	
08/16/2024 21:15:34	PESU	Noise	
08/16/2024 21:19:28	MYLU	Noise	
08/16/2024 21:25:21	MYLU	Noise	
08/16/2024 21:50:30	PESU	PESU	
08/16/2024 23:37:02	MYLU	Noise	
08/17/2024 00:22:58	PESU	PESU	
08/17/2024 00:40:34	MYLU	MYLU	
08/17/2024 00:57:10	PESU	PESU/LABO	
08/17/2024 01:24:54	MYLU	MYLU	
08/17/2024 02:16:12	MYLU	MYLU	
08/17/2024 05:21:09	PESU	PESU	
08/17/2024 05:40:50	MYLU	Noise	
08/17/2024 05:44:04	MYLE	Noise	
08/17/2024 19:40:52	PESU	Noise	
08/17/2024 19:48:36	MYLU	Noise	
08/17/2024 20:14:14	PESU	PESU	
08/17/2024 20:18:29	PESU	Noise	
08/17/2024 20:21:51	PESU	Noise	
08/17/2024 20:37:12	MYLU	Noise	
08/17/2024 20:51:56	PESU	PESU	
08/17/2024 21:26:02	MYLU	Noise	

#609440, Intersection Improvements at Hancock Street and Chestnut Street
Acoustic Survey MassDOT Project District 5

Bat Presence/Probable Absence

Date, Time	Kpro ID	Analyst ID	Analyst Notes, Conclusions
08/17/2024 21:26:20	MYLE	Noise	
08/17/2024 22:16:25	PESU	PESU	
08/17/2024 22:58:11	PESU	Noise	
08/17/2024 23:19:06	MYLU	MYLU	
08/17/2024 23:26:24	PESU	Noise	
08/17/2024 23:29:21	MYLE	Noise	
08/18/2024 00:35:31	MYLU	MYLU	
08/18/2024 01:04:21	PESU	PESU	
08/18/2024 01:04:35	PESU	PESU	
08/18/2024 01:22:14	PESU	LABO	
08/18/2024 01:43:09	PESU	PESU	
08/18/2024 02:40:23	PESU	Noise	
08/18/2024 02:40:29	PESU	Noise	
08/18/2024 04:28:29	PESU	PESU	
08/18/2024 04:51:01	MYLU	MYLU	
08/18/2024 05:12:19	PESU	PESU	
08/18/2024 19:40:49	PESU	Noise	
08/18/2024 20:13:13	PESU	PESU	
08/18/2024 20:13:30	PESU	PESU	
08/18/2024 20:17:36	MYLU	Noise	
08/18/2024 20:30:00	MYLU	MYLU	
08/18/2024 20:35:33	MYLU	Noise	
08/18/2024 20:37:51	PESU	Noise	
08/18/2024 20:48:27	MYLU	Noise	
08/18/2024 20:52:38	PESU	PESU	
08/18/2024 21:50:43	MYLU	Noise	
08/18/2024 22:06:06	PESU	LABO	
08/18/2024 22:09:31	PESU	PESU	
08/18/2024 22:13:23	PESU	PESU	
08/18/2024 22:17:52	MYLU	Noise	
08/18/2024 22:19:48	PESU	PESU	
08/18/2024 22:39:09	MYLU	MYLU	
08/19/2024 01:22:14	MYLU	Noise	
08/19/2024 02:02:27	MYLU	MYLU	
08/19/2024 02:23:45	MYLU	PESU/LABO	leaninf towards PESU, 2 individuals
08/19/2024 04:24:36	MYLU	MYLU	
08/19/2024 04:27:22	PESU	PESU	
08/19/2024 05:41:45	PESU	Noise	
08/19/2024 05:42:45	MYLE	Noise	

Appendix F. Screen Capture(s) of Representative Calls from Qualitative Analysis

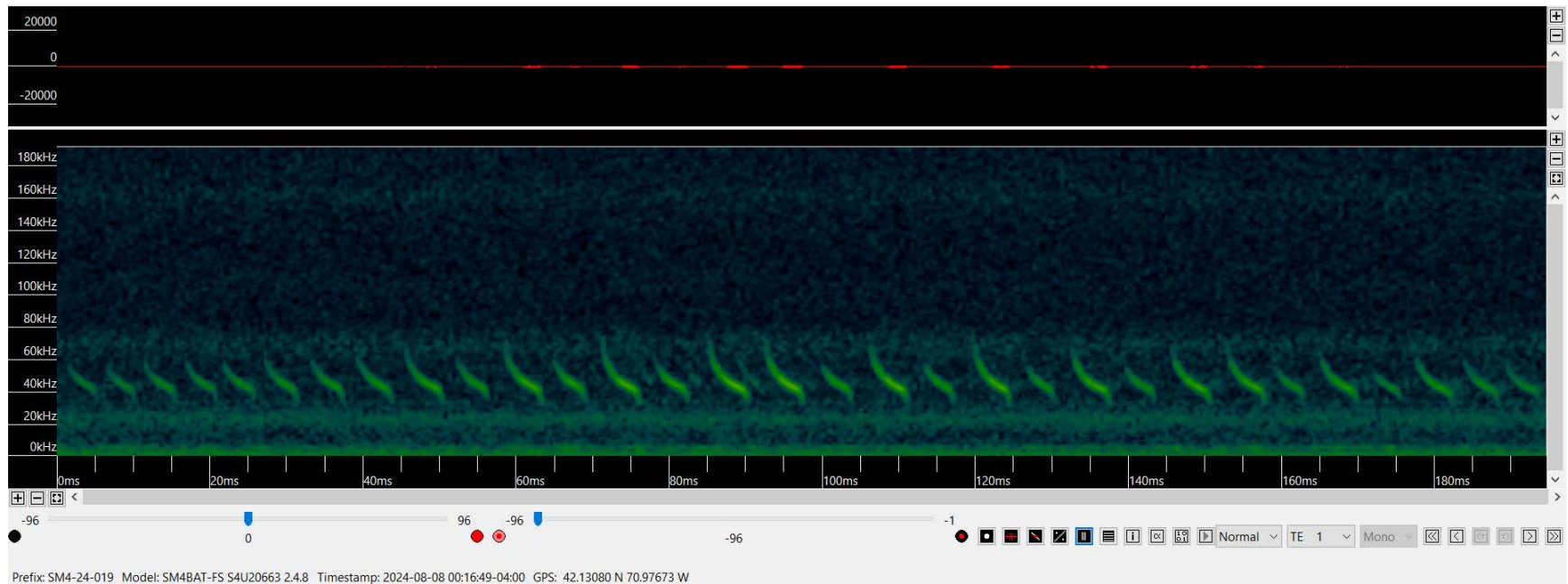


Figure F-1 MYLU, compressed view, Segment 1 for Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

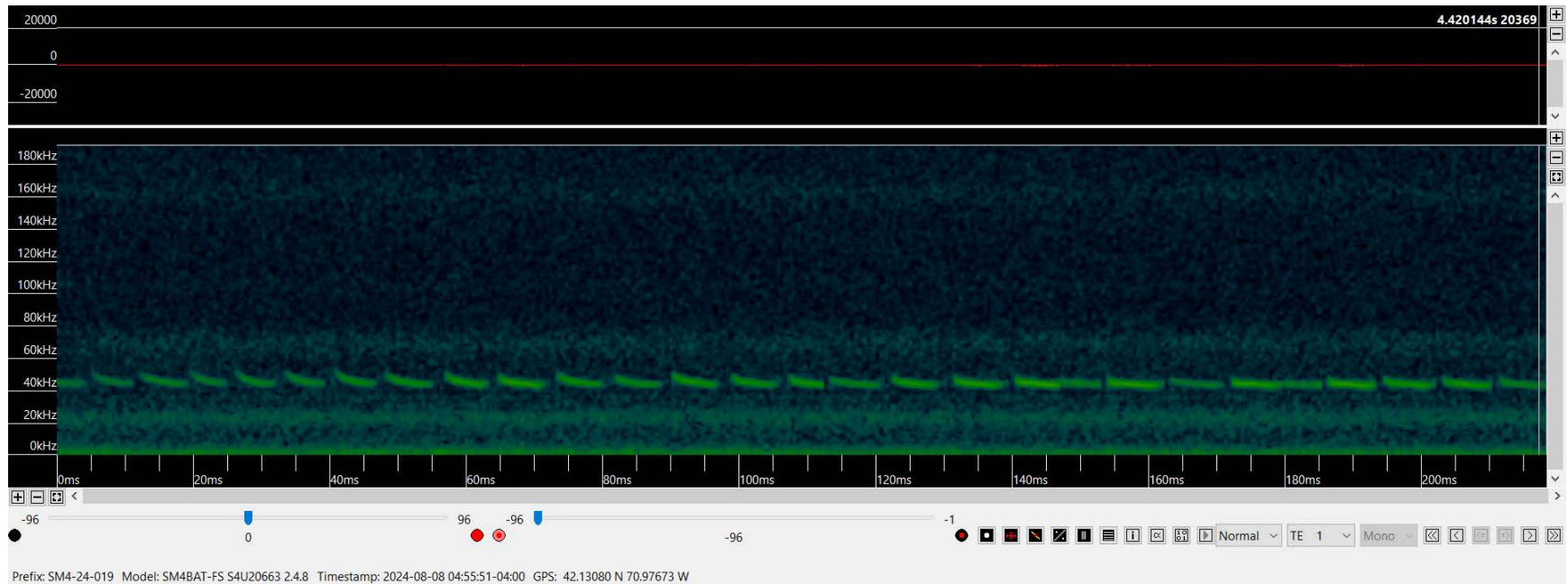


Figure F-2 PESU, compressed view, Segment 1 for Project #609440, Intersection Improvements at Hancock Street and Chestnut Street (Abington)

Appendix G. Resumes



ERAN AMICHAÏ, Ph.D.

Senior Bat Biologist

Dr. Amichai is an expert in bat biology and conservation, bioacoustics, field study design, and animal behavior. He is experienced with various survey techniques of bats, birds, terrestrial mammals, and reptiles. His research focuses on bioacoustics and other sensory biology tools to understand animal behavior and movement ecology. In addition to research, Dr. Amichai has more than 10 years of experience in bat conservation on a national scale in Israel, including monitoring and policy advising and planning for conservation and wind energy mitigation policies. His extensive skill set includes studying bats in the offshore wind energy environment using acoustics, thermal imagery, and visual identification.

REPRESENTATIVE PROJECT EXPERIENCE

Coastal Virginia Offshore Wind Bird and Bat Acoustic and Thermographic Offshore Monitoring, Dominion Energy (2023–Present). Collaborated with a diverse team of scientists to analyze bat data collected with the latest version of ATOM™ (Acoustic and Thermographic Offshore Monitoring), a remote bird and bat detection system designed for the harsh offshore environment. In addition to the previous version's acoustic and thermographic detectors, the new system includes a fisheye visible light camera, and a MOTUS antenna for detecting birds fitted with a NanoTag. The system records birds and bats 24 hours/day during the detection period, and data is remotely transmitted to our offices for analysis and reporting. Senior Bat Biologist.

Bat Use of Buildings Survey in Saint Gaudens National Historic Park (2023). Planned physical and acoustic surveys of bat presence in and use of historic buildings scheduled for maintenance in a National Historic Park. Managed a team of scientists and prepared a report for the NPS. Principal Scientist, Project Manager.

Manual Vetting of Bat Recordings, Illinois (2023). Manual ID of federally listed bat species from acoustic recordings for the NPS following USFWS guidelines for listed species and using a variety of approved, cutting-edge software to verify the presence of listed and candidate species in the Great Lakes area. Principal Scientist, Project Manager.

Manual Vetting of Bat Recordings, Massachusetts (2023). Manual ID of federally listed bat species from acoustic recordings for the Department of Transportation following USFWS guidelines for listed species and using a variety of approved, cutting-edge software to verify the presence of listed and candidate species in Massachusetts. Principal Scientist.

New Hampshire Department of Energy: Deployment of Offshore Wind in the Gulf of Maine – New Hampshire Impact Assessment (2022–present). Bats section: risk assessment and current state of knowledge with regards to bats and offshore wind energy in New England. Scientific literature review and dissemination to be used by BOEM for offshore wind area siting. Senior Bat Biologist.

Israel's Long-Term National Bat Monitoring and Conservation Program (2013–2018). Planning of nation-wide, annual (open-ended) bat monitoring strategy: site prioritization, government rangers training, multi-year

EDUCATION

Ph.D., Zoology, Tel Aviv University, Tel Aviv, Israel

M.Sc., Ecology & Environmental Quality, Tel Aviv University, Tel Aviv, Israel

B.Sc., Biology, Tel Aviv University, Tel Aviv, Israel

PROFESSIONAL EXPERIENCE

2022–Present Normandeau Associates

2019–2023 Dartmouth College

2009–2019 Tel Aviv University, Israel

2009–2019 The Society for the Protection of Nature in Israel

PROFESSIONAL AFFILIATIONS

- North American Society of Bat Research
- The Wildlife Society
- Ecological Society of America
- Animal Behavior Society
- New York Academy of Sciences
- International Society of Neuroethology
- Zoological Society of Israel



scheduling, creation of work practices and protocols, formalizing reporting structure and derivative conservation strategies. Acoustic Analyst, Data Scientist, Project Manager, Author.

Anthropogenic Effects in the Dead Sea Region: Bats as Bioindicators (2015–2017). Project manager, study design, acoustic analyst, data scientist, final report author

Israel Taxonomic Initiative: An Attempt to Resolve Bat Taxonomy (2009–2011). Field work manager, study design, data collection, final report author

REPRESENTATIVE RELEVANT EXPERIENCE: BATS AND WIND ENERGY

NYSDA Metocean Buoys. Offshore buoy and boat-based bat acoustic recordings in the Hudson Bay Area: familiarity with data, application of data for dissemination of knowledge.

Dominion Energy ATOM Project. Offshore wind turbine acoustic recordings and thermal imagery of bats off the Virginia coastline: image identification, familiarity with data, application of data for dissemination of knowledge.

Various Wind Energy Projects in Israel (2010–2018). Terrestrial wind energy facilities: preconstruction impact assessment surveys (acoustic, physical, & literature) planning, performing, and reporting.

SELECTED PEER-REVIEWED PUBLICATIONS

Amichai, E., Boerma, D. B., Page, R. A., Swartz, S. M. & ter Hofstede, H. (2023). By a whisker: the sensory role of vibrissae in hovering flight in nectarivorous bats. *Proceedings of the Royal Society B* 290, 20222085, <http://doi.org/10.1098/rspb.2022.2085>

Amichai, E., & Yovel, Y. (2021). Echolocating bats rely on an innate time reference. *Proceedings of the National Academy of Sciences* 118 (19), <https://doi.org/10.1073/pnas.2024352118>

Boonman, A.*, Rieger, I.*, **Amichai, E.***, Greif, S.*, Eitan, O., Goldshtein, A. & Yovel, Y. (2020). Echolocating bats adjust sensory acquisition based on internal cues. *BMC Biology*. 18, 166, <https://doi.org/10.1186/s12915-020-00904-2> *equal first authorship

Hoyt, J. R., [et al, including **Amichai, E.**] (2020). Environmental reservoir dynamics predict global infection patterns and population impacts for the fungal disease white-nose syndrome. *Proceedings of the National Academy of Sciences* 117, 7255-7262, <https://doi.org/10.1073/pnas.1914794117>

Amichai, E., Kronfeld-Schor, N. (2019). Artificial light at night promotes activity throughout the night in nesting common swifts (*Apus apus*). *Scientific Reports* 9, 11052, <https://doi.org/10.1038/s41598-019-47544-3>

Amichai, E., Blumrosen, G. & Yovel, Y. (2015). Calling louder and longer: how bats use biosonar under severe acoustic interference from other bats. *Proceedings of the Royal Society B* 282, 1821, <https://doi.org/10.1098/rspb.2015.2064>

Amichai, E., Levin, E., Kronfeld-Schor, N., Roll, U. & Yom-Tov, Y. (2013). Natural history, physiology and energetic strategies of *Asellia tridens* (Chiroptera). *Mammalian Biology* 78, 94-103, <https://doi.org/10.1016/j.mambio.2012.06.006>

SELECTED TECHNICAL REPORTS

Amichai, E., Taub, M., Talmon, I., & Yedvab, S. **Anthropogenic effects on the Dead Sea region ecology-bats as bioindicators.** Commissioned by the Israel Ministry for Environmental Protection & the Israel Nature and Parks Authority. (2018) [English abstract](#) [Hebrew full text](#)



Amichai, E., Yedvab, S., Dolev, A., et al. National Monitoring Plan for Israel's Bat Species: Insectivorous bat survey in Israel 2014. Commissioned by the Israel Nature and Parks Authority. (2015) [*Full text with English abstract*](#)

Amichai, E. & Dolev, A. Insectivorous bat survey in the Judean Hills. Commissioned by the Israel Nature and Parks Authority (2013).



JAMIE L. O'BRIEN, NH CWS, CWB®

Senior Wetland Scientist/Wildlife Biologist

Ms. O'Brien is a certified wetland scientist and certified wildlife biologist® with over ten years of professional experience in wildlife research, conservation, and natural resource management and permitting throughout New England. Her projects have emphasized protecting and managing threatened and endangered species, assessing environmental impacts, regulating and managing natural resources and wildlife, and ensuring Federal Endangered Species Act compliance. Ms. O'Brien is adept at using visual and auditory clues to identify species and is certified at Level III for track and sign. In addition to her field skills, Ms. O'Brien possesses a strong foundation in project planning and implementation, project management and organization, and data analysis and quality control. She is a GIS Analyst and SAS Programmer, competent in working with and running analysis on large datasets. She is skilled at quality control procedures that involve the integrity and quality of data and the generation of final data deliverables.

REPRESENTATIVE PROJECT EXPERIENCE

MaineDOT bat acoustic vetting, Statewide, ME (2023-present).

The Maine Department of Transportation contracted with Normandeau to perform manual vetting of bat acoustic calls consistent with the United States Fish and Wildlife Service 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines, which require review of all high frequency call files from any site night analysis software identified northern long-eared bat presence was likely. Ms. O'Brien coordinated file transfer, call review, and reporting. Project manager.

NHDOT Wetlands On-Call Services. Bat Acoustic Surveys. Statewide (2023-present). NHDOT contracted with Normandeau under their Wetlands On-call Services agreement to perform bat acoustic surveys for five projects during 2023. Ms. O'Brien oversaw reporting, manual vetting of calls, and submittal of deliverables for these projects. Biologist.

MassDOT Statewide Northern Long-eared Bat Surveys, Parsons Brinkerhoff, MA (2016-present). In support of over 70 MassDOT projects, Normandeau has conducted acoustic surveys every year since 2016 for the state and federally listed northern long-eared bat. Ms. O'Brien is assisting with Northern long-eared bat surveys, which involve deployment and retrieval of acoustic detectors, weather recording, habitat characterization, and reporting. She is also coordinating field efforts and project logistics as well as report writing and deliverables. Project Manager.

National Park Service. Saint-Gaudens National Historic Park. Cornish, NH (2023). Ms. O'Brien conducted bat acoustic surveys and visual tree inspection surveys for bat presence in and around historic buildings scheduled for maintenance in a National Historic Park. Tree inspections were performed on seven trees scheduled for removal or limbing to accommodate building maintenance. Biologist.

EDUCATION

M.S.E.S., Applied Ecology, Indiana University, Bloomington

M.P.A., Environmental Policy and Natural Resource Management, Indiana University, Bloomington

B.A., (cum laude) Biology, Saint Anselm College

PROFESSIONAL EXPERIENCE

2013-Present Normandeau Associates
2011-2013 USFWS, Umbagog NWR
2012 Ducks Unlimited, Inc.

U.S. Great Lakes Region
2009-2011 Office of Sustainability, Indiana University, Bloomington

Fall 2011 USFWS, Big Oaks NWR
Summer 2008 Office of Sustainability, Dickinson College

PROFESSIONAL CERTIFICATIONS

- NH Certified Wetland Scientist #329
- Certified Wildlife Biologist®
- CyberTracker Level III Track and Sign – Maine DIFW Credentialed Vernal Pool Observer
- NH Qualified Biologist

PROFESSIONAL AFFILIATIONS

- New Hampshire Audubon
- New Hampshire Association of Natural Resource Scientists



Vermont Agency of Transportation (VTrans), Acoustic Bat Surveys, Burlington-Winooski, VT (2023). DuBoise & King subcontracted with Normandeau to support VTrans with bat acoustic surveys near Winooski bridge. Ms. O'Brien ran preliminary data results, oversaw reporting, manual vetting of calls, and submittal of deliverables. Biologist.

NHDOT Bridge Preservation of Manchester and Hooksett Bridges. HNTB Corporation. Manchester, NH (2019-2023). This Project includes preliminary design, public involvement process, final design, and associated environmental and cultural services for the bridge preservation of five bridges in Manchester and Hooksett, NH. Environmental efforts are needed to prepare and complete all appropriate environmental documentation including cultural resource investigations and permitting, to satisfy NEPA and state requirements. Ms. O'Brien performed wetland delineations, GIS mapping, bridge surveys for roosting bats, and CE documentation for both the northbound and southbound portions of this project. Additionally, she oversaw bat acoustic survey manual vetting and project reporting. Biologist/GIS Analyst.

Errol Hydroelectric Dam Relicensing, Gomez and Sullivan Engineers, NH and ME (2018-2021). Normandeau is providing natural resource support for a hydroelectric relicensing project at the Errol Dam in Errol, NH. Ms. O'Brien is preparing cost proposals, study plans, reports, and figures, and writing sections and completing analysis for the Botanical Resource Assessment, Leonard Marsh and Harper's Meadow vegetation study, and Bat Acoustic study. She completed cover type mapping based on aerial imagery for the study area, focusing on emergent and submerged aquatic vegetation cover types and conducted some of the field analysis for the Leonard Marsh and Harper's Meadow vegetation study. Assistance Project Manager.

Blacks Nook In-lake Restoration Project, City of Cambridge Water Department, Cambridge, MA (2020). Once a cove connected to Fresh Pond, Black's Nook is now a separate, shallow two acre pond with a heavily forested wetland border. Over the years, work has been done to minimize inflow of golf-course runoff and improve ecosystem functionality in the directly surrounding watershed. Normandeau was contracted to execute an existing conditions assessment, and develop and execute an in-lake restoration plan that slows cultural eutrophication, keeps Black's Nook an open water body, and ultimately supports downgrading its Category 5 status as an impaired waterbody on the State's 303(d) list. Ms. O'Brien conducted acoustic surveys for bats and a nesting bird survey. Biologist.

