

GREEN MEADOW ELEMENTARY SCHOOL EARLY SITE PACKAGE

5 TIGER DRIVE, MAYNARD, MA 01754

PROJECT MANUAL

BID SET
MAY 22, 2024

OWNER'S PROJECT MANAGER

COLLIERS

67 Hunt Street, Suite 119
Agawam, MA 01001
(413) 592-0030

ARCHITECT

264 Exchange Street, Suite G7
Chicopee, MA 01013
(413) 592-9700

CIVIL / SITE SURVEY

BRENNAN CONSULTING, LLC

24 Ray Avenue
Burlington, MA 01803
(781) 273-3434

GEOHERMAL

CDM SMITH

75 State Street, Suite 701
Boston, MA 02109
(617) 452-6215

ENVIRONMENTAL / PERMITTING

LORD ASSOCIATES

1911 SW US-40
Blue Springs, MA 01862
(781) 255-5554

THIS PAGE IS LEFT INTENTIONALLY BLANK

SECTION 00 00 10

TABLE OF CONTENTS

SPECIFICATION SECTION	DOCUMENT DATE
00 00 00 – Project Title Page	
00 00 10 - Table of Contents	May 22, 2024
00 00 15 - List of Drawings	May 22, 2024
DIVISION 00 - CONTRACTS AND CONDITIONS	
00 11 16 - Invitation to Bid	May 22, 2024
00 21 13 - Instructions to Bidders	May 22, 2024
(1) 00 41 13 – Form for General Bid	May 22, 2024
A101-2017 Modified Standard Form of Agreement Between Owner and Contractor	
A201-2017 Modified General Conditions of the Contract for Construction	
(1) A310-2010 Bid Bond	
(2) A312-2010 Performance Bond	
(2) A312-2010 Payment Bond	
(1) 00 43 13 – Affidavit of Compliance	May 22, 2024
(1) 00 43 16 - Debarment Disclosure Form	May 22, 2024
(1) 00 43 19 - Company Information	May 22, 2024
(1) 00 43 23 – Statement of Labor Harmony	May 22, 2024
00 45 13 - Bidder Qualifications	May 22, 2024
(1) 00 45 16 - Bidder Qualification Schedules	May 22, 2024
(1) 00 45 19 – Certificate of Non-Collusion and Tax Compliance	May 22, 2024
(1) 00 45 23 - Certification of OSHA Training	May 22, 2024
(1) 00 45 26 - Corporate Resolution	May 22, 2024
00 62 13 - Weekly Certified Payroll report and Workforce Participation Form	May 22, 2024
00 62 16 – Certificate of Insurance	May 22, 2024
00 73 43 - Davis-Bacon Wage Rates	May 22, 2024
00 73 46 – Prevailing Wage Rate Schedule	May 22, 2024
Commonwealth of Massachusetts Prevailing Wage Rates	
DIVISION 01 - GENERAL REQUIREMENTS	
01 11 00 - General Requirements	May 22, 2024
01 20 00 - Payment Procedures	May 22, 2024
01 22 00 – Unit Prices	May 22, 2024
01 26 00 - Contract Modification Procedures	May 22, 2024
01 32 16 - Progress Schedule	May 22, 2024
01 33 00 – Submittal Procedures	May 22, 2024
01 40 00 - Quality Requirements	May 22, 2024
01 50 00 - Temporary Facilities and Controls	May 22, 2024
01 60 00 – Product Requirements	May 22, 2024
Substitution Request Form	
01 77 00 – Contract Closeout Procedures	May 22, 2024
01 78 39 - Project Record Documents	May 22, 2024

(1) General Contract Bidder to Submit Documents with Bid
 (2) General Contract Bidder to Submit Documents prior to Award of Contract

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE

MAY 22, 2024

5 TIGER DRIVE, MAYNARD, MA 01754

Mount Vernon Group Architects, Inc., Project No. 02021.10

DIVISION 02 THROUGH DIVISION 28

NO WORK IN THESE DIVISIONS

SPECIFICATION SECTION

DOCUMENT DATE

DIVISION 31 - EARTHWORK

31 09 00 – Subsurface Investigation	May 22, 2024
Geotechnical Report	February 24, 2022
Phase 1 – Environmental Site Assessment	January 18, 2022
31 10 00 – Site Clearing	May 22, 2024
31 20 00 - Earth Moving	May 22, 2024
31 21 00 – Site Preparation	May 22, 2024
31 21 01 - Site Utilities Preparation	May 22, 2024
31 25 00 – Erosion and Sedimentation Controls	May 22, 2024