Seacoast Reliability Project – F107 Line. Eversource Energy, Seacoast Region, NH (2014-2020). Normandeau is providing permitting assistance and construction oversight monitoring to the Public Service of New Hampshire for a proposed 115 kW, 13-mile transmission project that is sited along an existing right-of-way and includes a one-mile submarine crossing of Little Bay. Ms. O'Brien performed mitigation calculations for wetland impacts and wrote the SAS code for error checking raw data and for processing data into final deliverables for report analysis and production. Additionally, she conducted Northern long-eared bat surveys along the project corridor, performed post-construction vegetation assessments, and was responsible for post-processing data collected from water quality monitoring. Biologist/Data Analyst.

Acoustic Bat Surveys, Lamprey River Advisory Committee, Lamprey River Watershed, NH (2018). Normandeau conducted Northern long-eared bat surveys throughout the Lamprey River Watershed. Ms. O'Brien conducted the surveys, which involved coordination with property owners and advisory committee members, deployment and retrieval of acoustic detectors, habitat analysis of detector sites, and reporting. Biologist.

NHDOT Route 16 Bridge over Ellis River, Greenman-Pedersen, Inc., Jackson, NH (2018). The NH Department of Transportation proposes to rehabilitate the historic stone-faced bridge that carries NH Route 16 over the Ellis River in Jackson, New Hampshire. The historic structure, built in 1938, accommodates one lane of traffic in each



direction and currently has narrow sidewalks that parallel each lane. In support of this project, Ms. O'Brien conducted a bridge assessment for roosting bats. Biologist.

Balsams Ski Resort Expansion, Dixville LLC, Dixville, NH (2015-2017). Normandeau was retained to undertake natural resources surveys and provide permitting support for the revival and expansion of the Balsams Grand Resort and Wilderness Ski Area. Ms. O'Brien played a large role in the 2015 Northern long-eared bat surveys, where, in addition to deployment and retrieval of detectors, she coordinated site access and field crew schedules, and was responsible for data reporting and habitat assessments. Biologist.

Blackstone River Northern Long-eared Bat Surveys, New England Hydropower Company, LLC, Lincoln/Cumberland, RI (2016). Normandeau conducted Northern long-eared bat surveys for proposed bridge repairs and upgrades along the Blackstone River. Ms. O'Brien conducted the surveys, which involved deployment and retrieval of acoustic detectors, habitat analysis of detector sites, and reporting. Biologist.

Philips Exeter Academy Northern Long-eared Bat Surveys, Altus Engineering, Inc., Exeter, NH (2016). Normandeau conducted Northern long-eared bat surveys for a proposed drain outfall replacement project at Philips Exeter Academy. Ms. O'Brien conducted the Northern long-eared bat surveys, which involved deployment and retrieval of acoustic detectors, habitat analysis of detector sites, and reporting. Biologist.

Kinder Morgan, Northeast Energy Direct Pipeline, PA, NY, MA, CT, NH (2014-2016). This natural gas pipeline project runs from the Marcellus Shale fields across Pennsylvania, New York, Massachusetts and New Hampshire. Ms. O'Brien was involved with various aspects of this project, including wetlands and mitigation in a fatal flaw analysis, map revisions in ArcGIS, wetland compensatory mitigation research and ARM fund numbers. Ms. O'Brien also provided GPS support for delineated wetland boundaries, and participating in natural resource surveys including vernal pools and rare species surveys for turtles, snakes, Northern Harriers, and bat hibernacula. Biologist.

Pike Industries Northern Long-eared Bat Surveys, Hooksett, New Hampshire (2015). Normandeau was hired to perform Northern long-eared bat surveys for a proposed quarry expansion. Ms. O'Brien conducted the surveys, which involved deployment and retrieval of acoustic detectors, habitat analysis of detector sites, and reporting. Biologist.

Socha Companies at Hidden Oak, Hooksett, New Hampshire (2015). Normandeau provided delineation and natural resource survey work for a proposed apartment complex. Ms. O'Brien participated in Northern long-eared bat surveys, which involved the deployment and retrieval of acoustic detectors. Biologist.

Bat Monitoring, U.S. Fish & Wildlife Service, Umbagog National Wildlife Refuge, NH/ME (2011- 2013). Ms. O'Brien evaluated resident bat populations adjacent to Lake Umbagog. Monitoring activities included conducting maternity roost emergence surveys and acoustic driving transect surveys. Coordinating volunteer efforts, completing required documentation following each survey, maintaining and preserving accurate records, and updating database records was also practiced. Biological Technician.

REPRESENTATIVE PRESENTATIONS

Geoghegan, P., J. O'Brien, C. W. Walker, M. Heagy, and S. A. Bottger. 2022. *Long-term trend in the occurrence of disseminated neoplasia in a population of softshell clam (Mya arenaria) from a New Hampshire estuary.* Presented at the 2022 annual meeting of the New England Estuarine Research Society, June 2-4, 2022, Salem, MA.

Current Distribution of Bats in New Hampshire. S. Barnum, J. O'Brien, J. Collins. Joint Bat Working Group Meeting (Roanoke, VA) and Northeast Fish and Wildlife Conference (Burlington, VT). 2018.

Loons on Lake Umbagog. Umbagog Lake State Park. Errol, NH. 2011



STARS Reporting, Campus Metrics, and Sustainability Dashboard. Indiana University Office of Sustainability Academic Year Sustainability Symposium. Bloomington, IN. 2011

Glycerol options: Soap, Compost, and Anaerobic Digestion. Biodiesel Collective Conference. Golden, CO. 2011

Pilot Study of Dimorphic Interaction Behaviors in *Plethodon cinereus*. Saint Anselm College Science Symposium. Manchester, NH. 2009

REPRESENTATIVE PEER-REVIEWED ARTICLES AND PUBLICATIONS

Geoghegan, P., J. O'Brien, C. W. Walker, M. Heagy, and S. A. Bottger. 2021. *Long-term Trends in the Occurrence of Hemic Neoplasia in a Population of Mya arenaria L. (Softshell Clams) from a New Hampshire Estuary, USA*. Northeast Naturalist 28(2).

SPECIAL TRAINING

Motor Boat Operator Certification (Department of the Interior), 2010

Defensive Driving (Department of the Interior), 2010

CPR/AED (American Red Cross), valid through 02/2025

SAS System programming

ArcGIS and ArcPro

Normandeau's in-house 40 hour acoustic bat survey training

Vesper Bat Detection Service's Echolocation 101 & Best Practices Course

Vesper Bat Detection Service's Acoustic ID of Eastern Species Course

Track and Sign Evaluation, CyberTracker, Tamworth, NH (2024)



EMMA J. BARON

Biologist

Ms. Baron is a Biologist with water quality and natural resource experience. Her fieldwork experience includes surface water and groundwater quality monitoring, landfill gas monitoring, bat habitat assessments and acoustic surveys, electrofishing, benthic sampling, and dredge fisheries monitoring. She also has experience assisting in vernal pool surveys, vegetation plots, and wetland surveys. Ms. Baron has proficiency in GIS, Phase 1 Environmental Site Assessment, environmental data analysis, and reporting. In addition, Ms. Baron has laboratory experience in processing bivalve larvae, Ichthyoplankton, and benthos samples as well as taxonomic identification of benthic species.

REPRESENTATIVE PROJECT EXPERIENCE

Cutler Facility Infrastructure Maintenance/Design Support, Cutler, ME (2023-Present). Normandeau is supporting design and permitting of infrastructure improvements for the Naval Facilities Engineering Command Mid-Atlantic. Projects require inland and coastal wetland delineation and assessment; assistance with alternatives analyses; wetland, stream and Essential Wildlife Habitat impact evaluation; Essential Fish Habitat and Endangered Species habitat evaluations; and permitting support. Ms. Baron assisted with field assessments. Field Scientist.

Weston Rangely Rangeley SERE School Infrastructure Maintenance/Design Support, Rangeley, ME (2023 - Present). Normandeau is supporting design and permitting of infrastructure improvements for the Naval Facilities Engineering Command Mid-Atlantic. Projects require inland wetland delineation and assessment; assistance with alternatives analyses; wetland, stream and wildlife habitat impact evaluation; Essential Fish Habitat and Endangered Species habitat evaluations; and permitting support. Ms. Baron assisted with field assessments. Field Scientist.

NHDOT NH Route 49 Bridge Over the Mad River Rehabilitation Project, Thornton, NH (2023- Present). Normandeau has been tasked with overseeing environmental services support and preparing NHDES Wetland Permits, NHDOT Environmental Review documentation, field delineations, wildlife habitat input, and other support services for the proposed bridge rehabilitation along the Mad River in Thornton, New Hampshire. Ms. Baron oversaw the bat acoustic survey for state and federally listed northern long-eared bats, which involved deployment and retrieval of acoustic detectors, weather recording, habitat characterization, and bridge survey. Task Manager.

Whitefield 41852, NH Department of Transportation (NHDOT), Whitefield NH (2023-Present). Normandeau was contracted to provide natural resource surveys associated with infrastructure improvements along Route 3 in Whitefield, New Hampshire. Ms. Baron oversaw the bat acoustic survey for state and federally listed northern long-eared bats, which involved deployment and retrieval of acoustic detectors, weather recording, habitat characterization, and bridge survey. In addition, Ms. Baron assisted with wetland delineation including identification of natural resources, as well as characterization of all wetlands and streams located within the study area. Task Manager/ Field Scientist.

NH Department of Transportation (NHDOT) Statewide On-Call Wetlands Services, NHDOT, NH (2022– Present). Normandeau has a three-year contract to provide wetland and related natural resource services for

EDUCATION

B.S., Biology, Plymouth State University, (Cum Laude). Minor in Chemistry.

PROFESSIONAL EXPERIENCE

2019-Present Normandeau Associates

PROFESSIONAL CERTIFICATIONS

- Protected Species Observer: NOAA National Marine Fisheries
- Maine DIFW Credentialed Vernal Pool Observer

PROFESSIONAL AFFILIATIONS

- New Hampshire Association of Natural Resource Scientists



NHDOT projects around the state. Projects have included stream and wetland delineation, rare plant surveys, northern black racer surveys, stream and bank restoration monitoring, and USFWS-compliant acoustic bat surveys and habitat assessments. Ms. Baron conducted Northern long-eared bat surveys, which involve proposals, deployment and retrieval of acoustic detectors, weather recording, habitat characterization, data management, and reporting. In addition, Ms. Baron assisted with stream and wetland delineation and stream and bank restoration monitoring. Project Scientist.

Massachusetts Statewide Northern Long-eared Bat Surveys, MassDOT, MA (2020-Present). Conducted USFWS-compliant acoustic bat surveys and habitat assessments targeting the state and federally threatened northern long-eared bat for MassDOT roadway projects throughout Massachusetts for over 70 projects since 2016. Tasks include evaluating project areas for habitat suitability per USFWS guidance, survey design and planning, data collection, data QA/QC, manual call vetting as required by USFWS guidance, and managing the reporting effort. Ms. Baron conducted Northern long-eared bat surveys, which involve deployment and retrieval of acoustic detectors, weather recording, habitat characterization, reporting, and coordinating field efforts, and training personnel. Project Scientist.

Errol Dam Relicensing, Brookfield White Pine Hydro, NH-ME (2020-Present). In support of Brookfield relicensing of 2 MW hydroelectric project through FERC's Integrated Licensing Process. Normandeau provided terrestrial services for wetland mapping, rare and invasive plant species surveys, bats, odonates (dragonflies), mussels, and incidental wildlife observations on project-affected lands surrounding Lake Umbagog, its tributaries, and the tailwaters in the Androscoggin River. A quantitative vegetation survey compared existing conditions to a long-term data set at two fens/floating bogs. Ms. Baron conducted bat surveys and reporting in accordance with USFWS guidance. Project Scientist.

Seacoast Reliability Project, Eversource Energy, Seacoast Region, NH (2019-Present). Normandeau provided siting, permitting, and environmental monitoring services to Eversource for a new 115kV line proposed between the Madbury and Sudbury substations. The line is approximately 13 miles, predominantly within existing ROW, but includes overhead, submarine, and underground segments. Sensitive resources include a 1-mile water crossing through Little Bay, thus within the Great Bay NWR, several significant cultural resources, and the Pease Air Force Base. Normandeau and sub-contractors (Vicky Bunker, Inc.; AHS, Inc.; Landworks; and GEI) will provide field investigations of natural and cultural resources, State and Federal permitting, and SEC application preparation and testimony. Ms. Baron assisted in water quality monitoring for event-based cross-sectional water quality surveys and post-construction invasive plant and vegetation surveys within the ROW. Ms. Baron also processed the benthic samples as a Laboratory Technician. Field Scientist.

Millis Massachusetts Bat Surveys, Emerson, Millis, MA (2022). Conduct USFWS-compliant acoustic bat surveys and habitat assessments targeting the state and federally threatened northern long-eared bat for subdivision development in Massachusetts. Tasks include evaluating project areas for habitat suitability per USFWS guidance, survey design and planning, data collection, data QA/QC, manual call vetting as required by USFWS guidance, and managing the reporting effort. Ms. Baron conducted Northern long-eared bat surveys, which involve deployment and retrieval of acoustic detectors, weather recording, habitat characterization, reporting, and training field personnel. Project Scientist.

NE Solar: Bat Survey, GSSG New Hampshire LLC (GSSG), Conway NH (2021). Conducted USFWS-compliant acoustic bat surveys and habitat assessments targeting the state and federally threatened northern long-eared bat for the GSSG NE Solar project on 8 acres of land in Conway, NH. Tasks include evaluating project areas for habitat suitability per USFWS guidance, survey design and planning, data collection, data QA/QC, manual call vetting as required by USFWS guidance, and managing the reporting effort. Ms. Baron conducted Northern



long-eared bat surveys, which involve deployment and retrieval of acoustic detectors, weather recording, habitat characterization, and reporting. Project Scientist.

SPECIAL TRAINING

Adult First Aid / CPR / AED Red Cross Certified

New Hampshire Commercial Boating License

40-Hour OSHA Hazardous Waste Operations and Emergency Response

Vesper Bat Detection Service's Echolocation 101 & Best Practices Course

Vesper Bat Detection Service's Acoustic ID of Eastern Species Course

Wildlife Acoustics Using Kaleidoscope Pro for Bat Auto-ID Course

Wildlife Acoustics How to Start a General Survey with Kaleidoscope Pro Course

Wildlife Acoustics How to Find Target Sounds with Kaleidoscope Pro Course

Wildlife Acoustics Signal Extraction in Kaleidoscope Lite Course

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DOCUMENT A00848

**ABINGTON/ROCKLAND JOINT WATER WORKS
(ARJWW)

STANDARDS**

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March 9, 2022

**Consolidated Technical Specifications
Abington/Rockland Joint Water Works
366 Centre Ave.
Rockland, MA 02370
(781) – 878 - 0901**

1. Water mains to be ductile iron pipe, class 52, conforming to AWWA C150 and AWWA C151, push on type joints with gaskets and bronze wedges conforming to AWWA C111, double cement lined inside conforming to AWWA C104, and asphalt seal coated outside (coal tar coated outside conforming to AWWA 203 in areas where groundwater levels are above the pipe laying depth). All pipe fittings shall be ductile iron, class 350 mechanical joint conforming to AWWA C153. All fittings shall be restrained with Series 1100 Megalug as manufactured by EBAA Iron, or approved equal. Metal core warning tape shall be installed 1 foot below grade above all new water mains and services.
2. All gate valves shall be resilient wedge seated valves conforming to AWWA C509 (Kennedy or Mueller Co 2360 series or approved equal). Valves shall have corrosion resistant fusion - bonded interior and exterior coatings. Valves are to have double O ring seals, a non-rising stem, 2 inch operating nut, and be **OPEN LEFT** (counter-clockwise to open). An arrow indicating the opening position shall be cast into the operating nut.
3. Valve boxes shall be cast iron, asphalt coated, sliding type, adjustable, together with cast iron covers with the word "WATER" plainly cast in relief on the top surface. A minimum 6 inch overlap is required between sliding sections. The inside diameter of the bottom section shall be at least 5 1/4 inches and shall have a belled base. The top section shall be at least 6-1/8-inches and have top flanges. The bottom section shall be at least 36-inches in length. The top section shall be at least 26-inches in length and have a plain bottom.
4. Tapping sleeves and valves shall have resilient wedge gate valves as specified above with the following exceptions. Tapping sleeve shall be Mueller Co. Stainless Steel Tapping Sleeve Model H-304SS. Sleeves shall meet ANSI/NSF 61 standards. Sleeve outlet shall have a 3/4" testing port with a 3/4" NPT brass test plug. Tapping valves shall be full port opening and above specified.
5. Hydrants shall be Mueller Super Centurion A-423, conforming to AWWA C502 (Dry Barrel Hydrants) and painted yellow body (P68205) and reflector white bonnets and caps (P68218). Anchor tees shall be used for all new installations. Fire hydrants shall have mechanical joint shoes, 5'6" bury (street level shoulder areas) or 6'-0" bury (raised sidewalk) and marked with an arrow and the word "open" to indicate the direction to turn the stem to open the hydrant. Hydrants shall **OPEN LEFT** (counter-clockwise to open). All hydrants shall also include reinforced fiberglass shaft heavy duty spring mounted hydrant markers which are 4 feet long and 3/8-inch diameter, one bolt mounting.
6. Ductile iron pipe and fittings shall be installed and tested in accordance with requirements of AWWA C600, latest edition. Water mains shall have a minimum of five feet of cover. Pressure testing shall be witnessed by an inspector from

Abington/Rockland Joint Water Works and consist of 200 psi for 10 minutes and 150 psi for 2 hours.

7. The minimum vertical and horizontal separation must be maintained for all water lines and other utilities: 18-inches vertical (water line 18-inches above) and 10 feet horizontal.
8. At no time shall a water main or service be installed greater than 8-feet below finished grade.
9. Water mains shall not be installed below concrete pads and concrete sidewalks and/or landscaped islands shall be avoided whenever possible.
10. Unless otherwise approved, all water service line piping shall be Type K annealed (soft) copper tubing, conforming to ASTM B-88, and shall be seamless in manufacture. The water service pipe diameter shall be as specified by Abington/Rockland Joint Water Works to meet the projected use.
11. Corporation stops shall meet the most recent revision of the AWWA C800. Corporation stops shall be brass compression-type with taper type inlet thread. Corporations shall **open Left**. All corporations larger than 1" on ductile-iron water mains shall be installed with saddles. Corporation stops shall be Mueller B25008, Red Head, or Ford.
12. Curb stops shall meet the most recent revision of the AWWA C800. Curb stops shall be brass compression-type – no drain. Curb Stops shall **open Left**. The inlet and outlet shall have compression connections. Curb stops shall be Mueller Model B25209, Red Head, or Ford.
13. Curb stop boxes shall be cast iron Buffalo Extension 94E type with recessed lid with brass pentagon bolt and the word "water" cast on top, and adjustable sliding type with arch pattern. Curb stop boxes shall be domestically manufactured Bingham and Taylor.
14. Water service lines shall be minimum 1" diameter, Type K copper. Only copper tubing shall be installed from the corporation to the curb stop. Plastic tubing may be allowed from the curb stop to the premise if meeting AWWA PE 3406 or PE3408, copper tube size outside diameter, and rated at 160 psi minimum.
15. The length, size, location, and number of all water distribution system materials shall be as approved by ARJWW. Testing requirements shall be in accordance with the latest version of appropriate AWWA specifications.
16. Project proponent shall prepare and submit as-built drawings to the Abington/Rockland Joint Water Works for all water main and service installations, prior to the water being turned on.

DOCUMENT A00860

MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF INTENT

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Notice of Intent Hancock Street at Chestnut Street Intersection Improvements Project



July 2025

PREPARED FOR:

Town of Abington Department of Public Works
350 Summer Street
Abington, MA 02351





July 31, 2025

Abington Conservation Commission
Abington Town Hall
500 Gliniewicz Way
Abington, MA 02351

**Subject: Wetlands Protection Act: Notice of Intent: Redevelopment Project
Hancock Street at Chestnut Street Intersection Improvements**

Dear Commissioners,

On behalf of the Town of Abington's Department of Public Works, Apex Companies (Apex) is submitting this Notice of Intent for the Hancock Street at Chestnut Street Intersection Improvements project in accordance with the Massachusetts Wetlands Protection Act (M.G.L Chapter 131 Section 40), the Massachusetts Wetlands Protection Regulations (310 CMR 10.00), and the Abington Wetlands Protection Regulations. This project is being submitted as a Redevelopment Project in compliance with the Massachusetts Wetlands Protection Regulations (310 CMR 10.55 Bordering Vegetated Wetlands (Wet Meadows, Marshes, Swamps and Bogs)) to the maximum extent practicable.

This submittal includes the following attachments:

- Appendix A: Town of Abington Conservation Commission Notice of Intent Filing Requirements Checklist and Technical Requirements Checklist Forms
- Appendix B: MassDEP Transmittal Form and WPA Form 3 – Notice of Intent
- Appendix C: Wetland Evaluation/Delineation Report
- Appendix D: Project GIS Mapping Figures
- Appendix E: Permitting Design Plans
- Appendix F: Certified Abutters List and Notification Form (Placeholder)
- Appendix G: Stormwater Report
- Appendix H: Site Photos

Project Background

The Town has received complaints from the public regarding the safety of the intersection of Chestnut Street at Hancock Street. In 2014, the Old Colony Planning Council (OCPC) conducted a road safety audit with support from MassDOT and the Town of Abington. At the time of the study, this intersection was ranked as one of the top 5% worst crash hotspots within the metro Boston area. The study found operational and safety deficiencies. The intersection is a four-way unsignalized intersection. Chestnut Street operates under "STOP" control and Hancock Street operates freely with no control.

In August 2016, the Abington Department of Public Works (DPW) hired Apex Companies (Apex) to complete an alternative analysis for roadway improvements to address the safety deficiencies and high frequency of crashes, address the operational deficiencies and excessive delays, and improve multimodal accommodations.

Project Description

The proposed project is located at the intersection of Hancock Street and Chestnut Street in the northern part of Abington, Massachusetts. Cushing Pond is located approximately 800 feet from the intersection of focus. Three intermittent streams exist within the project area; one located off Hancock Street, in the vicinity of #863 Hancock Street; one off Chestnut Street, in the vicinity of #235 Chestnut Street; and another is a stone lined channel near #160 Chestnut Street.

The proposed project includes the conversion of the existing unsignalized intersection to a modern single-lane roundabout to address existing safety deficiencies, improve traffic operations, and provide traffic calming. Each approach of the roundabout will consist of a single approach lane and single departure lane, separated by a splitter island. The roundabout's splitter islands will result in shorter pedestrian crossing distances and refuge areas for pedestrians to cross one directional lane of traffic at a time. Sidewalks are proposed to replace existing sidewalks and be ADA/AAB compliant. This project will also involve adjustments to the vertical alignment along the southern Hancock Street approach to improve sight lines for vehicle travel.

The proposed drainage improvements include the removal and replacement of several catch basins with deep sump catch basins in new locations to capture the additional impervious area and provide increased water quality measures through use of deep sumps. The proposed stormwater management system has been designed to meet the Massachusetts Stormwater Management Standards to the maximum extent practicable for a redevelopment project.

As discussed in the Stormwater Report (Appendix G), the project results in an increase of impervious area of 6,920 square feet. The majority of this increase results from the conversion of the unsignalized intersection to a single-lane roundabout and associated approach lanes. The work within the buffer zones to the Bordering Vegetated Wetland results in an increase in impervious area of 100 square feet. The impacts within the buffer zones to the resource area are discussed in the following section.

Wetland Resources

In December of 2023, Pinebrook Consulting performed a wetland delineation which included intermittent streams and Bordering Vegetated Wetland. Intermittent streams within the project site were marked with flags labeled MHW-1 through MHW-4, MHW-100 through MHW-106, MHW-A-1 through MHW-A-4, and MHW-A-100 through MHW-A-104. Bordering Vegetated Wetland systems were marked with flags labeled WFA-1 through WFA-3, WFA-100 through WFA-104, WFB-1 through WFB-2, WFB-100 through WFB-106, and WFC-1 through WFC-2. In May of 2025, Pinebrook Consulting performed an additional wetland delineation which included the extension of the wetland in the vicinity of #221 Chestnut Street. The extended wetland area was marked with flags labeled WFB-107 through WFB-112. The new flags commence at the old flag WFB-106 and terminate at a culvert under the driveway associated with #221 Chestnut Street.

Based on our review of 310 CMR 10.00: Wetlands Protection and based on a wetland delineation performed by Pinebrook Consulting, the proposed work activities are subject to the filing of a Notice of Intent with the Abington Conservation Commission and MassDEP. Refer to the Wetland Report included in Appendix C for a description of how the resource areas were delineated. These resource areas are consistent with the resources areas defined in the Abington Bylaws. The proposed work area has been determined to be within the 100-foot buffer zones of the following resource areas:

- Inland Bank – 310 CMR 10.54: No work is included in this resource area. The bank is associated with the unnamed intermittent stream that flows through three culverts on Hancock Street and Chestnut Street.
- Bordering Vegetated Wetland (BVW) – 310 CMR 10.55: Work within the buffer zone of this resource area is required for the construction of the ADA sidewalk, roadway construction, and utility improvements. Work within the buffer zone has been reduced to the maximum extent for the proposed construction. No work is proposed directly within the Bordering Vegetated Wetland.

The proposed work within the Abington resource area buffer zones includes the construction of residential driveway aprons, new sidewalks, curbing, full-depth pavement reconstruction, sewer and drainage structures, underground utilities, and associated construction activities. The proposed work within the resource area buffer

zones includes work within the Abington No Disturb Zone (25-foot buffer) and No Build Zone (35-foot buffer). Work within these buffer zones is unavoidable to complete the project which will result in significant public benefit in the form of traffic/vehicle safety.

As required by the Town of Abington Conservation Commission Technical Requirements Checklist, Apex evaluated and quantified the amount of area within the resource area buffer zones and the Town of Abington Conservation Commission's jurisdiction during existing conditions and post development conditions. These quantities are depicted in the Impact Area Calculation Table within Appendix A.

Apex checked online map resources through MassGIS to determine if the resource areas in Table 1 overlap with the work area of this project. The resource areas are shown in Appendix C.

Table 1 – Selected MassGIS Resource Area Data Layers

Resource Area	Present?
FEMA National Flood Hazard	No
Areas of Critical Environmental Concern (ACECs)	No
Outstanding Resource Waters	No
NHESP Estimated Habitats of Rare Wildlife	No
NHESP Priority Habitats of Rare Species	No
NHESP Certified Vernal Pools	No
Potential Vernal Pools	No
Zone II Wellhead Protection Area	No

Source: MassGIS

No proposed work activities will be completed within an area classified under the Estimated Habitats of Rare Wildlife and Priority Habitats of Endangered Species (NHESP). Therefore, this project does not require Massachusetts Endangered Species Act (MESA) review.

Environmental Protection Measures

In order to mitigate impacts to Bordering Vegetated Wetlands during construction activities, the following environmental protection measures will be provided.

- Erosion and sedimentation control devices (e.g. compost filter tubes, silt fence, silt sacks, or similar) will be installed along Hancock Street and Chestnut Street within the project limit upgradient of the wetland resource areas. Erosion and sedimentation control devices will be inspected on a weekly basis as well as after each incidence of rainfall exceeding 0.25-inches in 24-hours. The compost filter tube locations are depicted on the design plans in Appendix D.
- Trench dewatering activities will use a dewatering bag at the pump discharge for sediment control and water quality. Compost filter tubes will surround the bag to prevent erosion. No dewatering will occur within the resource areas.

MassDEP Stormwater Standards

Based on our review of 310 CMR 10.00 and the Massachusetts Stormwater Standards, we have determined that this project is a Redevelopment Project. Stormwater Standards 2, 3 and 4 have been met to the maximum extent practicable.

Apex completed an alternatives analysis for the drainage design which included a subsurface infiltration (Alternative 1), no infiltration and deep sump catch basins (Alternative 2), and no changes to the drainage system (Alternative 3). Alternative 2 was selected as it provides the most treatment that can fit within the project site given site constraints and MassDOT funding constraints limiting use of hydrodynamic separators. For the complete alternative analysis and more information on the MassDEP Stormwater Standards, refer to the Stormwater Report in Appendix F.

If you should have any questions or require additional information, please do not hesitate to contact me using the information below.

Sincerely,



Apex Companies, LLC

Drew R. Gallant, P.E.

Senior Project Engineer

P: 617.657.0988

E: drew.gallant@apexcoss.com

CC: Department of Environmental Protection – Southeast Regional Office
Richard J. LaFond – Abington Town Manager
John Stone – Abington Director of Public Works
Michael Joa – Massachusetts Department of Transportation
Erica Larner – Massachusetts Department of Transportation

APPENDIX A

Town of Abington Conservation Commission Notice of Intent Filing
Requirements Checklist and Technical Requirements Checklist



Town of Abington Conservation Commission **Notice of Intent Filing Requirements and Checklist**

Date of receipt of paper/digital copies: _____
(Office Use Only)

Date of Hearing: _____
(Office Use Only)

The required NOI (Notice of Intent) Administrative and Technical Requirements checklists and Site Access Authorization form, Acknowledgement of Checklist, and Town of Abington Conservation Commission Acknowledgement of the Bylaw and Regulations must be filled out and submitted by all applicants prior to the opening of their public hearing before the Abington Conservation Commission.

All documents must be completed and submitted no later than **12 P.M. Eastern Time, 14 calendar days** before the scheduled public hearing. The application will be considered incomplete if all documentation has not been submitted by that time. Failure to provide the documents by this deadline may result in a continuance of the public hearing or denial of the project. Note that holidays, town meetings, and elections may affect scheduling. These checklists and forms can be submitted digitally or as a hard copy.

If you have any questions, contact our administrative assistant, Toni Moquin, at tmoquin@abingtonma.gov or (781) 982-2100.

Project Location:

Assessors Map: NA Lot: NA

Address: Intersection of Hancock Street and Chestnut Street

Administrative Details

Place a checkmark next to each item to indicate that it is included in the NOI Application package:

1. X 11 copies of WPA form 3 for a Notice of Intent.
2. X 11 copies of all supporting documents required for the Abington Conservation Commission checklists. Examples include wetland reports, data sheets, and cover letters.
3. X One Master set of all 24 x 36 inch plans with original stamp and signature by an appropriate licensed professional. No copied seals and/or signatures will be accepted.
4. X 11 copies of all plans measuring 24 x 36 inches. Plans MUST be color coded as described in the Technical Requirements Checklist and include a stamp with signature.
5. X Proof of legal ad publication seven business days prior to public hearing.
6. X One copy of the filing with the National Heritage and Endangered Species Program seven business days prior to the public hearing with a time-stamped mail receipt (if applicable).



Town of Abington Conservation Commission

Notice of Intent Filing Requirements and Checklist

7. ☒ One copy of the Federal Emergency Management Agency 2014 flood insurance rate map with project location.
8. ☒ One copy of the Assessors map detailing abutting parcels and certified mail list of all abutters.
9. ☒ Proof of notification of all abutters of the hearing/proof of publication.
10. ☒ One copy of the certified mail receipt for all abutters.
- N/A 11. ☐ Payment to the Town of Abington including MA DEP fees and Abington filing fees.
12. ☒ Proof that no other NOIs have been previously approved on the property that will affect the proposed project area. If the property has an Open Order of Conditions, the applicant will need to come before the Conservation Commission to request a Certification of Compliance before the Commission can vote on a new NOI.
- N/A 13. ☐ Description of filing status with the Zoning Board of Appeals, or if applicable, a copy of the Zoning Board of Appeals decision.
14. ☒ Site Access Authorization form signed by the applicant.
15. ☒ Acknowledgement of Checklist signed by the applicant and any representative(s).
16. ☒ Town of Abington Conservation Commission Acknowledgement of the Bylaw and Regulations signed by the applicant and any representative(s).
17. ☒ One digital copy of the completed application and filing with any correspondence to the file. Submit all digital files to Toni Moquin at tmoquin@abingtonma.gov.

If the Conservation Commission determines during the hearing that supplemental information is needed, those materials must be submitted to tmoquin@abingtonma.gov no later than seven business days prior to the public hearing. If the requested supplemental materials are not provided within this timeframe, the hearing may be continued. The Commission may also determine at any point before or during the public hearing that it will require a peer review of the site and/or proposed project, which will require an additional fee. If any information requested by the Commission is not provided before the hearing is closed, the project has cause to be denied.

Applicant Signature: _____

Date: _____



Town of Abington Conservation Commission

Technical Requirements Checklist

Plan Checklist

The following items must be shown on the site plan. Place a checkmark next to each item in the list below to indicate that the materials are included in your submission. If an item or material is not applicable to the project, write a notation of "NA" instead of a checkmark, and describe why it is not relevant in the project narrative.

Site plans shall show the following information:

1. ☒ Property owners and the address of the property.
2. ☒ All property lines and easements that are relevant to the project.
3. ☒ All abutters' properties listed with assessor's parcel reference numbers.
4. ☒ Locus.
5. ☒ North Arrow.
6. ☒ Scale and scale bar.
7. ☒ Stamp and signature of registered professional engineer or surveyor.
8. ☒ Name of individual and firm responsible for identifying wetlands.
9. ☒ Existing and proposed contours.
10. ☒ FEMA 100-year Flood Elevation, Flood Zone, and Velocity Zone (if applicable), based on the same datum as current floodplain maps
11. ☒ Location of Water Resources Protection Districts and Wellhead Protection Zones.
12. ☒ Identification of all wetland type(s).
13. ☒ Any Resource area located on an abutter's property which is within 100 feet of any work to be conducted on the locus property.
14. ☒ Location and name of any river or stream (perennial or intermittent), if present on the site or within 200 feet of the property line.
15. ☒ Date wetlands were flagged.
16. ☒ Location of resource area delineation flags and their numbers.
- N/A 17. ☐ If properties contain Riverfront that were identified within the last three years: The Mean High Water Line, Mean Low Water Line, Top of Bank, Land Subject to Storm Flow with slope detail, and a statement in the Project Narrative (see section below) detailing how the elevations were determined.
18. ☒ Project drawing showing accurate measurements of proposed work and plan view distances to at the closest point to any Wetland Resource Area delineated in the last three years from resource areas, and delineations of the buffer zones from resource area(s).
19. ☒ Shortest distance between wetlands and activity.
- N/A 20. ☐ If Riverfront area is located on the property, indicate the square footage calculation of existing and proposed Riverfront area alteration, and square footage of alterations shown as a percentage of total Riverfront area on the lot.
21. ☒ Location of all below-ground and above-ground existing and proposed structures.
22. ☒ Edge of proposed lawn/landscaping.
23. ☒ Stormwater structures (if applicable).
- N/A 24. ☐ Snow storage (if applicable).
25. ☒ Location and details of proposed sedimentation, erosion control measures, and limit of work.
26. ☒ Percentage of existing and proposed impervious coverage on the lot within the Commission's jurisdiction.



Town of Abington Conservation Commission Technical Requirements Checklist

- N/A 27. ___ Proposed locations of stockpiled excavated soils.
- N/A 28. ___ Proposed location of crushed stone apron at construction entrance.
29. ☒ Maps sized 24 x 36 inches and color-coded using the descriptions in the table below that are relevant to the site and planned work. Colors shall be of a shade that are easily legible on the plan.

Purple	Green	Red	Orange	Blue	Pink	Yellow
100-Foot Riverfront, Ponds, and Lakes Zones	100-Foot Buffer Zone	No Disturbance 25-75 Foot Zone (see Wetland Setback Regulations for specifics)	Proposed limit of work	Floodplain	Proposed wetland fill	Wetland Replication/Restoration areas
200-Foot Riverfront Ponds, and Lakes Zones		No Build 35-100-Foot Zone (see Wetland Setback Regulations for specifics)	Proposed sediment/erosion control	Wetland line		
				Flag numbers		

Project Narrative and Supporting Documentation

The items listed below detail the information required for the narrative of the project, plus supporting documentation that describes how the project will meet all performance standards for each of the resource areas altered. This information includes standards requiring consideration of alternative project design or location. Provide the following information in your project narrative and place a checkmark next to the items on this list to indicate that the materials are included in your submission. If an item is not applicable to the project, write a notation of "NA" instead of a checkmark, and describe why it is not applicable in the project narrative.

- ☒ A clear and comprehensive description of the existing property.
- ☒ A clear and comprehensive description of the proposed project. If applicable, include a detailed description of the proposed mitigation.
- ☒ A list of all Resource Areas and a brief description of how and by whom these areas were delineated.
- ☒ Comprehensive discussion of how the proposed project will meet the Performance Standards of the Resource Areas pertaining to both the Massachusetts and Town of Abington wetlands statutes.
- ☒ MA DEP Field Data form or similar tables describing: Plant species, percent vegetative cover, percent dominance, wetland indicator categories for each plant, hydric soil interpretations from field



Town of Abington Conservation Commission Technical Requirements Checklist

observations, including detailed soil descriptions (e.g., horizons, depth, matrix color, etc.) and other indications of hydrology.

6. ☒ Written statement that the Resource Areas identified in the State NOI application (WPA Form 3) are consistent with the Resource Areas identified in the Performance Standards in the Abington By-laws. If they are not consistent, state the reason why.
7. ☒ A work/construction protocol including site access, method of sediment/erosion control, anticipated start date, planned measures to protect impacted and Resource Areas, and any other relevant information deemed to be important in this regard.
8. ☒ A list of the required permits from local Boards/Commissions (e.g., Abington Zoning Board of Appeals.)
9. ☒ United States Geological Survey Quadrangle map showing the project locus and notations of any Natural Endangered Species Program and estimated habitats of rare wildlife.
10. ☒ Location of any MA DEP Certified Vernal Pools and potential vernal pools per the Town of Abington By-law.
11. ☒ Area Calculation Table. This table is provided at the end of this document and must be filled out in the Project Narrative exactly as provided.
12. ☒ A list of permits in hand or permits required by other Federal or State agencies, (e.g., U.S. Army Corps of Engineers, Massachusetts Endangered Species Act determination).
- N/A 13. ☐ Variance Request with a detailed Alternatives Analysis, if work is within a Resource Area, the 200-foot Riverfront, Ponds, and Lakes Area, or within the No Disturb Zone or No Build Zone to the Resource Area, or if planned work will not fully comply with all applicable Performance Standards.
- N/A 14. ☐ Replication/restoration plans, if proposed, in the format of a Word or .pdf document in a 12-point black font with a narrative that specifically addresses each section from 2.2 through 4.0 in the DEP Massachusetts Inlands Wetlands Replication Guidelines. If a section within the MA DEP Guidelines is not applicable for the project, the applicant must state why.

N/A Landscape and Design/ Replication / Restoration Plan (if applicable).

All items listed here **must** be provided on a **separate** plan from the site plan. Note that this information must also have been summarized in the project narrative (see above). Place a checkmark to indicate that the items listed below are included in this plan. If an item or material is not applicable to the project, write a notation of "NA" instead of a checkmark, and describe why it is not applicable in the project narrative.

1. ☐ Area(s) of plantings with the total square footage identified on the plan using a 1:1 ratio for Restoration and 2:1 ratio for Replication. Note that the Commission reserves the right to increase the ratio depending on the scope of the project.
2. ☐ Each plan iconized to correspond with planting list on the plan. The list should include the species, container size, spacing, and any other applicable information. Only plants native to New England for inland environments can be used.
3. ☐ Completed Area Calculation Table.
4. ☐ Area Calculation Table placed on the plans.
5. ☐ Number, location, and species of vegetation being removed, replaced, transplanted, or planted.
6. ☐ DEP field data form or similar tables describing plant species, percent of vegetative cover, percent dominance, wetland indicator, categories for each plant, hydraulic soil interpretations from field observations along with detailed soil descriptions.
7. ☐ Work / construction protocols including site authorization.



Town of Abington Conservation Commission Technical Requirements Checklist

On-Site Preparations for Site Walks and Construction

The Project must clearly be staked or marked at least 10 business days prior to the public hearing. Designate a flag color for the areas, and in your application, include a color legend for the flags so that Commissioners can understand the flagging system in the field. Each flag should have its own distinct number which should be noted on the plan. Any trees with diameters of five (5) inches or greater must be flagged with tape. The application will not be considered complete if (1) the project is not staked; (2) the flagging legend is not included in the Application; and (3) if trees with five inch or greater diameters have not been flagged. Flagging and delineation must be performed within the last three years. The color of the flags selected must be different from any previous flagging and delineation.

Flagging shall not be removed until the Conservation Commission issues a Certificate of Compliance.



Town of Abington Conservation Commission Technical Requirements Checklist

Mark the following areas with colored tape or flags and labeled stakes:

1. Edge of resource area.
2. 100-foot delineations from edge of resource area(s). For Riverfront, Ponds, and Lakes Area (if present), mark the 100-foot and 200-foot zones.
3. Limit of work.
4. Proposed project areas (e.g., building corners, retaining walls, etc.)
5. Property boundaries.
6. Prominent stake at entrance to the property with the name of the Applicant on the stake.



Town of Abington Conservation Commission Technical Requirements Checklist

Area Calculation Table

The table below should be referred to in the Project Narrative, and if applicable, in the Landscape, Replication, or Restoration Plan. If any part of the table does not apply to your project, write a notation of “NA” in those cells. Area of Structures include dwellings, sheds, decks, etc., and Area of Hardscape include items such as pools, walkways, driveways, etc.

Within the No Disturb Zone (see the Regulations for specific distances)	Existing (sq.ft.)	Proposed (sq.ft.)	Net Change (sq.ft.)	Proposed Replication (sq.ft.)
Area of Structures	0	0	0	0
Area of Hardscape	1,820	1,750	(-) 70	0

Within the No Build Zone (see the Regulations for specific distances)	Existing (sq. ft.)	Proposed (sq.ft.)	Net Change (sq.ft.)	Proposed Replication (sq.ft.)
Area of Structures	0	0	0	0
Area of Hardscape	4,600	4,490	(-) 110	0

Within 100 ft of the Resource Area	Existing (sq. ft.)	Proposed (sq.ft.)	Net Change (sq.ft.)	Proposed Replication (sq.ft.)
Area of Structures	0	0	0	0
Area of Hardscape	25,770	25,870	(+) 100	0

Within 200 ft of Riverfront Area, Ponds and Lakes	Existing (sq.ft.)	Proposed (sq.ft.)	Net Change (sq.ft.)	Proposed Replication (sq.ft.)
Area of Structures	0*	0*	0*	0*
Area of Hardscape	37,560	38,260	(+) 700	0

*Note: Private property residential buildings outside the project limits are not included in this area calculation



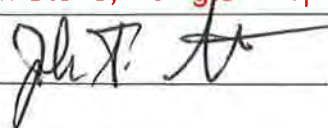
Town of Abington Conservation Commission Technical Requirements Checklist

Acknowledgement of Checklist

The following acknowledgment must be signed by the Applicant, Property Owner, and their Representative:

I certify upon penalty of perjury that the required documentation referred to above has been provided to the Abington Conservation Commission and the required tasks have been completed or marked as NA with an explanation. I acknowledge and understand that incomplete applications are cause for scheduling delays, continuations of public hearings, or denial of the project. I further acknowledge and understand that refusal to provide the Conservation Commission with any additional information or supplemental documentation requested before or during a hearing is automatic cause for the project to be denied.

Applicant's name: John Stone, Abington Department of Public Works

Applicant's Signature: 

Date: 6/12/25

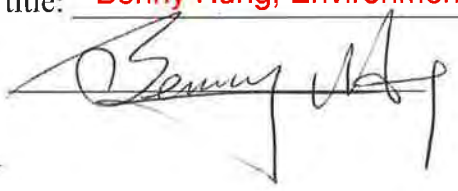
Property Owner's name

(if different from above): _____

Property Owner's signature: _____

Date: _____

Representative's name and title: Benny Hung, Environmental Partners Group, LLC

Representative's signature: 

Date: 6/12/25



Town of Abington Conservation Commission Technical Requirements Checklist

TOWN OF ABINGTON CONSERVATION COMMISSION SITE ACCESS AUTHORIZATION

Prior to any site visits, the applicant/property owner shall be contacted with 48-hours advanced notice to confirm a safe and mutually agreeable time for entry to the property. Communications regarding site visits should be addressed to our administrative assistant, Toni Moquin, at tmoquin@AbingtonMA.gov.

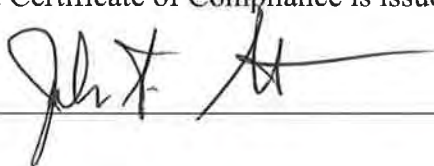
Date: 6/12/2025

Project: Hancock Street at Chestnut Street Intersection Improvements

Location: Intersection of Hancock Street and Chestnut Street

Property Owner: Town of Abington

I (We) hereby authorize the individual members of the Abington Conservation Commission and its agents to enter upon the referenced property for the purpose of gathering information regarding the application filed with the Commission pursuant to the Wetlands Protection Act (MGL Ch 131, s. 40) and/or the Abington Wetlands Protection Bylaw (Chapter 17). Additionally, if an Order of Conditions is issued for the project, I (We) grant permission for Commission members and the Commission's agents to enter the above referenced property for the purpose of inspecting for compliance with the Order of Conditions. This site access authorization is valid until a Certificate of Compliance is issued by the Conservation Commission.