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 16 00 - Wood Beam Guard Rail	May 22, 2024
32 31 70 - Chain Link Fences and Gates	May 22, 2024

DIVISION 33 - UTILITIES

33 32 23 - Segmental Retaining Walls	May 22, 2024
33 61 37 – Geothermal Ground-Source Heat Exchanger System	May 22, 2024

END OF SECTION

- (1) General Contract Bidder to Submit Documents with Bid
- (2) General Contract Bidder to Submit Documents prior to Award of Contract

SECTION 00 00 15

LIST OF DRAWINGS

GENERAL

A0.00 COVER SHEET

CIVIL

EX-1 SITE PLAN SURVEY PLAN

EX-2 SITE PLAN SURVEY PLAN

EX-3 SITE PLAN SURVEY PLAN

EX-4 SITE PLAN SURVEY PLAN

C-00 OVERALL PLAN

C-01.1 DEMO PLAN

C-01.2 DEMO PLAN

C-01.3 DEMO PLAN

C-01.4 DEMO PLAN

C-02.1 SITE PREPERATION PLAN

C-02.2 SITE PREPERATION PLAN

C-02.3 SITE PREPERATION PLAN

C-02.4 SITE PREPERATION PLAN

C-03.1 DETAILS

C-03.2 DETAILS

GEOHERMAL

GT-100 OVERALL BOREFIELD PLAN

GT-200 GEOTHERMAL DETAILS I

GT-201 GEOTHERMAL DETAILS II

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

Section 00 11 13
ADVERTISEMENT TO BID
MGL c.30 §39M Over \$50K

The **TOWN OF MAYNARD**, the Awarding Authority, invites sealed bids from Contractors for the Green Meadow Elementary School - Early Site Package at in Maynard, Massachusetts, in accordance with the documents prepared by **MOUNT VERNON GROUP ARCHITECTS, INC.**.

The Project consists of but not limited to:

The Green Meadow Elementary School – Early Site Package shall include Work, but not limited to; site demolition including walks, stairs and paved areas, removal of trees and stumps, cutting and capping of utility pipes that will remain on-site, removal and disposal of utility services, excavation and removal of fill and ledge, installation, and compaction of fill, grading to subgrade, retaining wall and fence construction, slope stabilization, sediment, and erosion control.

The construction will be administered using BidDocs' construction software paid for by the Awarding Authority or Prime Designer.

The work is estimated to cost **\$4,500,000.00**.

All bidding Requests for Information (RFIs) shall be submitted online by 06/13/2024 at 2:00PM EDT for general bids.

Bids are subject to M.G.L. c.30§39M and to minimum wage rates as required by M.G.L. c.149 §§26 to 27H inclusive.

THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED. Please review the instructions in the bid documents on how to register as an electronic bidder. All Bids shall be submitted online at www.biddocs.com and received no later than the date and time specified.

General Bids will be received until **20 June 2024 on 2:00PM EDT** and publicly opened online, forthwith.

General bids and sub-bids shall be accompanied by a bid deposit that is not less than five (5%) of the greatest possible bid amount (including all alternates), and made payable to the **TOWN OF MAYNARD**. Note: A bid deposit is not required for Projects advertised under \$50,000.

Bid Forms and Contract Documents will be available for review at www.biddocs.com (may be viewed and downloaded electronically at no cost).

PRE-BID CONFERENCE / SITE VISIT: Scheduled
Date and Time: 05/29/2024 at 9:00AM EDT

Address: 5 Tiger Drive, Maynard, MA 01754
Instructions: Meet at front entrance canopy.

The hard copy Contract Documents may be seen at:

Nashoba Blue Inc.
433 Main Street
Hudson, MA 01749
978-568-1167

END OF SECTION

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

SECTION 00 11 16

INVITATION TO BID

The Town of Maynard, the Awarding Authority, invites sealed bids for the Green Meadow Elementary School – Early Site Package located at 5 Tiger Drive, Maynard, MA 01754, in accordance with Contract Documents prepared by Mount Vernon Group Architects, Inc., 264 Exchange St., Suite G7, Chicopee, MA 01013, (413) 592-9700.

The Green Meadow Elementary School – Early Site Package shall include Work, but not limited to; site demolition including walks, stairs and paved areas, removal of trees and stumps, cutting and capping of utility pipes that will remain on-site, removal and disposal of utility services, excavation and removal of fill, installation, and compaction of fill, grading to subgrade, slope stabilization, sediment, and erosion control.