Authorized Signature:  Date 6/12/25

Printed Name: John Stone, Abington Department of Public Works
(If other than owner, state whether tenant, agent or other)

Mailing Address: 350 Summer Street, Abington, MA 02341

Phone: 781-982-2122 Email: jstone@abingtonma.gov
Cell: _____ Fax: _____



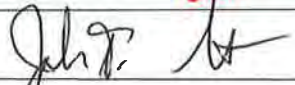
Town of Abington Conservation Commission Technical Requirements Checklist

TOWN OF ABINGTON CONSERVATION COMMISSION ACKNOWLEDGEMENT OF THE BYLAW AND REGULATIONS

The following acknowledgment must be signed by the Applicant, Property Owner, and their Representative:

By my signature, I acknowledge upon penalty of perjury that I have read, understood, and agree to abide by the policies and procedures of the Abington Conservation Commission as defined in the Town of Abington Wetlands Protection Bylaw and the Town of Abington Conservation Commission Regulations.

Applicant's name: John Stone, Abington Department of Public Works

Applicant's Signature: 

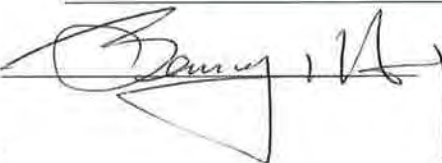
Date: 6/12/25

Property Owner's name
(if different from above): _____

Property Owner's signature: _____

Date: _____

Representative's name and title: Benny Hung, Environmental Partners Group, LLC

Representative's signature: 

Date: 6/12/25

APPENDIX B

MassDEP Transmittal Form and WPA Form 3 – Notice of Intent



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Abington

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Hancock St. and Chestnut St. Right of Way

a. Street Address

Abington

b. City/Town

02351

c. Zip Code

Latitude and Longitude:

42.13088

d. Latitude

-70.97672

e. Longitude

f. Assessors Map/Plat Number

g. Parcel /Lot Number

2. Applicant:

John

a. First Name

Stone

b. Last Name

Abington Department of Public Works

c. Organization

350 Summer Street

d. Street Address

Abington

e. City/Town

MA

f. State

02341

g. Zip Code

781-982-2122

h. Phone Number

i. Fax Number

jstone@abingtonma.gov

j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Benny

a. First Name

Hung

b. Last Name

Apex Companies, LLC

c. Company

18 Commerce Way, Suite 2000

d. Street Address

Woburn

e. City/Town

MA

f. State

01801

g. Zip Code

617-657-0259

h. Phone Number

i. Fax Number

benny.hung@apexcos.com

j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

Fee Exempt (Municipality)

a. Total Fee Paid

N/A

b. State Fee Paid

N/A

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Abington

City/Town

A. General Information (continued)

6. General Project Description:

The proposed project includes the construction of a roundabout to address existing safety deficiencies at the intersection of Hancock Street and Chestnut Street in Abington, MA. The project also involves improving the topography of the intersection and its approaches, rehabilitating pavement, and improving drainage.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home	2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial	4. ☐ Dock/Pier
5. ☐ Utilities	6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)	8. ☒ Transportation
9. ☐ Other	

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

Construction of public utilities (drainage, water) - 310 CMR 10.53(3)(d), and maintenance and improvement of existing public roadways - 310 CMR 10.53(3)(e)

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Hancock St. and Chestnut St. Right of Way

N/A

a. County

b. Certificate # (if registered land)

N/A

N/A

c. Book

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- ☒ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- ☐ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Abington

City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☐ Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Abington

City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet	
	2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

a. ☐ Yes ☒ No

If yes, include proof of mailing or hand delivery of NOI to:

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

May 2025
(MassMapper)

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. ☐ Percentage/acreage of property to be altered:

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

2. ☐ Assessor's Map or right-of-way plan of site

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

(a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/mas-endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

- (d) ☐ Vegetation cover type map of site

- (e) ☐ Project plans showing Priority & Estimated Habitat boundaries

- (f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing.

a. NHESP Tracking #

b. Date submitted to NHESP

3. ☐ Separate MESA review completed.

Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Bourne to Rhode Island border, and the Cape & Islands:

North Shore - Plymouth to New Hampshire border:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

- c. ☐ Is this an aquaculture project?

- d. ☐ Yes ☐ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



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C. Other Applicable Standards and Requirements (cont'd)

Online Users:

Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
 a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
 b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
 a. ☐ Yes ☒ No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
 a. ☐ Yes ☒ No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
 a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
 1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. ☒ A portion of the site constitutes redevelopment
 3. ☐ Proprietary BMPs are included in the Stormwater Management System.
- b. ☐ No. Check why the project is exempt:
 1. ☐ Single-family house
 2. ☐ Emergency road repair
 3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

MassDOT Highway Division Plan and Profile of Intersection Improvements at Hancock Street and Chestnut Street for Notice of Intent Permitting, dated July 2025

Environmental Partners Group, LLC.

b. Prepared By

c. Signed and Stamped by

As noted

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☒ Attach NOI Wetland Fee Transmittal Form
9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☒ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

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F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

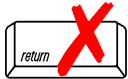
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

Hancock St and Chestnut St

a. Street Address

N/A

c. Check number

Abington

b. City/Town

Exempt

d. Fee amount

2. Applicant Mailing Address:

John

a. First Name

Stone

b. Last Name

Abington Department of Public Works

c. Organization

350 Summer Street

d. Mailing Address

Abington

e. City/Town

MA

f. State

02351

g. Zip Code

781-982-2122

h. Phone Number

i. Fax Number

jstone@abingtonma.gov

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

APPENDIX C

Wetland Evaluation/Delineation Reports

PINEBROOK



CONSULTING

July 18, 2024

ENVIRONMENTAL PARTNERS GROUP

1900 Crown Colony Drive, Suite 402

Quincy, Massachusetts 02169

Attention: Benny Hung, Ryan Paul and Maria George, Project Engineers

RE: Wetland Resource Area Delineation for Roadway Improvement Project
Hancock/Chestnut Street, Abington, Massachusetts

Dear Benny, Ryan and Maria:

On December 15, 2023, I investigated the above-referenced Project location (hereinafter referred to as the Project Area) for the presence of wetland resource areas as defined under the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and the associated regulations, 310 CMR 10.00 (Regulations) and the Town of Abington Wetlands Protection By-law (By-law). More specifically, the Project Area commences in the vicinity of #791/792 Hancock Street continues in a southerly direction to the intersection of Chestnut Street and Hancock Street, to the vicinity of #892 Hancock Street; and from the vicinity of # 160 Chestnut Street in south-southwesterly direction to the vicinity of #235/240 Chestnut Street. The purpose of the investigation was to identify the wetland resource areas within the 100-foot buffer zone of the proposed Roadway Improvement Project proposed by the Town of Abington (Project). The following provides a description of my findings.

The wetland resource areas identified on, and in the vicinity of, the Project Area are defined under Section 10.54, 10.56 and 10.55 of the Regulations and under the By-law as bank, land under a waterbody/waterway, bordering vegetated wetland (BVW), respectively. Two intermittent (Streams); one located off Hancock Street, in the vicinity of #863/875 Hancock Street; and one off Chestnut Street, in the vicinity of #235/240 Chestnut Street were identified with blue flags labeled MHW-1 thru MHW-4; MHW-100 thru MHW 106; MHW-A-1 thru MHWA-4 and MHWA-100 thru MHWA-104; and one which was not flagged (within the WFC wetland flag series); and is a stone-lined channel located between #160 and #170 Chestnut Street; were identified within the Project Area. At the time of the delineation it appeared from field conditions that the Streams were perennial hence the placement of the MHW flags. Since that time; however, MassGis stream data and StreamStats has determined that the Streams are intermittent and are not defined as "rivers" per 310 CMR 10.58. A number of BVW systems; delineated with pink flags labeled WFA-1 thru WFA-3; WFA-100 thru WFA-104; WFB-1 thru WFB-2; WFB-100 thru WFB-106; and WFC-1 thru WFC-2 are located at different locations

Page 2. Roadway Improvement Project, Hancock/Chestnut Street, Abington, MA

within the Project Area (see the attached sketch for the approximate location of the wetland flags). The BVW's; which are fairly well-defined were identified by both the slope and/or the presence of wetland, transitional and upland plant species such as: red maple (*Acer rubrum*), white pine (*Pinus strobus*), tupelo (*Nyssa sylvatica*), black oak (*Quercus velutina*), black cherry (*Prunus serotina*) and white oak (*Quercus alba*) trees/saplings in the overstory; hop hornbeam (*Ostrya virginiana*), multiflora rose (*Rosa multiflora*), arrow-wood (*Viburnum dentatum*), highbush blueberry (*Vaccinium corymbosum*), green brier (*Smilax glauca*), bittersweet (*Celastrus orbiculata*), grape (*Vitis*, spp.), tartarian honeysuckle (*Lonicera tartartica*), witch-hazel (*Hamamelis virginiana*) and glossy buckthorn (*Rhamnus frangula*) in the shrub/vine layer; and cinnamon fern (*Osmunda cinnamomea*), hayscented fern (*Dennstaedtia punctilobula*), sensitive fern (*Onoclea sensibilis*), Virginia creeper (*Parthenocissus quinquefolia*), shining club moss (*Lycopodium lucidulum*), dewberry (*Rubus hispidus*), sphagnum moss (*Sphagnum*, spp.) and sedges (*Carex*, spp.) in the herbaceous layer. The BVW's were also identified by other hydrological indicators such as standing water, buttressed tree roots and saturated/hydric soils. It is my understanding that the wetland flags are to be surveyed and shown on a Plan to be submitted with a Notice of Intent to the Abington Conservation Commission for a permit to conduct the proposed Project work.

According to the most recent Massachusetts Natural Heritage Program (NHESP) Atlas (15th Edition) dated August 1, 2021, the Project Area is not mapped as estimated and priority habitat for rare wildlife and/or rare species and there are no certified/mapped vernal pools within; in the vicinity of; the Project Area.

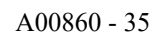
If you have any questions regarding these findings and/or you need additional information, please feel free to call me at any time. I am glad I could assist you with this project, and let me know if I can be of any help in the future.

Sincerely,

PINEBROOK CONSULTING

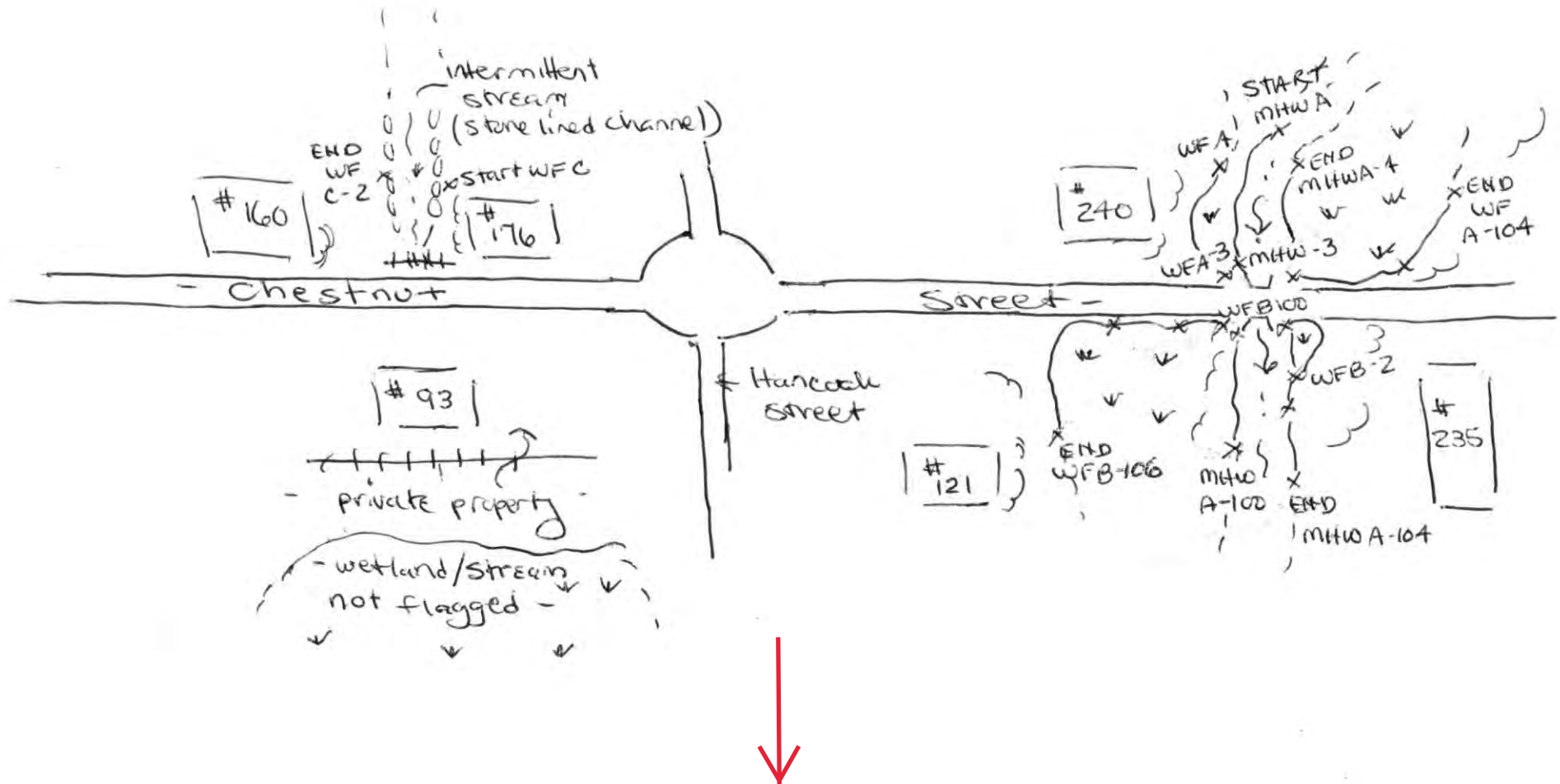
Brooke Monroe

Environmental Scientist



Wetland Flags

Roadway Imp -
Hancock / Chestnut St.
Abington, MA
12/15/2023



PINEBROOK



CONSULTING

March 17, 2025

ENVIRONMENTAL PARTNERS GROUP (Apex Companies, LLC)
1900 Crown Colony Drive, Suite 402
Quincy, Massachusetts 02169
Attention: Benny Hung, P.E.

RE: DEP Bordering Vegetated Wetland Delineation Field Data Forms,
Hancock Street and Chestnut Street Roadway Improvement Project
Abington, Massachusetts

Dear Benny:

At your request; and at the request of Mass DOT; enclosed are the Department of Environmental Protection (DEP) Bordering Vegetated Wetland Delineation Field Data Forms (Data Forms) for the wetland delineations conducted on the above-referenced Project roadways. The wetland delineations; conducted on December 15, 2023; identify bordering vegetated wetlands (BVW's) located at different locations off Hancock Street and Chestnut Street. The Data Forms were prepared for three (3) upland and 3 wetland locations (WF-1/WF-2, WFA-101/WFA-102 and WFB-102/WFB-103), with vegetative plots conducted at each location. Soil samples for the plots were deemed unnecessary, in that the BVW's are well-defined by the slope; the absence of hydrological indicators on the upland side of the plots; and the presence/dominance of hydrological indicators on the wetland side.

If you have any questions and/or you need additional information, please feel free to call me at any time. I am glad I could assist you with this project, and please let me know if you need any help in the future.

Sincerely,
PINEBROOK CONSULTING

Brooke Monroe
Environmental Scientist

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: up WF-1/WF-2
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soils criterion met?	Yes ☐ No ☐	
Wetlands hydrology present?	Yes ☐ No ☒	
Remarks, Photo Details, Flagging, etc.: The location of the sampling is upgradient of WF 1 and WF-2. The wetland is well-defined by the slope (+-5') and no hydrologic indicators are present. Plant species are, primarily, FACU or UPL.		

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes ☐ No ☒	Depth (inches) _____
Water Table Present?	Yes ☐ No ☒	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☐ No ☒	Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology ☐ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☐ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation ☐ Hydrological records ☐ Free water in a soil test hole ☐ Saturated soil ☐ Water marks ☐ Moss trim lines ☐ Presence of reduced iron ☐ Woody plants with adventitious roots ☐ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	Indicators of the Influence of Water ☐ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☐ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available): The plot location is above the slope, with no hydrologic indicators and/or wetland plant species present.		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. Norway maple	Acer platanoides	FACU	38.0	Yes	No
2. black oak	Quercus velutina	FACU	38.0	Yes	No
3. red maple	Acer rubrum	FAC	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
			<u>79.0</u>	= Total Cover	

<u>Shrub/Sapling Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. black cherry	Prunus serotina	FACU	20.5	Yes	No
2. Norway maple	Acer platanoides	FACU	20.5	Yes	No
3. buckthorn	Rhamnus frangula	FAC	3.0	No	No
4.					
5.					
6.					
7.					
8.					
9.					
			<u>44.0</u>	= Total Cover	

<u>Herb Stratum</u> Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. ground ivy	Hedera helix	UPL	3.0	No	No
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
			<u>3.0</u>	= Total Cover	

VEGETATION – continued.

Woody Vine Stratum		Plot size <u>30'</u>	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name					
1. fox grape	<i>Vitis labrusca</i>	FACU	20.5	Yes	No	
2. bittersweet	<i>Celastrus orbiculata</i>	FACU	3.0	No	No	
3. multiflora rose	<i>Rosa multiflora</i>	FACU	38.0	Yes	No	
4. glossy buckthorn	<i>Rhamnus frangula</i>	FAC	10.5	Yes	Yes	
			<u>72.0</u> = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☒			
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☒
Prevalence Index:		Total % Cover (all strata)	Multiply by: Result
	OBL species	0	X 1 = 0.00
	FACW species	0	X 2 = 0.00
	FAC species	3	X 3 = 9.00
	FACU species	6	X 4 = 24.00
	UPL species	1	X 5 = 5.00
	Column Totals	(A) 10	(B) 38
Prevalence Index		B/A = 3.80	Is the Prevalence Index ≤ 3.0? Yes ☐ No ☒
Wetland vegetation criterion met? Yes ☐ No ☒			

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: wet WF-1/WF-2
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: BVW
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soils criterion met?	Yes ☒ No ☐	
Wetlands hydrology present?	Yes ☒ No ☐	

Remarks, Photo Details, Flagging, etc.:

The plot location is downgradient of WF-1 and WF-2. Hydrological indicators (stained/matted leaves, saturated soils and buttressed roots) are evident. The presence of invasive plant species indicates some on-going disturbance (runoff from road, etc.) and the hydrological indicators dominate the location.

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes ☒ No ☐	Depth (inches) <u>1.00</u>
Water Table Present?	Yes ☐ No ☐	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☐ No ☐	Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
☒ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☒ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	☐ Hydrological records ☐ Free water in a soil test hole ☒ Saturated soil ☒ Water marks ☒ Moss trim lines ☐ Presence of reduced iron ☒ Woody plants with adventitious roots ☒ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	☒ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☐ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. no tree							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
				0.0 = Total Cover			
<u>Shrub/Sapling Stratum</u>		Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. glossy buckthorn	Rhamnus frangula	FAC	3.0	No	No		
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
				3.0 = Total Cover			
<u>Herb Stratum</u>		Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. sensitive fern	Onoclea sensibilis	FACW	38.0	Yes	Yes		
2. ground ivy	Hedera helix	UPL	3.0	No	No		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
				41.0 = Total Cover			

VEGETATION – continued.

Woody Vine Stratum		Plot size _____	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name					
1. fox grape	Vitus labrusca		FAC	10.5	Yes	Yes
2. bittersweet	Celastrus orbiculata		FACU	38.0	Yes	No
3. multiflora rose	Rosa multiflora		FACU	10.5	Yes	No
4.						
				59.0	= Total Cover	

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes ☐ No ☒	
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up $\geq 50\%$ of dominant plant species? Yes ☐ No ☒	
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species	1	X 2	= 2.00
	FAC species	2	X 3	= 6.00
	FACU species	2	X 4	= 8.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 5		(B) 16
Prevalence Index		B/A = 3.20		Is the Prevalence Index ≤ 3.0 ? Yes ☒ No ☐
Wetland vegetation criterion met?		Yes ☒ No ☒		

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: up WFA-102/WFA-103
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soils criterion met?	Yes ☐ No ☐	
Wetlands hydrology present?	Yes ☐ No ☒	
Remarks, Photo Details, Flagging, etc.: The location of the sampling is upgradient of WFA102 and WFA-103. The wetland is well-defined by the slope and no hydrologic indicators are present. Plant species are, primarily, FACU.		

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes ☐ No ☒	Depth (inches) _____
Water Table Present?	Yes ☐ No ☒	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☐ No ☒	Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
☐ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☐ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	☐ Hydrological records ☐ Free water in a soil test hole ☐ Saturated soil ☐ Water marks ☐ Moss trim lines ☐ Presence of reduced iron ☐ Woody plants with adventitious roots ☐ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	☐ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☐ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available): The plot location is above the slope, with no hydrologic indicators and/or wetland plant species present.		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. black cherry	Prunus serotina	FACU	38.0	Yes	No
2. black oak	Quercus velutina	FACU	85.5	Yes	No
3. red maple	Acer rubrum	FAC	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
			<u>126.5</u>	= Total Cover	
<u>Shrub/Sapling Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. black cherry	Prunus serotina	FACU	3.0	No	No
2. multiflora rose	Rosa multiflora	FACU	20.5	Yes	No
3. glossy buckthorn	Rhamnus frangula	FAC	3.0	No	No
4. tartarian honeysuckle	Lonicera tartarica	FACU	3.0	No	No
5.					
6.					
7.					
8.					
9.					
			<u>29.5</u>	= Total Cover	
<u>Herb Stratum</u> Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. grasses	Graminae, spp.	FACU	3.0	No	No
2. Japanese knotweed	Polygonum cuspidatum	FACU	3.0	No	No
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
			<u>6.0</u>	= Total Cover	

VEGETATION – continued.

Woody Vine Stratum		Plot size	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name					
1. fox grape	Vitis labrusca		FACU	20.5	Yes	No
2. bittersweet	Celastrus orbiculata		FACU	3.0	No	No
3. multiflora rose	Rosa multiflora		FACU	38.0	Yes	No
			61.5 = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?				Yes ☐ No ☒
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☒
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	0	X 1	= 0.00
	FACW species	0	X 2	= 0.00
	FAC species	2	X 3	= 6.00
	FACU species	9	X 4	= 36.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 11		(B) 42
Prevalence Index		B/A = 3.82		Is the Prevalence Index ≤ 3.0? Yes ☒ No ☐
Wetland vegetation criterion met?		Yes ☐ No ☒		

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: wet WFA-102/1WFA-103
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: BVW

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soils criterion met?	Yes ☒ No ☐	
Wetlands hydrology present?	Yes ☒ No ☐	

Remarks, Photo Details, Flagging, etc.:

The plot location is downgradient of WFA-102 and WFA-103. Hydrological indicators (stained/matted leaves, saturated soils and buttressed roots) are evident. There is a growth the invasive plant species (Japanese knotweed) upgradient of the BVW.

HYDROLOGY**Field Observations:**

Surface Water Present?	Yes ☒ No ☐	Depth (inches) <u>1.00</u>
Water Table Present?	Yes ☐ No ☐	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☒ No ☐	Depth (inches) <u>0.05</u>

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
☒ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☐ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	☐ Hydrological records ☐ Free water in a soil test hole ☒ Saturated soil ☐ Water marks ☒ Moss trim lines ☐ Presence of reduced iron ☒ Woody plants with adventitious roots ☒ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	☒ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☒ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):
 Plot downgradient of wetland flags. Obvious wetland conditions evident.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
<u>38.0</u> = Total Cover					
<u>Shrub/Sapling Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. glossy buckthorn	Rhamnus frangula	FAC	3.0	No	Yes
2. red osier dogwood	Cornus stolonifera	FACW	20.5	Yes	Yes
3. arrow-wood	Viburnum dentatum	FAC	38.0	Yes	Yes
4. multiflora rose	Rosa multiflora	FACU	3.0	No	No
5.					
6.					
7.					
8.					
9.					
<u>64.5</u> = Total Cover					
<u>Herb Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. sensitive fern	Onoclea sensibilis	FACW	20.5	Yes	Yes
2. cinnamon fern	Osmunda cinnamomea	FACW	20.5	Yes	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>41.0</u> = Total Cover					

VEGETATION – continued.

Common name		Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. fox grape		Vitis labrusca	FAC	10.5	Yes	Yes
2. bittersweet		Celastrus orbiculata	FACU	38.0	Yes	No
3. multiflora rose		Rosa multiflora	FACU	10.5	Yes	No
4.						
				59.0	= Total Cover	

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes ☐ No ☒
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☒
Prevalence Index:		Total % Cover (all strata)	Multiply by:
	OBL species		X 1
	FACW species	3	X 2
	FAC species	4	X 3
	FACU species	3	X 4
	UPL species		X 5
	Column Totals	(A) 10	(B) 30
Prevalence Index		B/A = 3.00	Is the Prevalence Index ≤ 3.0? Yes ☒ No ☐
Wetland vegetation criterion met?		Yes ☒ No ☐	

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: up WFB-101/WFB-102
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soils criterion met?	Yes ☐ No ☐	
Wetlands hydrology present?	Yes ☐ No ☒	
Remarks, Photo Details, Flagging, etc.: The location of the sampling is upgradient of WFB-101 and WFB-102. The wetland is well-defined by the slope and no hydrologic indicators are present. Plant species are, primarily, FACU.		

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes ☐ No ☒	Depth (inches) _____
Water Table Present?	Yes ☐ No ☒	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☐ No ☒	Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology ☐ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☐ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation ☐ Hydrological records ☐ Free water in a soil test hole ☐ Saturated soil ☐ Water marks ☐ Moss trim lines ☐ Presence of reduced iron ☐ Woody plants with adventitious roots ☐ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	Indicators of the Influence of Water ☐ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☐ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available): The plot location is above the slope, with no hydrologic indicators and/or a dominance of wetland plant species.		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. black cherry	Prunus serotina	FACU	38.0	Yes	No		
2. black oak	Quercus velutina	FACU	3.0	No	No		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
				<u>41.0</u> = Total Cover			
<u>Shrub/Sapling Stratum</u>		Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. arrow-wood	Viburnum dentatum	FAC	3.0	No	Yes		
2. multiflora rose	Rosa multiflora	FACU	20.5	Yes	No		
3. glossy buckthorn	Rhamnus frangula	FAC	3.0	No	No		
4.							
5.							
6.							
7.							
8.							
9.							
				<u>26.5</u> = Total Cover			
<u>Herb Stratum</u>		Plot size _____		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. grasses	Graminae, spp.	FACU	3.0	No	No		
2. Japanese knotweed	Polygonum cuspidatum	FACU	20.5	Yes	No		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
				<u>23.5</u> = Total Cover			

VEGETATION – continued.

Common name		Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
<u>Woody Vine Stratum</u>		Plot size <u>30'</u>				
1. fox grape	Vitis labrusca	FACU	20.5	Yes	No	
2. bittersweet	Celastrus orbiculata	FACU	3.0	No	No	
3.		FACU		Yes	No	
4.		FAC		Yes	Yes	
				<u>23.5</u>	= Total Cover	

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes ☐ No ☒
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☒
Prevalence Index:		Total % Cover (all strata)	Multiply by:
	OBL species	0	X 1
	FACW species	0	X 2
	FAC species	2	X 3
	FACU species	8	X 4
	UPL species		X 5
	Column Totals	(A) 10	(B) 38
Prevalence Index		B/A = 3.80	
		Is the Prevalence Index ≤ 3.0? Yes ☒ No ☐	
Wetland vegetation criterion met? Yes ☐ No ☒			

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Hancock Street City/Town: Abington Sampling Date: 12/15/2023
 Applicant/Owner: Town of Abington Sampling Point or Zone: wet WFB-101/1WFB-102
 Investigator(s): Brooke Monroe Latitude / Longitude: _____
 Soil Map Unit Name: Not available. NWI or DEP Classification: BVW

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? (If yes, explain in Remarks)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes ☒	No ☐	Is the Sampled Area within a Wetland?	Yes ☒	No ☐
Hydric Soils criterion met?	Yes ☒	No ☐			
Wetlands hydrology present?	Yes ☒	No ☐			
Remarks, Photo Details, Flagging, etc.: The plot location is downgradient of WFB-101 and WFB-102. Hydrological indicators (stained/matted leaves, saturated soils and buttressed roots) are evident and the indicator plant species dominant.					

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes ☒	No ☐ Depth (inches) <u>1.00</u>
Water Table Present?	Yes ☐	No ☐ Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes ☒	No ☐ Depth (inches) <u>0.05</u>
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
☒ Water-stained leaves ☐ Evidence of aquatic fauna ☐ Iron deposits ☐ Algal mats or crusts ☐ Oxidized rhizospheres/pore linings ☐ Thin muck surfaces ☐ Plants with air-filled tissue (aerenchyma) ☐ Plants with polymorphic leaves ☐ Plants with floating leaves ☐ Hydrogen sulfide odor	☐ Hydrological records ☐ Free water in a soil test hole ☒ Saturated soil ☐ Water marks ☒ Moss trim lines ☐ Presence of reduced iron ☒ Woody plants with adventitious roots ☒ Trees with shallow root systems ☐ Woody plants with enlarged lenticels	☒ Direct observation of inundation ☐ Drainage patterns ☐ Drift lines ☐ Scoured areas ☐ Sediment deposits ☐ Surface soil cracks ☐ Sparsely vegetated concave surface ☒ Microtopographic relief ☐ Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available): Plot downgradient of wetland flags. Obvious wetland conditions evident.		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. tupelo	Nussa sylvatica	FACW	3.0	No	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					
<u>41.0</u> = Total Cover					
<u>Shrub/Sapling Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. glossy buckthorn	Rhamnus frangula	FAC	3.0	No	Yes
2. red osier dogwood	Cornus stolonifera	FACW	20.5	Yes	Yes
3. arrow-wood	Viburnum dentatum	FAC	38.0	Yes	Yes
4. multiflora rose	Rosa multiflora	FACU	3.0	No	No
5. white pine	Pinus strobus	FACU	3.0	No	No
6.					
7.					
8.					
9.					
<u>67.5</u> = Total Cover					
<u>Herb Stratum</u> Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name				
1. No herb		FACW		Yes	Yes
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>0.0</u> = Total Cover					

VEGETATION – continued.

Woody Vine Stratum		Plot size <u>30'</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name					
1.	fox grape	Vitus labrusca		FAC	10.5	Yes	Yes
2.	bittersweet	Celastrus orbiculata		FACU	38.0	Yes	No
3.							
4.							
					48.5 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☒				
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☒
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species	2	X 2	= 4.00
	FAC species	3	X 3	= 9.00
	FACU species	3	X 4	= 12.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 8		(B) 25
Prevalence Index		B/A = 3.13		Is the Prevalence Index ≤ 3.0? Yes ☒ No ☐
Wetland vegetation criterion met? Yes ☒ No ☐				

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

[illegible]

PINEBROOK



CONSULTING

May 15, 2025

ENVIRONMENTAL PARTNERS GROUP (an Apex Company)
1900 Crown Colony Drive, Suite 402
Quincy, Massachusetts 02169
Attention: Benny Hung, Project Engineer

RE: Addendum to the Wetland Resource Area Delineation for Hancock Street and
Chestnut Street Roadway Improvement Project, Abington, Massachusetts

Dear Benny:

In response to comments from Mass DOT; relative to the resource area delineation review for the above referenced Project; I am submitting additional information; specifically, the delineation of the resource area (bordering vegetated wetland (BVW)) on the northerly side of Chestnut Street, west of #221 Chestnut Street. The following is a description of my findings.

On May 5, 2025, I returned to the previously delineated resource area at the above-mentioned location and determined that the previously placed wetland flags; WFB-100 thru WFB-106; did not extend far enough to include the portion of the wetland in the vicinity of #221 Chestnut Street due to the dense growth of multiflora rose on the upper edge of the wetland. On May 5, additional wetland flags labeled WFB-107 thru WB-112 were placed in the field to better define the full extent of the resource area (see the attached revised sketch). The new flags commence at old flag WFB-106 and terminate at a culvert under the driveway associated with #221 Chestnut Street.

The DEP Bordering Vegetated Wetland Determination Field Data Forms (Data Forms) were not deemed necessary for the newly placed flags in that they were submitted previously to confirm the WFB wetland boundary and the new flags have been placed at the top of the slope, along the edge of Chestnut Street, and/or on the top of the rip-rap wall on the side of the driveway associated with #221 Chestnut Street.

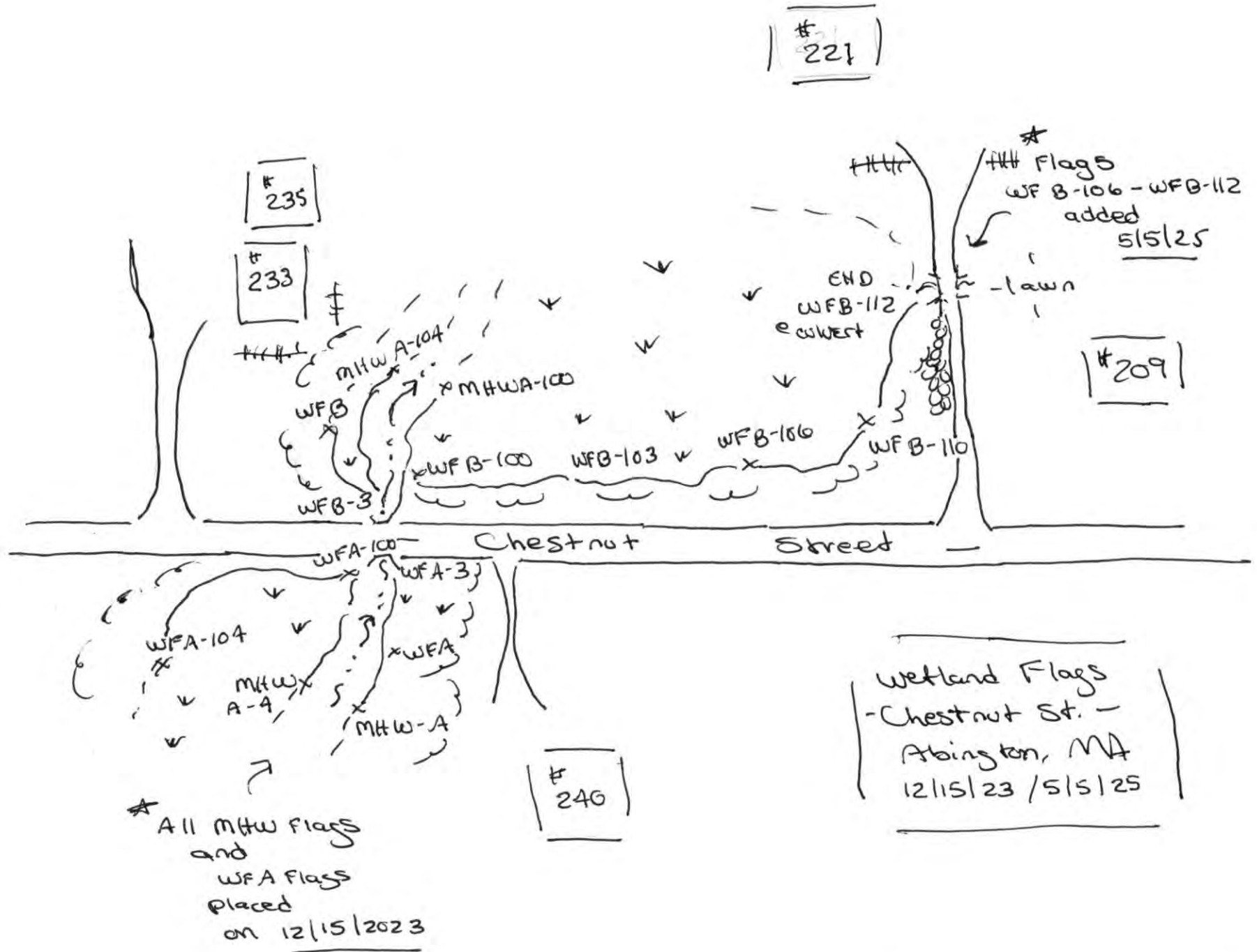
If you have any questions or need additional information regarding these findings, please feel free to give me a call. Thank you, Benny.

Sincerely,

PINEBROOK CONSULTING

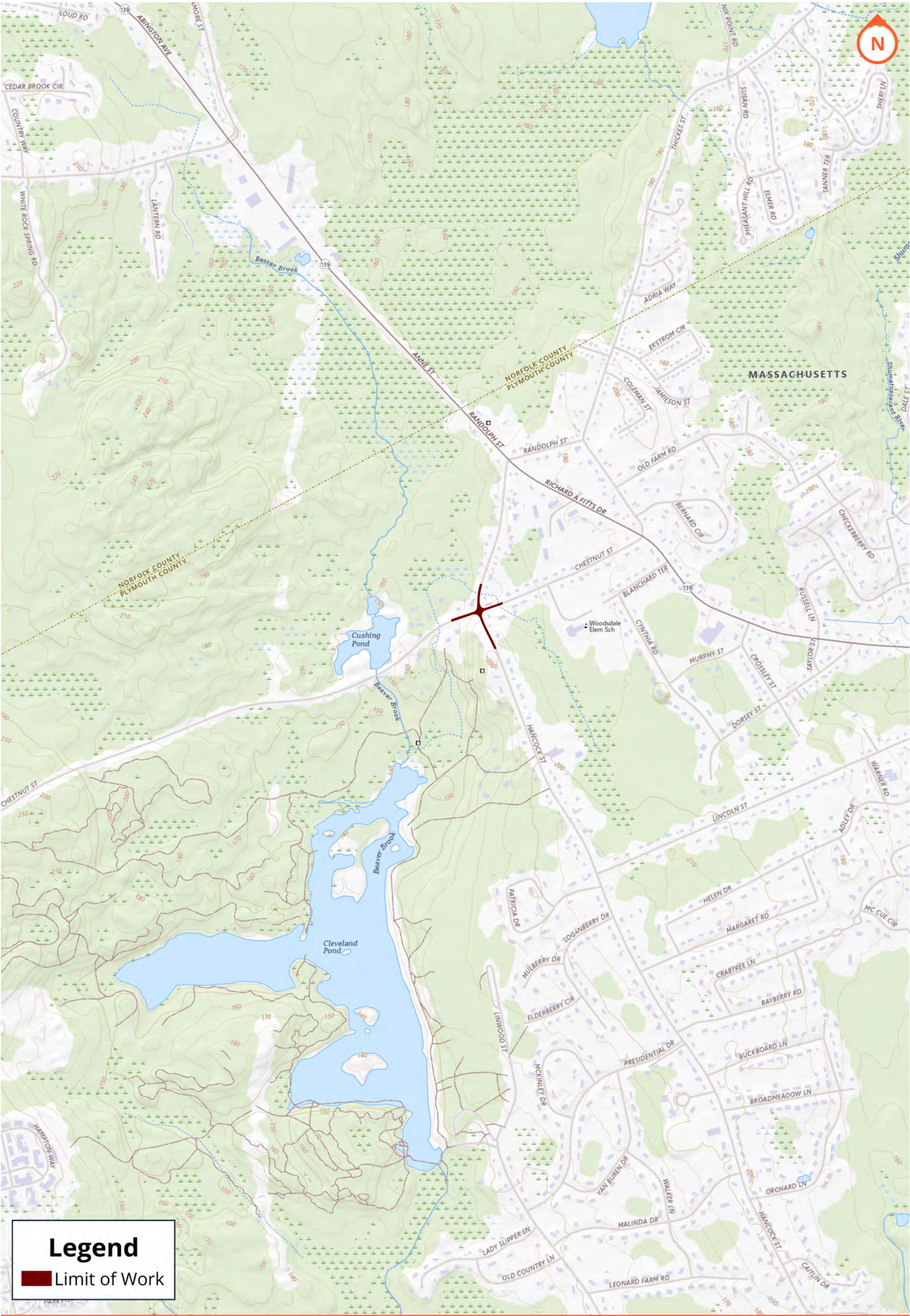
Brooke Monroe
Environmental Scientist

310 Sandwich Street • Plymouth, MA 02360 • 508-746-2386



APPENDIX D

Project GIS Mapping Figures





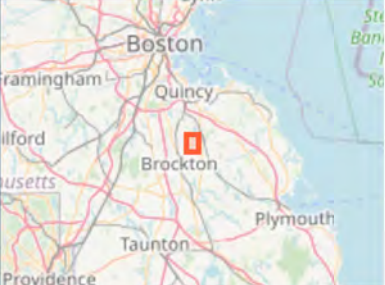
— An Apex Company —

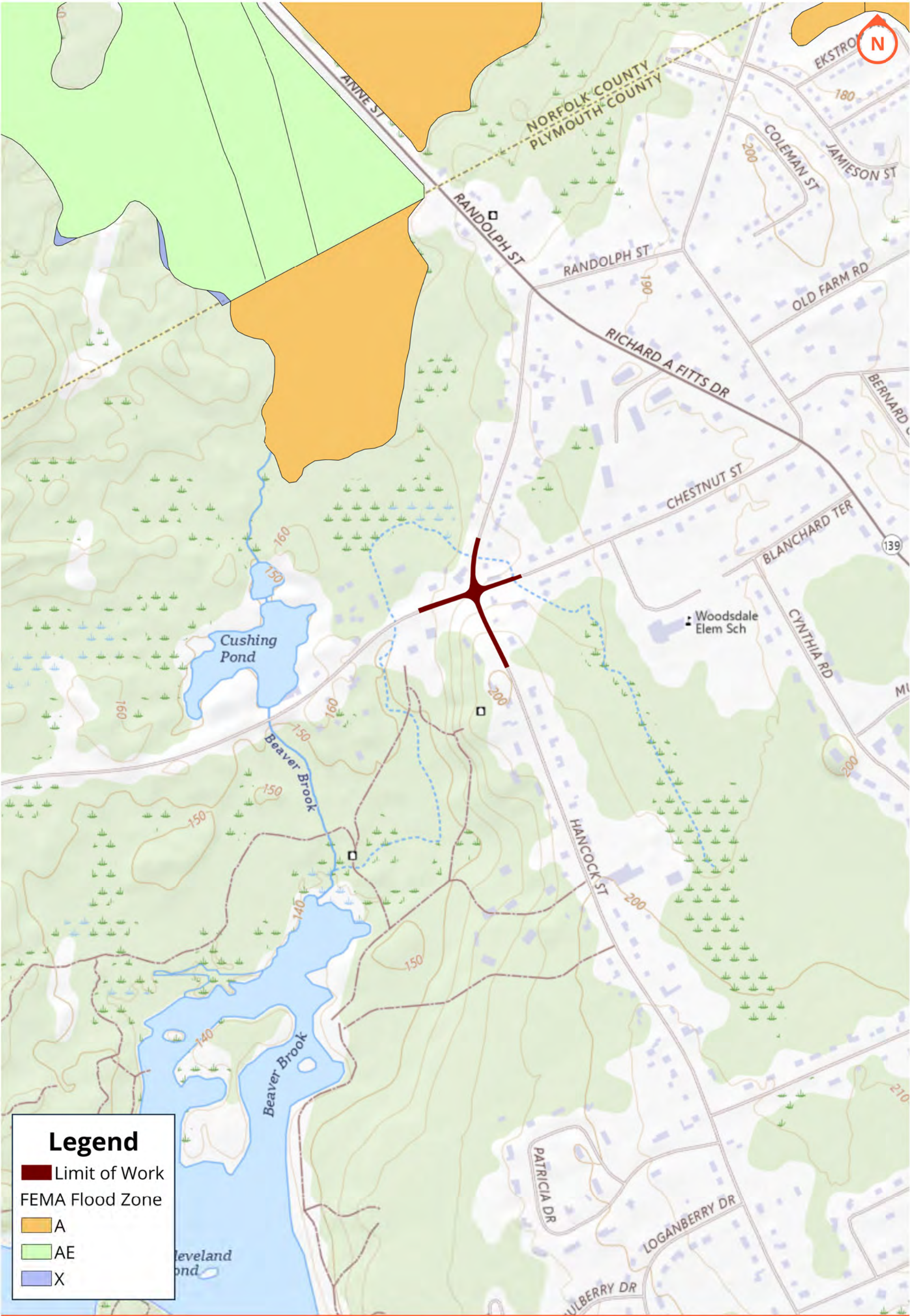
Figure 1: USGS Locus Map
Hancock St at Chestnut St Intersection Improvements
Abington, MA
6/11/2024

05001,000

1:12,000

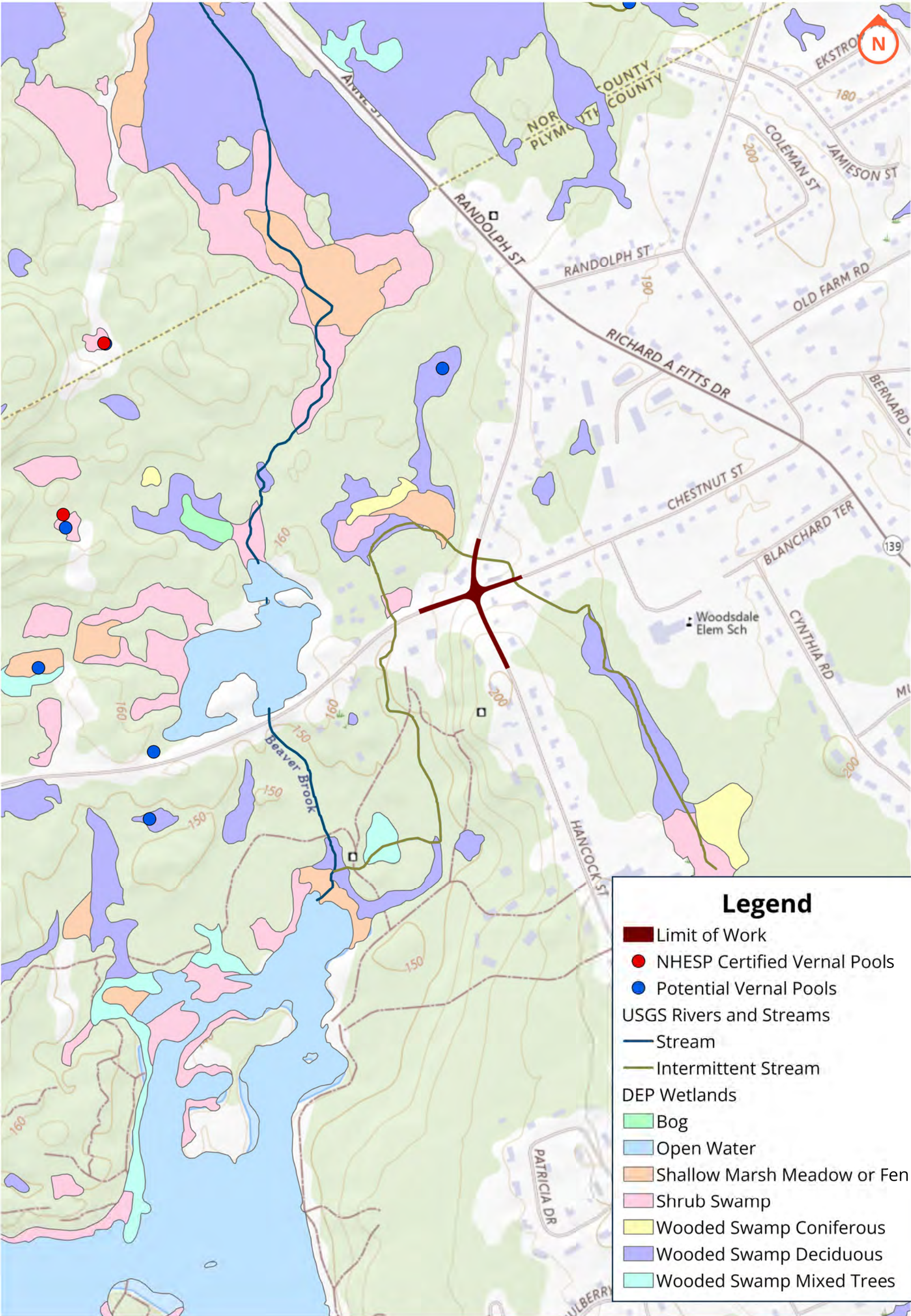
Feet





ENVIRONMENTAL PARTNERS
— An Apex Company —

Figure 2: FEMA Flood Zones
Hancock St at Chestnut St Intersection Improvements
Abington, MA
6/11/2024



ENVIRONMENTAL

PARTNERS

— An Apex Company —

Figure 3: Vernal Pools and Wetlands

Hancock St at Chestnut St Intersection Improvements

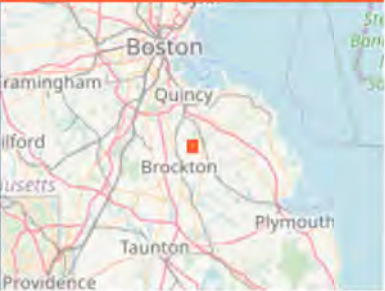
Abington, MA

6/11/2024

05001,000

Feet

1:6,000





70°58'55"W 42°8'5"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

Without Base Flood Elevation (BFE)
Zone A, V, A99

With BFE or Depth Zone AE, AO, AH, VE, AR

Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee. See Notes. Zone X

Area with Flood Risk due to Levee Zone D

OTHER AREAS

NO SCREEN Area of Minimal Flood Hazard Zone X

Effective LOMRs

Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES

Channel, Culvert, or Storm Sewer

Levee, Dike, or Floodwall

OTHER FEATURES

Cross Sections with 1% Annual Chance Water Surface Elevation
20.2
17.5

Coastal Transect

Base Flood Elevation Line (BFE)

Limit of Study

Jurisdiction Boundary

Coastal Transect Baseline

Profile Baseline

Hydrographic Feature

MAP PANELS

Digital Data Available

No Digital Data Available

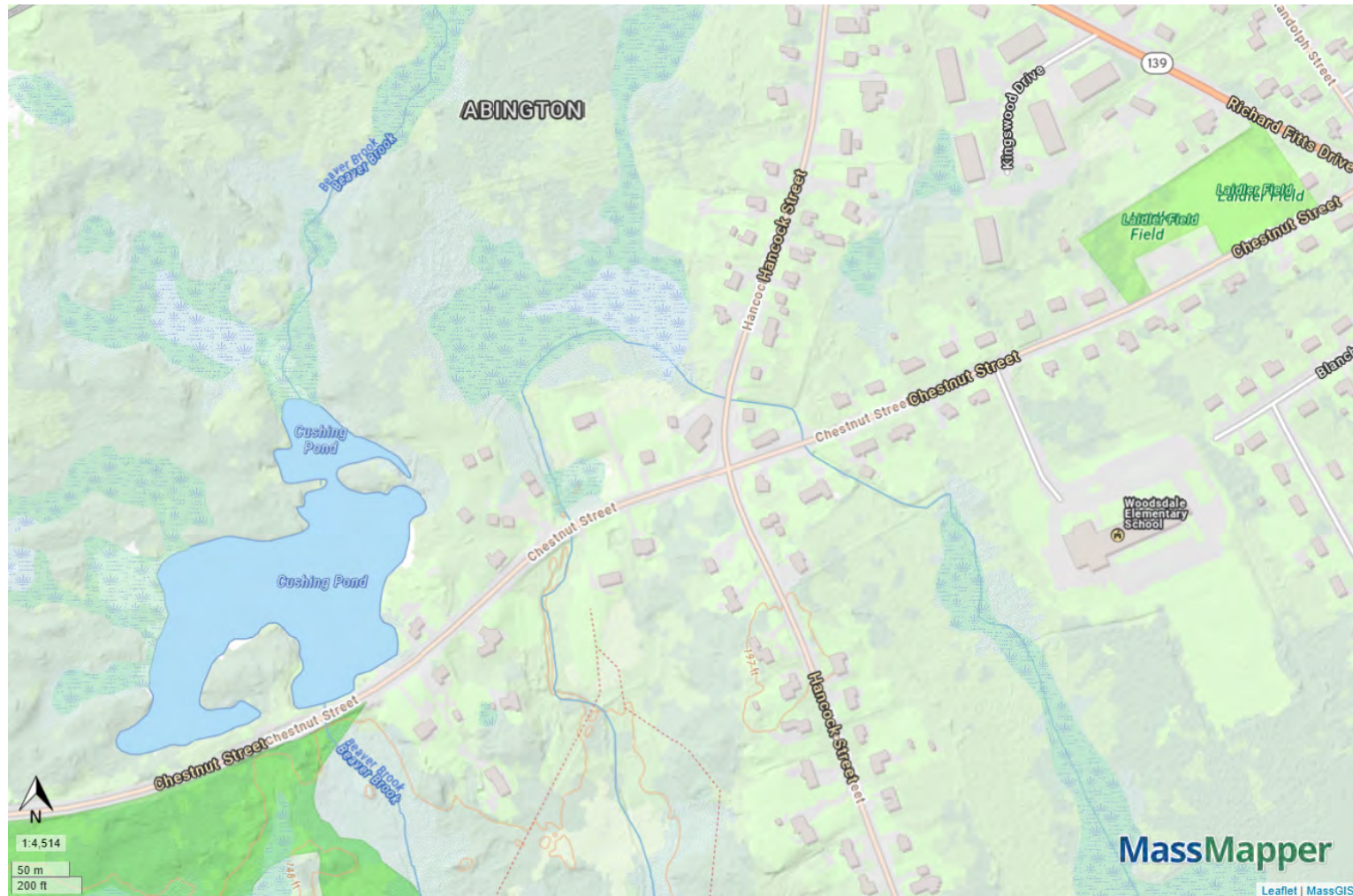
Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/5/2025 at 7:44 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



NHESP Estimated Habitats of Rare Wildlife



NHESP Priority Habitats of Rare Species



Map Features for Imagery



MassGIS-MassDOT Roads Street Names

Property Tax Parcels

APPENDIX E

Permitting Design Plans
(Submitted Under Separate Cover)

APPENDIX F

Certified Abutters List and Notification Form

Name Drew Gallant

Telephone 617-657-0988

Address: 18 Commerce Way, Suite 2000, Woburn, MA 01801

Signature 

UPON COMPLETION: [] Will pick up or [] Mail to me (additional cost to be determined)

Property location: Chestnut St. and Hancock St. Street Right-of-Way (see attached map)
(193 - 218 Chestnut St, 824 - 888 Hancock St)

Please check which type of Abutter list you require (if no selection is made, you will receive a listing of all parcels within 300 feet of the subject parcel).

	Type	List	Labels
☐	Zoning	direct abutters and abutters to those abutters, within 300 feet	2 sets
☐	Planning	direct abutters and abutters to those abutters, within 300 feet	2 sets
☐	Subdivision plans	only direct abutters	1 set
☒	Conservation	all parcels within 100 feet	2 sets
☐	Pole location	direct abutters of the pole	1 set
☐	Automotive license	all direct abutters and parcels directly across the street	3 sets
☐	Street acceptance	everyone on the street in question, and the developer	1 set
☐	Alcohol license	all direct abutters, and any churches and/or schools within 500 ft	2 sets
☐	Underground storage	all direct abutters and parcels directly across the street	1 set
☐	Private well	all direct abutters (town properties included on labels)	1 set
☐	Livery license	all parcels within 100 feet	1 set
☐	Kennel license	all parcels within 300 feet	1 set
☐	If the list you require is not included above, please describe:		

Mailing labels: \$2.00 for the first page of labels and \$1.00 for each additional page

Sets of labels you require (if any) _____

Date started: _____

Date Completed: _____

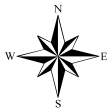
Date notified: _____

List fee	\$15.00
Label fee	
Postage fee (if appl)	
Grand total	

PAYABLE BY CASH OR CHECK ONLY.

MAKE CHECKS PAYABLE TO "TOWN OF ABINGTON"

ABUTTER LISTS MUST BE PAID IN FULL, PRIOR TO DELIVERY



Intersection of Chestnut & Hancock

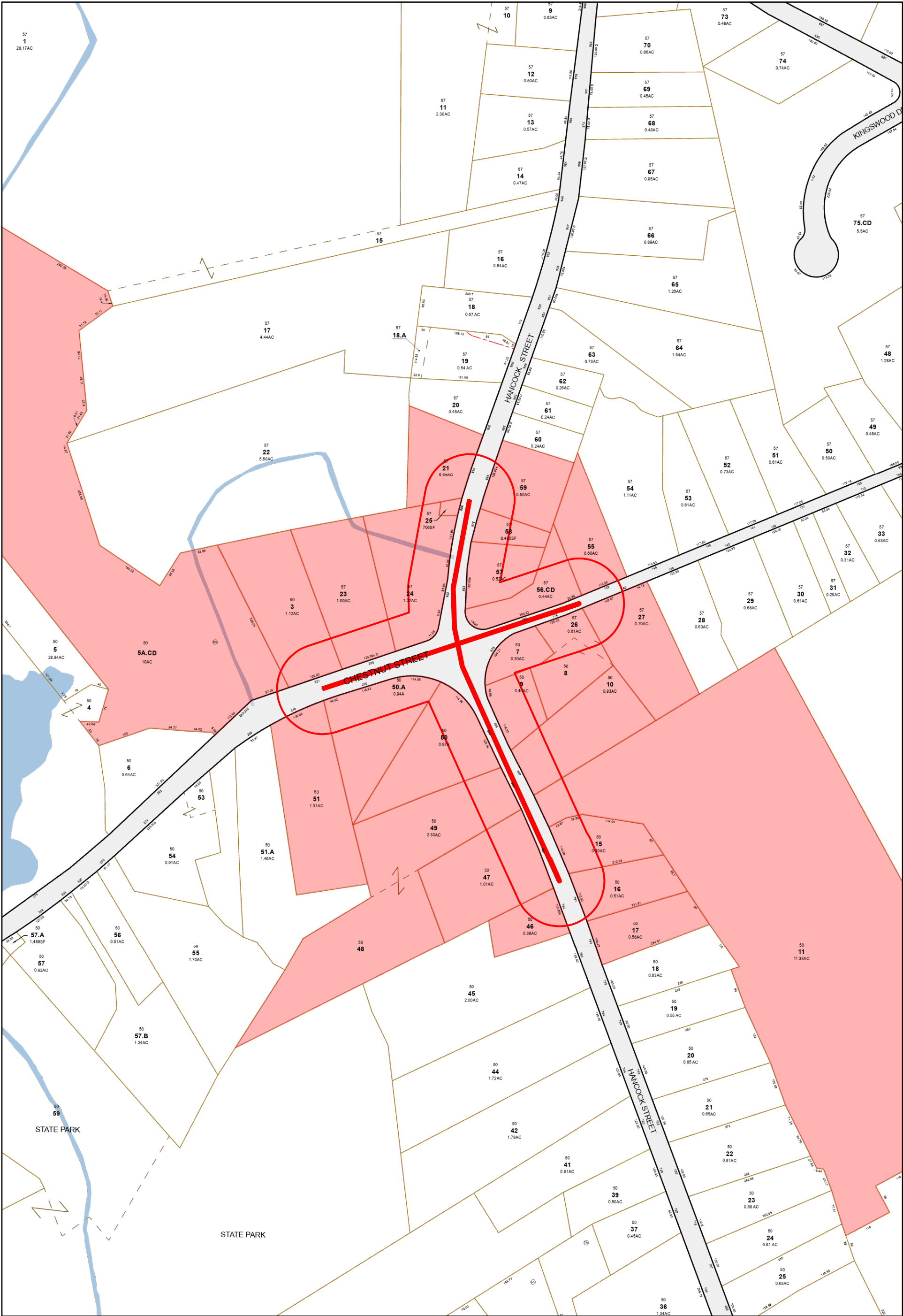
Abington, MA



July 9, 2025

1 inch = 200 Feet

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

TOWN OF ABINGTON

ABUTTER LIST REQUEST

ASSESSING DEPARTMENT

Name Drew Gallant
 Telephone 617-657-0988
 Address: 18 Commerce Way, Suite 2000, Woburn, MA 01801
 Signature 



UPON COMPLETION: [] Will pick up or [] Mail to me (additional cost to be determined)

Chestnut St. and Hancock St. Street Right-of-Way (see attached map)
Property location: (193 - 218 Chestnut St, 824 - 888 Hancock St)

Please check which type of Abutter list you require (if no selection is made, you will receive a listing of all parcels within 300 feet of the subject parcel).

	Type	List	Labels
☐	Zoning	direct abutters and abutters to those abutters, within 300 feet	2 sets
☐	Planning	direct abutters and abutters to those abutters, within 300 feet	2 sets
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☐	Livery license	all parcels within 100 feet	1 set
☐	Kennel license	all parcels within 300 feet	1 set
☐	If the list you require is not included above, please describe:		

Mailing labels: \$2.00 for the first page of labels and \$1.00 for each additional page

Sets of labels you require (if any) _____

Date started: 7-9
 Date Completed: 7-9
 Date notified: 7-10 - emailed back

List fee	\$15.00
Label fee	
Postage fee (if appl)	
Grand total	

Waived - town project

PAYABLE BY CASH OR CHECK ONLY.

MAKE CHECKS PAYABLE TO "TOWN OF ABINGTON"

ABUTTER LISTS MUST BE PAID IN FULL, PRIOR TO DELIVERY

Abutter list for the intersection of Hancock & Chestnut St.

Map	Lot	Lot Cut	Unit	Unit Cut	Owner Full Name	Co-Owner Full Name	Address Line 1	City	State	Zip	Location
50	3				MAH CHUNG F		221 CHESTNUT ST	ABINGTON	MA	02351	221 CHESTNUT ST
50	5		A1		WOODS SR MARK & ELEANOR		233 CHESTNUT ST	ABINGTON	MA	02351	233 CHESTNUT ST
50	5		A2		MAHARJAN BIJAY & SHRESTHA MADHAVI		235 CHESTNUT ST	ABINGTON	MA	02351	235 CHESTNUT ST
50	5		A3		NGUYEN NAM T		237 CHESTNUT ST	ABINGTON	MA	02351	237 CHESTNUT ST
50	5		A4		RACHAUSKAS CHRISTINE & JESSICA		239 CHESTNUT ST	ABINGTON	MA	02351	239 CHESTNUT ST
50	5		A5		MACDONALD CHRISTOPHER W		241 CHESTNUT ST	ABINGTON	MA	02351	241 CHESTNUT ST
50	5		A6		WEDGE ADAM D & MICHELLE A		243 CHESTNUT ST	ABINGTON	MA	02351	243 CHESTNUT ST
50	5		A7		RALLO ANTHONY		245 CHESTNUT ST	ABINGTON	MA	02351	245 CHESTNUT ST
50	7				OLDHAM JOSEPH W & KATHLEEN W		835 HANCOCK ST	ABINGTON	MA	02351	835 HANCOCK ST
50	9				HAYES ROBERT J & THERESA A		825 HANCOCK ST	ABINGTON	MA	02351	825 HANCOCK ST
50	10				ADAMS SEAN R & WEINBERG LISA J		807 HANCOCK ST	ABINGTON	MA	02351	807 HANCOCK ST
50	11				HENRIKSON REALTY CORP		695 HANCOCK ST	ABINGTON	MA	02351	HANCOCK ST
50	15				RITA C SOPER IRREVOCABLE TRUST	SOPER JR HERBERT A TRS	791 HANCOCK ST	ABINGTON	MA	02351	0 HANCOCK ST
50	16				SOPER JR HERBERT A		791 HANCOCK ST	ABINGTON	MA	02351	791 HANCOCK ST
50	17				BOLDUC MEGAN & LOPES AMANTINO		783 HANCOCK ST	ABINGTON	MA	02351	783 HANCOCK ST
50	46				ENGLISH DONALD & JO-ANN		792 HANCOCK ST	ABINGTON	MA	02351	792 HANCOCK ST
50	47				CAMPBELL ROBERT S & DONNA L		824 HANCOCK ST	ABINGTON	MA	02351	824 HANCOCK ST
50	49				CARVELL REGINA H S/O CARVELL REALTY TRUST OF 2025		840 HANCOCK STREET	ABINGTON	MA	02351	840 HANCOCK ST
50	50				BERK KEITH		844 HANCOCK ST	ABINGTON	MA	02351	844 HANCOCK ST
50	50	A			ODONNELL BRIAN J & SEANNA M & MURPHY CHRISTOPHER F		200 CHESTNUT ST	ABINGTON	MA	02351	200 CHESTNUT ST
50	51				CLEMENT ELGIN SR & CHERRELL		240 CHESTNUT ST	ABINGTON	MA	02351	240 CHESTNUT ST
57	21				SOPER IRREVOCABLE 2011 TRUST	JUDY L SOPER TRUSTEE	890 HANCOCK ST	ABINGTON	MA	02351	890 HANCOCK ST
57	23				UHLMANN DOMINIQUE		205 CHESTNUT ST	ABINGTON	MA	02351	205 CHESTNUT ST
57	24				ABINGTON COUNTRY REAL ESTATE LLC		852 HANCOCK ST	ABINGTON	MA	02351	852 HANCOCK ST
57	25				ABINGTON TOWN OF SEWER DEPT PUMP STATION		500 GLINIEWICZ WAY	ABINGTON	MA	02351	888 HANCOCK ST
57	26				RLTNAT IRREVOCABLE TRUST PAIGE KATHI & STANGHELLINI MARY ELLEN TR		176 CHESTNUT ST	ABINGTON	MA	02351	176 CHESTNUT ST
57	27				HOA T VU & QUY T VU		160 CHESTNUT ST	ABINGTON	MA	02351	160 CHESTNUT ST
57	55				WHITNEY EDWINA H & WHITNEY PATRICIA		159 CHESTNUT ST	ABINGTON	MA	02351	159 CHESTNUT ST
57	56		1		195 CHESTNUT LLC		27 STANDISH ST	PEMBROKE	MA	02359	195 CHESTNUT ST
57	56		2		195 CHESTNUT LLC		27 STANDISH ST	PEMBROKE	MA	02359	193 CHESTNUT ST
57	56		3		195 CHESTNUT LLC		27 STANDISH ST	PEMBROKE	MA	02359	193 CHESTNUT ST #B
57	57				DUQUETTE NATHANAEEL & DANIELLE		863 HANCOCK ST	ABINGTON	MA	02351	863 HANCOCK ST
57	58				PECKHAM JANICE L		875 HANCOCK ST	ABINGTON	MA	02351	875 HANCOCK ST
57	59				TJ PLUNKETT TRUST PLUNKETT TIMOTHY & JOANNE TRS		889 HANCOCK ST	ABINGTON	MA	02351	889 HANCOCK ST

Count: 34

7/9/2025

*Lawrence D. Keough**Ann T. Welch**Joseph M. Keough*

MAH, CHUNG F.
221 CHESTNUT ST
ABINGTON, MA 02351

ADAMS, SEAN R. & WEINBERG, LISA J.
807 HANCOCK ST
ABINGTON, MA 02351

CLEMENT, ELGIN SR. & CHERRELL
240 CHESTNUT ST
ABINGTON, MA 02351

WOODS, MARK SR. & ELEANOR
233 CHESTNUT ST
UNIT A1
ABINGTON, MA 02351

HENRIKSON REALTY CORP
695 HANCOCK ST
ABINGTON, MA 02351

SOPER IRREVOCABLE 2011 TRUST
JUDY L. SOPER TRUSTEE
890 HANCOCK ST
ABINGTON, MA 02351

MAHARJAN, BIJAY & SHRESTHA,
MADHAVI
235 CHESTNUT ST
UNIT A2
ABINGTON, MA 02351

RITA C SOPER IRREVOCABLE TRUST
SOPER, HERBERT A. JR. TRS
791 HANCOCK ST
ABINGTON, MA 02351

ABINGTON COUNTRY REAL ESTATE LLC
852 HANCOCK ST
ABINGTON, MA 02351

NGUYEN, NAM T.
237 CHESTNUT ST
UNIT A3
ABINGTON, MA 02351

SOPER, HERBERT A. JR.
791 HANCOCK ST
ABINGTON, MA 02351

ABINGTON TOWN OF
SEWER DEPT PUMP STATION
500 GLINIEWICZ WAY
ABINGTON, MA 02351

RACHAUSKAS, CHRISTINE & JESSICA
239 CHESTNUT ST
UNIT A4
ABINGTON, MA 02351

BOLDUC, MEGAN & LOPES, AMANTINO
783 HANCOCK ST
ABINGTON, MA 02351

RLTNAT IRREVOCABLE TRUST
PAIGE KATHI & STANGHELLINI MARY
ELLEN TR
176 CHESTNUT ST
ABINGTON, MA 02351

MACDONALD, CHRISTOPHER W.
241 CHESTNUT ST
UNIT A5
ABINGTON, MA 02351

ENGLISH, DONALD & JO-ANN
792 HANCOCK ST
ABINGTON, MA 02351

HOA T VU & QUY T VU
160 CHESTNUT ST
ABINGTON, MA 02351

WEDGE, ADAM D. & MICHELLE A.
243 CHESTNUT ST
UNIT A6
ABINGTON, MA 02351

CAMPBELL, ROBERT S. & DONNA L.
824 HANCOCK ST
ABINGTON, MA 02351

WHITNEY, EDWINA H. & WHITNEY,
PATRICIA
159 CHESTNUT ST
ABINGTON, MA 02351

RALLO, ANTHONY
245 CHESTNUT ST
UNIT A7
ABINGTON, MA 02351

CARVELL, DAVID L. & REGINA H.
840 HANCOCK ST
ABINGTON, MA 02351

195 CHESTNUT LLC
27 STANDISH ST
UNIT 1
PEMBROKE, MA 02359

OLDHAM, JOSEPH W. & KATHLEEN W.
835 HANCOCK ST
ABINGTON, MA 02351

BERK, KEITH
844 HANCOCK ST
ABINGTON, MA 02351

195 CHESTNUT LLC
27 STANDISH ST
UNIT 2
PEMBROKE, MA 02359

HAYES, ROBERT J. & THERESA A.
825 HANCOCK ST
ABINGTON, MA 02351

ODONNELL, BRIAN J. & SEANNA M. &
MURPHY, CHRISTOPHER F.
200 CHESTNUT ST
UNIT A
ABINGTON, MA 02351

195 CHESTNUT LLC
27 STANDISH ST
UNIT 3
PEMBROKE, MA 02359

DUQUETTE, NATHANAEL & DANIELLE 863 HANCOCK ST ABINGTON, MA 02351	UHLMANN, DOMINIQUE 205 CHESTNUT ST ABINGTON, MA 02351	
PECKHAM, JANICE L. 875 HANCOCK ST ABINGTON, MA 02351		
TJ PLUNKETT TRUST PLUNKETT TIMOTHY & JOANNE TRS 889 HANCOCK ST ABINGTON, MA 02351		

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☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78 08/05/2025
 Total Postage \$10.48

Sent To RACHAUSKAS, CHRISTINE & JESSICA
 239 CHESTNUT ST
 UNIT A4
 ABINGTON, MA 02351

City, State

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78 08/05/2025
 Total Postage \$10.48

Sent To NGUYEN, NAM T.
 237 CHESTNUT ST
 UNIT A3
 ABINGTON, MA 02351

City, State

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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78 08/05/2025
 Total Postage \$10.48

Sent To MAH, CHUNG F.
 221 CHESTNUT ST
 ABINGTON, MA 02351

City, State, ZIP

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78 08/05/2025
 Total Postage \$10.48

Sent To UHLMANN, DOMINIQUE
 205 CHESTNUT ST
 ABINGTON, MA 02351

City,

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Abington, MA 02351

Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: DUQUETTE, NATHANIEL & DANIELLE
863 HANCOCK ST
ABINGTON, MA 02351

City, State, Zip

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Abington, MA 02351

Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: SOPER, HERBERT A. JR
791 HANCOCK ST
ABINGTON, MA 02351

City, State, Zip

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Abington, MA 02351

Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: CAMPBELL, ROBERT S. & DONNA L.
824 HANCOCK ST
ABINGTON, MA 02351

City, State, Zip

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Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: JOSEPH W. & KATHLEEN W.
835 HANCOCK ST
ABINGTON, MA 02351

City, State, Zip

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Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: CARVELL, DAVID L. & REGINA H.
840 HANCOCK ST
ABINGTON, MA 02351

City, State, Zip

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Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fee if appropriate)	\$4.40
☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00
Postage	\$0.75
Total Postage	\$10.48

Sent To: MAH, CHUNG F.
221 CHESTNUT ST
ABINGTON, MA 02351

City, State, Zip

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☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

Street and Apt.

City, State, Zip

ODONNELL, BRIAN J. & SEANNA M. & MURPHY, CHRISTOPHER F.
200 CHESTNUT ST
UNIT A
ABINGTON, MA 02351

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☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

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City, State, Zip

HENRIKSON REALTY CORP
695 HANCOCK ST
ABINGTON, MA 02351

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☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

Street and Apt.

City, State, Zip

ENGLISH, DONALD & JO-ANN
792 HANCOCK ST
ABINGTON, MA 02351

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☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

Street and Apt.

City, State, Zip

HAYES, ROBERT J. & THERESA A
825 HANCOCK ST
ABINGTON, MA 02351

Postmark Here AUG 05 2025

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☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

Street and Apt.

City, State, Zip

BOLDUC, MEGAN & LOPES, AMANTINO
783 HANCOCK ST
ABINGTON, MA 02351

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☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage \$10.48

Sent To

Street and Apt.

City, State, Zip

ABINGTON COUNTRY REAL ESTATE LLC
852 HANCOCK ST
ABINGTON, MA 02351

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To HOA T VU & QUY T VU
160 CHESTNUT ST
ABINGTON, MA 02351

Street and Apt. #

City, State, Zip+4

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Abington, MA 01901

Certified Mail Fee \$5.70

Extra Services & Fees (check box, add fee appropriate)
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☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To WHITNEY, EDWINA H. & WHITNEY, PATRICIA
159 CHESTNUT ST
ABINGTON, MA 02351

Street and Apt. #

City, State, Zip+4

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Abington, MA 01901

Certified Mail Fee \$5.70

Extra Services & Fees (check box, add fee appropriate)
☐ Return Receipt (hardcopy) \$0.00
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To RLNAT IRREVOCABLE TRUST
PAIGE KATHI & STANGHELEN MARY
ELLEN TR
176 CHESTNUT ST
ABINGTON, MA 02351

Street and Apt. #

City, State, Zip+4

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Certified Mail Fee \$5.70

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To ABINGTON TOWN OF
SEWER DEPT PUMP STATION
500 GLINIEWICZ WAY
ABINGTON, MA 02351

Street and Apt. #

City, State, Zip+4

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To SOPER IRREVOCABLE 2011 TRUSTEE
JUDY L. SOPER TRUSTEE
890 HANCOCK ST
ABINGTON, MA 02351

Street and Apt. #

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☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.75

Total Postage and Fees \$6.45

Sent To ADAMS, SEAN R. & WEINBERG, LISA J.
807 HANCOCK ST
ABINGTON, MA 02351

Street and Apt. #

City, State, Zip+4

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☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To WEDGE, ADAM D. & MICHELLE A.
243 CHESTNUT ST
UNIT A6
ABINGTON, MA 02351

City, State, ZIP

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Extra Services & Fees (check box, add fee as appropriate)

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☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To BERK, KEITH
844 HANCOCK ST
ABINGTON, MA 02351

City, State, ZIP

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Certified Mail Fee \$5.70

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$	\$0.00
☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To MACDONALD, CHRISTOPHER W.
241 CHESTNUT ST
UNIT A5
ABINGTON, MA 02351

City, State, ZIP

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Extra Services & Fees (check box, add fee as appropriate)

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☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To CLEMENT, ELGIN SR. & CHERIEE
240 CHESTNUT ST
ABINGTON, MA 02351

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Certified Mail Fee \$5.70

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$	\$0.00
☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To RITA C SOPER IRREVOCABLE TRUST
SOPER, HERBERT A. JR. TRS
791 HANCOCK ST
ABINGTON, MA 02351

City, State, ZIP

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Certified Mail Fee \$5.70

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$	\$0.00
☐ Return Receipt (electronic)	\$	\$0.00
☐ Certified Mail Restricted Delivery	\$	\$0.00
☐ Adult Signature Required	\$	\$0.00
☐ Adult Signature Restricted Delivery	\$	\$0.00

Postage \$0.70

Total Postage \$6.40

Sent To TJ PLUNKETT TRUST
PLUNKETT TIMOTHY & JOANNE TRS
889 HANCOCK ST
ABINGTON, MA 02351

City, State, ZIP

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Certified Mail Fee \$5.30

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$	\$11.00
☐ Return Receipt (electronic)	\$	\$11.00
☐ Certified Mail Restricted Delivery	\$	\$11.00
☐ Adult Signature Required	\$	\$11.00
☐ Adult Signature Restricted Delivery	\$	\$11.00

Postage \$0.75

Total Postage and Fee \$11.48

Sent To RALLO, ANTHONY

Street and Apt. No. 245 CHESTNUT ST

City, State, Zip+4 ABINGTON, MA 02351

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Certified Mail Fee \$5.30

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$	\$11.00
☐ Return Receipt (electronic)	\$	\$11.00
☐ Certified Mail Restricted Delivery	\$	\$11.00
☐ Adult Signature Required	\$	\$11.00
☐ Adult Signature Restricted Delivery	\$	\$11.00

Postage \$0.75

Total Postage and Fee \$11.48

Sent To WOODS, MARK SR. & ELEANOR

Street and Apt. 233 CHESTNUT ST

City, State, Zip+4 ABINGTON, MA 02351

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Sent To PECKHAM, JANICE L.

Street and Apt. No. 875 HANCOCK ST

City, State, Zip+4 ABINGTON, MA 02351

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Sent To 195 CHESTNUT LLC

Street and Apt. 27 STANDISH ST

City, State, Zip+4 PEBROKE, MA 02359

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Street and Apt. No. 27 STANDISH ST

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Street and Apt. 27 STANDISH ST

City, State, Zip+4 PEBROKE, MA 02359

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

NOTIFICATION TO ABUTTERS

Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of **Massachusetts General Laws, Chapter 131, Section 40**, you are hereby notified of the following:

The name of the applicant is Town of Abington – Department of Public Works

The applicant has filed with the **Abington Conservation Commission** for a: (Please check applicable filing.)

☒ Notice of Intent, seeking permission to alter an area subject to protection under the Wetlands Protection Act.

☐ Request to amend an existing Order of Conditions.

☐ Notice of Resource Area Delineation, seeking to determine the extent of areas subject to protection under the Wetlands Protection Act.

The proposed work includes the construction of a roundabout to address existing safety deficiencies at the intersection of Hancock Street and Chestnut Street in Abington, MA. The project also involves improving the topography of the intersection and its approaches, rehabilitating pavement, and improving drainage.

Site location: Chestnut Street and Hancock Street Right-of-Way (193 – 218 Chesnut St, 824 – 888 Hancock St).

Copies of the Hancock St at Chestnut St Intersection Improvements – Notice of Intent may be examined or obtained (for a fee) from:

(Check all that apply)

☐ **Applicant** at _____

☒ **Representative** at 18 Commerce Way, Suite 2000, Woburn, MA 01801
between the hours of 8:30am and 5pm on the following days: Monday through Friday.

☒ **Conservation Department** – Abington Town Hall: 500 Gliniewicz Way, Abington, MA 02351

The hearing is scheduled for Tuesday, September 9th, 2025 at 6:30 pm at the Cotter Room in the Town Hall, at 500 Gliniewicz Way, Abington, MA 02351.

Note: Notice of the public hearing, including its date, time and place will be published in the **Enterprise** at least five (5) business days prior to the public hearing date.

Note: You may also contact the **Department of Environmental Protection** (DEP) Regional Office for more information about this application or the Wetlands Protection Act. To contact the DEP, Southeast Region, call (508) 946-2700.

APPENDIX G

Stormwater Report

(Submitted Under Separate Cover)

APPENDIX H

Site Photos



Site Photos



Photo 1: Hancock Street (Facing South)



Photo 2: Hancock Street (Facing South)



Photo 3: Hancock Street (Facing North)



Photo 4: Hancock Street (Facing North)



Photo 5: Intersection (Facing North)



Photo 6: Intersection (Facing East)



Photo 7: Chestnut Street (Facing East)



Photo 8: Chestnut Street (Facing East)

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DOCUMENT A00861

MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

ORDER OF CONDITIONS

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

MassDEP File #

eDEP Transaction #

Abington

City/Town

A. General Information

Please note:
 this form has
 been modified
 with added
 space to
 accommodate
 the Registry
 of Deeds
 Requirements

Important:
 When filling
 out forms on
 the
 computer,
 use only the
 tab key to
 move your
 cursor - do
 not use the
 return key.



1. From: Town of Abington
Conservation Commission

2. This issuance is for (check one):
 a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

John

a. First Name

Stone

b. Last Name

Abington Department of Public Works

c. Organization

350 Summer Street

d. Mailing Address

Abington

e. City/Town

MA

f. State

02351

g. Zip Code

4. Property Owner (if different from applicant):

Public Right of Way

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

5. Project Location:

Intersection of Hancock and Chestnut

a. Street Address

Abington

b. City/Town

c. Assessors Map/Plat Number

d. Parcel/Lot Number

Latitude and Longitude, if known:

42 d 7 m 51 s

d. Latitude

-70 d 58 m 36 s

e. Longitude



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

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Abington

City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
 ROW _____
 a. County _____ b. Certificate Number (if registered land) _____
 c. Book _____ d. Page _____
7. Dates: August 7, 2025 October 28, 2025 November 10, 2025
 a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
 Intersection Improvements at Hancock Street and Chestnut Street
 a. Plan Title _____
 Apex _____ Benny Hung _____
 b. Prepared By _____ c. Signed and Stamped by _____
 July 31, 2025 _____ 1 Inch = 80 feet _____
 d. Final Revision Date _____ e. Scale _____
 f. Additional Plan or Document Title _____ g. Date _____

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

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

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

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

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City/Town

B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	<u> </u> a. linear feet	<u> </u> b. linear feet	<u> </u> c. linear feet	<u> </u> d. linear feet
5. ☐ Bordering Vegetated Wetland	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
6. ☐ Land Under Waterbodies and Waterways	<u> </u> a. square feet <u> </u> e. c/y dredged	<u> </u> b. square feet <u> </u> f. c/y dredged	<u> </u> c. square feet	<u> </u> d. square feet
7. ☐ Bordering Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
Cubic Feet Flood Storage	<u> </u> e. cubic feet	<u> </u> f. cubic feet	<u> </u> g. cubic feet	<u> </u> h. cubic feet
8. ☐ Isolated Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet		
Cubic Feet Flood Storage	<u> </u> c. cubic feet	<u> </u> d. cubic feet	<u> </u> e. cubic feet	<u> </u> f. cubic feet
9. ☐ Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet
Sq ft between 100-200 ft	<u> </u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP;

SE084-0583

MassDEP File #

eDEP Transaction #

Abington

City/Town

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

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City/Town

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on 11/10/28 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

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City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
 "File Number SE084-0583 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
 - (1) ☒ is subject to the Massachusetts Stormwater Standards
 - (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

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

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Abington

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
 - 1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 - 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 - 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See attached "Town of Abington Standard Order of Conditions SE084-0583".

- 20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



Massachusetts Department of Environmental Protection
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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The Town of Abington hereby finds (check one that applies):
Conservation Commission

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

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Town of Abington Home Rule Charter

Chapter 171

1. Municipal Ordinance or Bylaw

2. Citation

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

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See attached "Town of Abington Standard Order of Conditions SE084-0583". The Abington Conservation Commission finds this site to contain, at a minimum, the following resource areas: Bordering vegetated wetlands; inland bank; and riverfront.



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

Provided by MassDEP:
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eDEP Transaction #
 Abington
 City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

9/23/25

1. Date of Issuance

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

2. Number of Signers

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

Lynne Mullen

Signature

Lynne Mullen

Printed Name

Alex Bezanson

Signature

Alex Bezanson

Printed Name

Sean Matiyosus

Signature

Sean Matiyosus

Printed Name

Sean Matiyosus

Signature

Sean Matiyosus

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

☐ by hand delivery on

☐ by certified mail, return receipt requested, on

Date

Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

MassDEP File #

eDEP Transaction #

Abington

City/Town

F. Appeals

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

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

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

SE084-0583

MassDEP File #

eDEP Transaction #

Abington

City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Town of Abington

Conservation Commission

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

To:

Town of Abington

Conservation Commission

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

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

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

Book

Page

In accordance with the Order of Conditions issued on:

Date

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

Instrument Number

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

Document Number

Signature of Applicant



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

Request for Departmental Action Fee
Transmittal Form

Provided by DEP

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

A. Request Information

1. Location of Project

a. Street Address

b. City/Town, Zip

c. Check number

d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

4. DEP File Number:

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



B. Instructions

1. When the Departmental action request is for (check one):

- ☐ Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- ☐ Superseding Determination of Applicability – Fee: \$120
- ☐ Superseding Order of Resource Area Delineation – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number: _____

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP _____

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

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

**Town of Abington
Standard Order of Conditions
SE084-0583**

A. EROSION AND SEDIMENTATION CONTROLS

A1. Prior to commencement of any activity on the site, erosion and sedimentation controls such as siltation fencing, compost filter tubes, or functional equivalents shall be placed on the wetland edge depth. The erosion and sedimentation controls shall be inspected daily, and any section showing signs of deterioration shall be replaced immediately. The erosion and sedimentation controls shall remain in proper functioning condition until all disturbed areas have been stabilized. Once the area is stabilized, erosion and sedimentation controls may be removed. The installation of the erosion and sedimentation controls shall be inspected and approved by the Commission prior to commencement of work. Weekly Inspection reports as outlined per the EPA Construction General Permit (CGP) requirements will be provided to the Commission within ten (10) days of the time of inspection.

A2. Adequate erosion and sedimentation control measures shall be implemented and maintained in effect throughout the entire construction phase, and until the site has become stabilized with an adequate vegetative cover.

A3. As required by the EPA 2022 CGP, for stockpiles or land clearing debris piles that will be unused for 14 or more days, appropriate temporary stabilization shall be provided as soon as practicable. For stockpiles or land clearing debris piles that will be actively used (daily), perimeter erosion & sediment controls (e.g. compost filter tube or equivalent) shall be provided. Within 24 hours prior to a storm event, the environmental monitor shall pre-inspect all sedimentation and erosion controls, and ensure that all stockpiles are stabilized

A4. All final earth gradings shall be permanently stabilized by the application of loam and seed, sod, or vegetation, except for the designated replication area and any designated paved area (driveway, sidewalk).

A5. Any dewatering activities on the project in which water will be released to wetlands or storm drains shall make use of settling pond or similar device to remove sediment before water is released.

A6. ALL ACTIVITIES ON THE WETLANDS SIDE OF THE SILTATION BARRIER ARE PROHIBITED.

B. DRAINAGE AND RUNOFF CONTROLS

B1. Omitted.

G. ON-SITE CONDITIONS

G1. During construction for this project, an on-site foreman, directing engineer, or designated construction manager shall have a copy of this Order at the site, shall familiarize him or herself with the conditions of this permit, and shall adhere to said conditions. The excavation subcontractor shall also have a copy of this Order on site, shall familiarize himself or herself with conditions of the permit, and shall adhere to said conditions.

G2. All waste products, grubbed stumps, slash, construction materials, etc. shall be deposited at an approved landfill and shall not be in any manner incorporated into the project site with the exception of the reduction of stumps and slash to mulch.

G3. During and after work on this project, there shall be no discharge or spillage of fuel, oil, or other pollutants into any resource area.

G4. Used petroleum products resulting from maintenance of construction equipment and construction debris shall be collected and disposed of off-site. No on-site disposal of these items is allowed.

G5. When the site is not supervised, all debris, fill, excavated material, construction material and building material stockpiles must be placed more than 30 feet from any wetlands or resource area at a location to prevent sediment from surface runoff from entering the wetlands. During work, every effort should be made to prevent placement near wetlands. At no time shall any debris or other material be buried or disposed of in or within 100 feet of a wetland resource other than fill permitted explicitly in the Order.

G6. Equipment servicing (fueling, lubricating, or adding fluids) shall occur outside the Buffer Zone where practicable. If equipment cannot be moved, secondary containment and spill prevention measures shall be used. Any reportable spills shall be cleaned up immediately, with notification provided to the Commission and applicable regulatory agencies.

G7. Should contaminated fill be discovered the applicant shall immediately notify the Department of Environmental Protection (DEP) and the Conservation Commission.

H. ADMINISTRATIVE CONDITIONS

H1. This Order of Conditions shall be included in all construction contracts and subcontracts dealing with the work proposed and shall supersede other contract requirements.

H2. Upon completion of the project the applicant shall submit, by certified mail, a written request for a Certificate of Compliance. All physical work—i.e., filling, excavation, grading, seeding, etc. will be completed prior to the application for a

should proceed carefully, but as fast as possible, in order that the altered site adjacent to the wetland is stabilized as promptly as possible.

- d. Omitted.
- e. The road with its drainage structures and detention basin must be installed in such a way as to control erosion and sedimentation during the building process. The detention basin should be completed as early in the sequence as practicable from an engineering standpoint and stabilized until vegetative cover is established.

J. SPECIAL CONDITIONS

J1. Excess snow, whether fallen or banked within the construction area, shall be plowed away from wetland resource areas and shall not be stored within 50 feet of wetland resource areas.

DOCUMENT A00875

**POLICY DIRECTIVE P-22-001
AND
POLICY DIRECTIVE P-22-002**

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Number: P-22-001Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)

HIGHWAY ADMINISTRATOR

Off-Site Stockpiling of Soil from MassDOT Construction Projects

Purpose

The purpose of this Policy Directive is to formally establish a policy and procedures for managing and stockpiling soil generated and transported from MassDOT construction projects. This Policy Directive does not supersede any Federal, State, or Local regulations.

Date of Effect

This Policy Directive is effective immediately for all projects, including active construction projects.

For active construction projects and for other projects advertised prior to October 15, 2022, changes to the contract documents needed to implement the requirements of this Policy Directive will be considered on a case-by-case basis and shall be approved by the District Highway Director, as necessary.

For projects advertised on or after October 15, 2022, MassDOT will include the requirements and implementation procedures of this Policy Directive in the construction contract documents.

Policy Requirements

This policy is intended to prevent the off-site relocation of excavated soil generated from MassDOT projects to areas near residential receptors and to control potential fugitive dusts and/or contaminants. To that end, excavated soil may not be moved from the project site without knowledge of the content of the material. Knowledge may include visual field observations for presence of staining, odor, and/or debris, screening with a photoionization detector (PID), laboratory analysis, and/or site history. Pavement millings and other non-soil materials are not subject to the requirements of this Policy Directive.

Moving soil from a MassDOT project site to a temporary off-site storage location must be approved in writing by the District Highway Director.

The Contractor must select a storage location that is at least 500 feet away from residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially

zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.

Temporary off-site storage of excavated soil from a MassDOT project is only permissible at a location approved and permitted by MassDOT. The temporary storage location should be located within the same municipality where the soil was excavated, where possible. Stockpiled soil must be securely covered, and appropriate measures must be taken to minimize fugitive dust and erosion.

Signs indicating the source of the soil, the date the soil was generated, and contact information must be erected and maintained until the stockpiled soils are transported to a disposal facility or reused on the project site.

Implementation Procedures

To ensure that off-site storage of excavated soils is managed properly on MassDOT projects, this policy requires the following:

1. Off-Site Stockpile Storage Locations

- a. The Contractor shall provide proposed off-site storage locations to the Engineer for approval at least 30 days prior to transporting soil off site. Off-site storage locations should be in the same municipality as the work site.
- b. The Contractor shall keep excavated soil on site until adequately characterized to the satisfaction of the Engineer.
- c. The Contractor shall provide notification of the approved off-site storage location to the local Board of Health and the Town Manager's/Mayor's Office at least 7-days prior to transporting soil off site.
- d. The Contractor shall provide the Engineer with at least 3-days' notice prior to transporting soil off site.
- e. For off-site storage locations on MassDOT property, the Contractor is required to obtain an Access Permit through the District Permits Office prior to storage of soil or other materials. MassDOT will issue these permits at no cost to the Contractor. Information to be submitted by the Contractor as part of the permit application shall include:
 - i. A description of material to be stored off-site, including available analytical data;
 - ii. A figure of the location with distances to residences and residential receptors; and
 - iii. Anticipated duration of temporary storage.
- f. Stockpile locations should not be within 500 feet of residential receptors (e.g., residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities).
 - i. If the stockpile location must be within 500 feet of residential receptors, then soil must be less than RCS-1 (per 310 CMR 40.1600) and free of potentially hazardous or regulated items.

- g. For off-site storage locations on non-MassDOT property, the Contractor must notify the property owner(s) at least 7 days prior to transporting material.
- h. Exceptions to these rules will be reviewed by MassDOT and may be approved by the District Highway Director on a case-by-case basis.

2. Off-Site Stockpile Management

- a. The Contractor shall keep soil stockpiles on impermeable surfaces (e.g., asphalt or concrete) or on 10-mil polyethylene sheeting.
- b. The Contractor shall cover soil stockpiles with 10-mil polyethylene sheeting and surround with a berm made of hay bales, straw wattles, or similar.
 - i. Piles that are actively being worked on must be covered and re-secured at the end of the work shift.
- c. The Contractor shall label stockpiles with signs, including:
 - i. Location of origin (including any Release Tracking Numbers)
 - ii. Stockpile ID number (including MassDOT District office-assigned tracking ID, if different)
 - iii. Date of initial accumulation
 - iv. Applicable telephone numbers for the Contractor and MassDOT.
- d. The Contractor shall mitigate fugitive dust at storage locations under the direction of an appropriately trained/certified environmental professional.
- e. The Contractor shall remedy noncompliance with this policy within 48 hours.
- f. The Contractor shall remedy noncompliance with this policy on the SAME DAY for potentially hazardous material, as determined by the Engineer.
- g. The Contractor shall handle excavated soil according to federal, state, and local regulations.
- h. The Contractor shall use appropriate shipping documents for all movements of excavated soil on public roadways (e.g., Bill of Lading, Material Shipping Record, Manifest, Asbestos Waste Shipment Record, etc.).

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Number: P-22-002Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)

HIGHWAY ADMINISTRATOR

Use of MassDOT Property for Staging and other Construction-Related Operations

Purpose

This Policy Directive is intended to address the use of MassDOT property by MassDOT Contractors for construction staging and other construction-related operations that are not specifically defined in the construction contract. Such use of MassDOT property will only be allowed if permitted by the District Office in accordance with 700 CMR 13.00, Approval of Access to MassDOT Highways and Other Property. This includes the use of MassDOT property for staging, laydown, and storage of equipment and materials, including soil excavated from a project site.

This Policy Directive requires the Contractor/applicant to obtain a Non-Vehicular Access Permit from MassDOT to use MassDOT property for these purposes.

This Policy Directive is effective immediately and applies to all MassDOT construction projects.

General Permit Considerations and Conditions

In addition to other normal MassDOT Access Permit procedures, MassDOT shall consider the following during the application, review, implementation and monitoring processes of Access Permits required by this Policy Directive:

- Storage and placement of the Contractor's equipment and materials should not be allowed within the clear zone of the roadway.
- Stockpiled soils should not be located within 500 feet of residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.
- The Contractor/applicant shall identify the access/egress locations of the proposed storage areas. MassDOT will only approve locations determined to be safe for roadway users, construction workers and the general public.
- The Contractor may be required to submit a Traffic Management Plan and/or Lighting Plan for MassDOT review and approval as part of the permit application, depending on the proposed use of the area.

- The Contractor shall submit the permit application through MassDOT's online State Highway Access Permit System (SHAPS).
- MassDOT will waive the permit application fee for any application received from a MassDOT Contractor for any permit required by this Policy Directive and will waive any subsequent amendment and extension fees that may otherwise be required.
- MassDOT will review the permit application in accordance with applicable standard procedures and will apply standard permit terms and conditions, as necessary.
- The Resident Engineer will verify that the permit is approved before allowing the Contractor to use the affected area for the requested purpose.
- Areas permitted are for use by the approved applicant only and are not to be shared with or used by other vendors. Subcontractors specifically engaged with the applicant working on the specific MassDOT project will be allowed to use the area in accordance with the terms of the permit.
- Permits are issued on an annual basis and will require the Contractor to file for an extension each year to continue use.

Exemptions from Permit Requirements

Equipment and materials being used for active construction operations and located within the work zone of the construction contract are exempt from this permit requirement, provided they do not interfere with the safety or operation of the roadway or the work zone. Examples of these types of exempt uses are:

- Equipment and materials parked or stored within a protected (barriered) work zone.
- Materials placed in the work zone prior to same-day installation or use.
- Soils excavated temporarily and scheduled to be replaced, such as for trenching operations or for installation of drainage structures.

DOCUMENT B00420

PROPOSAL

ABINGTONFor: **Intersection Improvements at Hancock Street and Chestnut Street**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the Town of ABINGTON in Plymouth County, in the Commonwealth of Massachusetts, and is shown by the locus map (Document 00331) in the Proposal Pamphlet, the work locations extend as follows:

Hancock Street**Beginning – Station 52+30.00 +/-****Ending –Station 59+90.00 +/-****Chestnut Street****Limit of Work – Station 101+00.00 +/-****Limit of Work – Station 107+00.00 +/-**

The contract prices shall include the furnishing of all materials (except as otherwise herein specified), the performing of all the labor requisite or proper, the providing of all necessary machinery, tools, apparatus and other means of construction, the doing of all the abovementioned work in the manner set forth, described and shown in the specifications and on the drawings for the work, and in the form of contract, and the completion thereof within **815 CALENDAR DAYS** upon receipt of a Notice to Proceed, except that if the completion date falls between December 1 and March 15 then the same number of days beyond December 1st will be extended after March 15th.

The Work of this project is described by the following Items and quantities.

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Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
101.	0.25	CLEARING AND GRUBBING AT _____ PER ACRE		
102.2	1	TREE TRIMMING AT _____ LUMP SUM		
102.511	9	TREE PROTECTION - ARMORING AND PRUNING AT _____ EACH		
102.521	150	TREE AND PLANT PROTECTION FENCE AT _____ PER FOOT		
102.55	12	ARBORIST AT _____ PER HOUR		
103.	11	TREE REMOVED - DIAMETER UNDER 24 INCHES AT _____ EACH		
104.	1	TREE REMOVED - DIAMETER 24 INCHES AND OVER AT _____ EACH		
105.	1	STUMP REMOVED AT _____ EACH		
120.1	4,780	UNCLASSIFIED EXCAVATION AT _____ PER CUBIC YARD		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
141.	320	CLASS A TRENCH EXCAVATION AT _____ PER CUBIC YARD		
141.1	200	TEST PIT FOR EXPLORATION AT _____ PER CUBIC YARD		
142.	25	CLASS B TRENCH EXCAVATION AT _____ PER CUBIC YARD		
144.	1,460	CLASS B ROCK EXCAVATION AT _____ PER CUBIC YARD		
146.	13	DRAINAGE STRUCTURE REMOVED AT _____ EACH		
151.	2,580	GRAVEL BORROW AT _____ PER CUBIC YARD		
151.2	960	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES AT _____ PER CUBIC YARD		
156.	15	CRUSHED STONE AT _____ PER TON		
160.1	10	CONTROLLED LOW-STRENGTH MATERIAL - MANUAL EXCAVATABLE (<= 100 PSI) AT _____ PER CUBIC YARD		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
170.	10,570	FINE GRADING AND COMPACTING - SUBGRADE AREA AT _____ PER SQUARE YARD		
180.01	1	ENVIRONMENTAL HEALTH AND SAFETY PROGRAM AT _____ LUMP SUM		
180.02	50	PERSONAL PROTECTION LEVEL C UPGRADE AT _____ PER HOUR		
180.03	50	LICENSED SITE PROFESSIONAL SERVICES AT _____ PER HOUR		
181.11	3,830	DISPOSAL OF UNREGULATED SOIL AT _____ PER TON		
181.12	720	DISPOSAL OF REGULATED SOIL - IN-STATE FACILITY AT _____ PER TON		
181.13	200	DISPOSAL OF REGULATED SOIL - OUT-OF-STATE FACILITY AT _____ PER TON		
181.14	50	DISPOSAL OF HAZARDOUS WASTE AT _____ PER TON		
182.1	1	INSPECTION AND TESTING FOR ASBESTOS AT _____ LUMP SUM		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
182.2	50	REMOVAL OF ASBESTOS AT _____ PER FOOT		
201.	17.6	CATCH BASIN AT _____ EACH		
202.	11.24	MANHOLE AT _____ EACH		
202.2	1.23	MANHOLE (9 TO 14 FOOT DEPTH) AT _____ EACH		
210.	3.39	SANITARY SEWER MANHOLE AT _____ EACH		
210.02	1	SANITARY SEWER MANHOLE REMOVED AT _____ EACH		
220.	63	DRAINAGE STRUCTURE ADJUSTED AT _____ EACH		
220.2	5	DRAINAGE STRUCTURE REBUILT AT _____ PER FOOT		
220.6	10	SANITARY STRUCTURE REBUILT AT _____ PER FOOT		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
220.7	22	SANITARY STRUCTURE ADJUSTED AT _____ EACH		
220.8	4	SANITARY STRUCTURE REMODELED AT _____ EACH		
222.3	33	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD AT _____ EACH		
223.1	14	FRAME AND GRATE (OR COVER) REMOVED AND STACKED AT _____ EACH		
227.3	15	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT AT _____ PER CUBIC YARD		
227.31	70	REMOVAL OF DRAINAGE PIPE SEDIMENT AT _____ PER FOOT		
227.4	5	MASONRY PLUG AT _____ PER SQUARE FOOT		
238.12	260	12 INCH DUCTILE IRON PIPE AT _____ PER FOOT		
241.12	600	12 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
241.15	124	15 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		
250.06	70	6 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE AT _____ PER FOOT		
250.08	195	8 INCH POLYVINYL CHLORIDE SANITARY SEWER PIPE AT _____ PER FOOT		
250.2	1	SANITARY SEWER SERVICE CLEANOUT AT _____ EACH		
302.06	80	6 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET) AT _____ PER FOOT		
302.08	320	8 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET) AT _____ PER FOOT		
302.12	650	12 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET) AT _____ PER FOOT		
309.	2,820	DUCTILE IRON FITTINGS FOR WATER PIPE AT _____ PER POUND		
345.01	150	1 INCH TEMPORARY BYPASS PIPE AT _____ PER FOOT		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
345.02	480	2 INCH TEMPORARY BYPASS PIPE AT _____ PER FOOT		
345.04	230	4 INCH TEMPORARY BYPASS PIPE AT _____ PER FOOT		
345.06	410	6 INCH TEMPORARY BYPASS PIPE AT _____ PER FOOT		
345.12	580	12 INCH TEMPORARY BYPASS PIPE AT _____ PER FOOT		
347.1	200	1 INCH COPPER TUBING TYPE K AT _____ PER FOOT		
350.06	3	6 INCH GATE AND GATE BOX AT _____ EACH		
350.08	4	8 INCH GATE AND GATE BOX AT _____ EACH		
350.12	9	12 INCH GATE AND GATE BOX AT _____ EACH		
355.06	8	6 INCH GATE AND GATE BOX REMOVED AND STACKED AT _____ EACH		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
355.12	7	12 INCH GATE AND GATE BOX REMOVED AND STACKED AT _____ EACH		
358.	32	GATE BOX ADJUSTED AT _____ EACH		
363.1	9	1 INCH CORPORATION COCK AT _____ EACH		
367.06	2	6 INCH CAST IRON PLUG AT _____ EACH		
367.12	1	12 INCH CAST IRON PLUG AT _____ EACH		
371.06	3	6 INCH COUPLING AT _____ EACH		
371.12	2	12 INCH COUPLING AT _____ EACH		
375.06	4	6 INCH INSERTION VALVE AND BOX AT _____ EACH		
375.12	3	12 INCH INSERTION VALVE AND BOX AT _____ EACH		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
376.1	1	HYDRANT - EXCLUDING COST OF HYDRANT AT _____ EACH		
376.3	1	HYDRANT - REMOVED AND STACKED AT _____ EACH		
376.6	1	HYDRANT FOR TEMPORARY BYPASS AT _____ EACH		
381.	9	SERVICE BOX AT _____ EACH		
381.3	9	SERVICE BOX ADJUSTED AT _____ EACH		
384.	9	CURB STOP AT _____ EACH		
402.	510	DENSE GRADED CRUSHED STONE FOR SUB-BASE AT _____ PER CUBIC YARD		
415.1	584	PAVEMENT STANDARD MILLING AT _____ PER SQUARE YARD		
443.	9	WATER FOR ROADWAY DUST CONTROL AT _____ PER 1000 GALLONS		

Project # 609440		Contract # 134070		
Location : ABINGTON				
Description : Intersection Improvements at Hancock Street and Chestnut Street				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
450.23	470	SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) AT _____ PER TON		
450.31	410	SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC -12.5) AT _____ PER TON		
450.42	870	SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) AT _____ PER TON		
450.53	12	SUPERPAVE LEVELING COURSE - 12.5 (SLC - 12.5) AT _____ PER TON		
451.	50	HMA FOR PATCHING AT _____ PER TON		
452.	660	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	3,710	HMA JOINT ADHESIVE AT _____ PER FOOT		
470.2	120	HOT MIX ASPHALT BERM, TYPE A - MODIFIED AT _____ PER FOOT		
472.	1,244	TEMPORARY ASPHALT PATCHING AT _____ PER TON		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
503.	27	GRANITE CURB TYPE VA3 - STRAIGHT AT _____ PER FOOT		
503.1	9	GRANITE CURB TYPE VA3 - CURVED AT _____ PER FOOT		
506.	1,012	GRANITE CURB TYPE VB - STRAIGHT AT _____ PER FOOT		
506.1	549	GRANITE CURB TYPE VB - CURVED AT _____ PER FOOT		
507.1	357	GRANITE CURB TYPE T-100 - CURVED AT _____ PER FOOT		
509.	413	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - STRAIGHT AT _____ PER FOOT		
509.1	87	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - CURVED AT _____ PER FOOT		
514.	9	GRANITE CURB INLET - STRAIGHT AT _____ EACH		
580.	679	CURB REMOVED AND RESET AT _____ PER FOOT		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
594.	450	CURB REMOVED AND DISCARDED AT _____ PER FOOT		
655.4	27	METAL HANDRAIL AT _____ PER FOOT		
656.	142	48 INCH WHITE VINYL PICKET FENCE AT _____ PER FOOT		
665.	29	CHAIN LINK FENCE REMOVED AND STACKED AT _____ PER FOOT		
669.	75	FENCE REMOVED AND STACKED AT _____ PER FOOT		
685.	104	STONE MASONRY WALL IN CEMENT MORTAR AT _____ PER CUBIC YARD		
691.	126	BALANCE STONE WALL REMOVED AND REBUILT AT _____ PER FOOT		
697.1	24	SILT SACK AT _____ EACH		
701.	1,030	CEMENT CONCRETE SIDEWALK AT _____ PER SQUARE YARD		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
701.1	380	CEMENT CONCRETE SIDEWALK AT DRIVEWAYS AT _____ PER SQUARE YARD		
701.2	260	CEMENT CONCRETE PEDESTRIAN CURB RAMP AT _____ PER SQUARE YARD		
701.3	564	STAMPED CEMENT CONCRETE TRUCK APRON AT _____ PER SQUARE YARD		
702.	322	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
705.2	64	COBBLESTONE SURFACE TREATMENT AT _____ PER SQUARE YARD		
706.8	10	MISCELLANEOUS SURFACE WALKWAY OR DRIVEWAY REMOVED AND RESET AT _____ PER SQUARE YARD		
710.4	1	BOUND - PLAIN GRANITE AT _____ EACH		
711.	2	BOUND REMOVED AND RESET AT _____ EACH		
714.11	1	BEAVER BROOK MILLSTONES REMOVED AND RESET AT _____ LUMP SUM		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
715.	6	RURAL MAIL BOX REMOVED AND RESET AT _____ EACH		
722.3	1	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE \$49,500 AT Forty Nine Thousand Five Hundred Dollars LUMP SUM	\$49,500.00	\$49,500.00
740.	27	ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) AT _____ PER MONTH		
748.	1	MOBILIZATION AT _____ LUMP SUM		
751.1	380	LOAM FOR LAWNS AT _____ PER CUBIC YARD		
756.	1	NPDES STORMWATER POLLUTION PREVENTION PLAN AT _____ LUMP SUM		
765.	2,560	SEEDING AT _____ PER SQUARE YARD		
767.121	160	SEDIMENT CONTROL BARRIER AT _____ PER FOOT		
767.4	10	WOOD CHIP MULCH AT _____ PER CUBIC YARD		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
772.337	3	CEDAR - RED 7-8 FEET AT _____ EACH		
783.039	2	SERVICEBERRY - ALLEGHENY CLUMP 7-8 FEET AT _____ EACH		
804.2	50	2 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL) AT _____ PER FOOT		
804.3	760	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC -(UL) AT _____ PER FOOT		
811.22	13	ELECTRIC HANDHOLE - SD2.022 AT _____ EACH		
812.10	11	LIGHT STANDARD FOUNDATION SD3.010 AT _____ EACH		
812.20	1	LIGHTING LOAD CENTER FOUNDATION AT _____ EACH		
813.40	200	WIRE TYPE 8 NO. 10 DIRECT BURIAL AT _____ PER FOOT		
813.42	2,200	WIRE TYPE 8 NO. 6 DIRECT BURIAL AT _____ PER FOOT		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
813.521	70	WIRE TYPE 10 - #10 GROUNDING AND BONDING AT _____ PER FOOT		
813.72	11	GROUND ROD 10 FEET LONG AT _____ EACH		
814.	1	SOLAR POWERED THERMAL MONITOR CAMERA REMOVED AND RESET AT _____ LUMP SUM		
816.80	1	TRAFFIC CONTROL SIGNAL REMOVED AND STACKED AT _____ LUMP SUM		
823.60	1	HIGHWAY LIGHTING LOAD CENTER AT _____ LUMP SUM		
823.992	11	ORNAMENTAL LIGHT FIXTURE TYPE A (PEDESTRIAN) AT _____ EACH		
832.	252	WARNING-REGULATORY AND ROUTE MARKER - ALUMINUM PANEL (TYPE A) AT _____ PER SQUARE FOOT		
847.1	41	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL AT _____ EACH		
850.41	2,080	ROADWAY FLAGGER AT _____ PER HOUR		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
852.	870	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
852.11	1,200	TEMPORARY PEDESTRIAN BARRICADE AT _____ PER FOOT		
852.12	4	TEMPORARY PEDESTRIAN CURB RAMP AT _____ EACH		
853.1	6	PORTABLE BREAKAWAY BARRICADE TYPE III AT _____ EACH		
854.016	6,630	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED) AT _____ PER FOOT		
854.036	1,459	TEMPORARY PAVING MARKINGS - 6 INCH (TAPE) AT _____ PER FOOT		
856.12	2,760	PORTABLE CHANGEABLE MESSAGE SIGN AT _____ PER DAY		
859.	32,400	REFLECTORIZED DRUM AT _____ PER DAY		
864.04	53	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC) AT _____ PER SQUARE FOOT		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
866.106	2,725	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
866.112	1,092	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
867.106	3,011	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT _____ PER FOOT		
867.112	86	12 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT _____ PER FOOT		
874.	8	STREET NAME SIGN AT _____ EACH		
874.2	1	TRAFFIC SIGN REMOVED AND RESET AT _____ EACH		
874.4	17	TRAFFIC SIGN REMOVED AND STACKED AT _____ EACH		
901.	64	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE AT _____ PER CUBIC YARD		
903.	11	3000 PSI, 1.5 INCH, 470 CEMENT CONCRETE AT _____ PER CUBIC YARD		

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ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
996.01	1	WALL STRUCTURE, WALL NO. 3 AT _____ LUMP SUM		
Total Qty:		110,286.71		

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