The estimated Project cost is approximately **\$ 4,500,000.00**.

Under Massachusetts General Laws, M.G.L. c. 30, § 39M, the public owner is required to determine whether the apparent low bidder is responsible and eligible. Accordingly, bidders are required to complete the Bidder's Qualifications Schedules.

Substantial Completion is 165 calendar days from the Notice to Proceed and Final Completion is 195 days from the Notice to Proceed.

Sealed Bids for the General Contract will be received electronically online to www.biddocs.com on **June 20, 2024 at 2:00 P.M.** local time.

Bid Forms and Contract Documents will be available online at www.biddocs.com on **May 22, 2024 at 2:00 P.M.**

Bidders can request a copy of the Contract Documents with a \$250.00 deposit per set (maximum of 2 sets) payable to BidDocs ONLINE, Inc. The deposit can be paid online at www.biddocs.com or can be paid with a certified or cashier's checks that are scanned (PDF) and submitted to www.biddocs.com. This deposit will be refunded for up to two sets for Bidders upon return of the sets in good condition within thirty days of receipt of general bids. Otherwise, the deposit shall be the property of the Awarding Authority. The Contract Documents can be pick-up at Nashoba Blue, Inc. at 433 Main Street, Hudson, MA 01749 (978-568-1167). Bidders can request a copy of the Contract Documents to be mailed to them with a separate check for \$40.00 per set for UPS Ground, payable to BidDocs ONLINE, Inc. to cover the mail handling costs.

Questions regarding plan distribution should be directed to BidDocs ONLINE, Inc. at (978) 568-1167. Questions regarding Project details should be directed by e-mail to Mount Vernon Group Architects, Attn: Chris LeBlanc at CLeBlanc@mvgarchitects.com. **THE DEADLINE FOR QUESTIONS WILL BE FIVE (5) BUSINESS DAYS BEFORE THE SEALED BIDS ARE DUE.**

General Bids will be received electronically by BidDocs ONLINE, Inc. The General Bids shall be filed with the Owner at the location designated above accompanied by a bid deposit in the form of a bid bond or cash or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company payable to The Town of Maynard in the amount of 5 percent of the bid.

A bid bond shall be:

- (a) in a form satisfactory to the Owner.
- (b) with a surety company qualified to do business in the Commonwealth of Massachusetts and satisfactory to the Owner.
- (c) conditioned upon the faithful performance by the principal of the agreements contained in the General Bid.

A performance Bond and Labor and Materials Payment Bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner and each in the sum of 100 percent of the Contract Price will be required of the successful general bidder and filed sub-bidders.

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE

MAY 22, 2024

5 TIGER DRIVE, MAYNARD, MA 01754

Mount Vernon Group Architects, Inc., Project No. 02021.10

The rate per hour of the wages to be paid to mechanics, teamsters, chauffeurs, and laborers in the Work to be performed shall not be less than the rate of wages determined for this Work by the Commissioner of Labor and Industries of the Commonwealth of Massachusetts under the provisions of the Massachusetts General Laws, Chapter 30 as amended, a schedule of which appears in the Specifications.

The successful bidder will be required to provide insurance for the payment of compensation and the furnishing of other benefits under the Workmen's Compensation Law, General Laws, Chapter 152, to all persons to be employed under the Contract, and sufficient proof of compliance with the forgoing stipulation will be required before commencing performance of this Contract.

All bids shall remain in effect for 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of General Bids.

Pre-Bid Conference / Site Walkthrough: A Pre-Bid Conference / Site Walkthrough is scheduled for **Wednesday, May 29, 2024, 9:00 A.M.** at the existing Green Meadow Elementary School, located at 5 Tiger Drive, Maynard, MA 01754. Questions regarding Pre-Bid Conference / Site Walkthrough should be directed by e-mail to Mount Vernon Group Architects, Attn: Chris LeBlanc at CLeBlanc@mvgarchitects.com.

The Owner will reject general bids when required to do so pursuant to Massachusetts General Law. In addition, the Owner reserves the right to waive any informalities in bidding and to reject any or all general bids if it deems it in the public interest to do so. Also, the Owner reserves the right to reject any sub-bid if it determines that such sub-bid does not represent the bid of a company competent to perform work as specified or that less than three such sub-bids were received and that the prices are not reasonable for acceptance without further competition.

END OF INVITATION TO BID

Last Modified: 05/22/2024 at 12:18PM EDT

Section 00 21 13
INSTRUCTIONS TO BIDDERS
MGL c.30 §39M Over \$50K

THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED. Please review the instructions in the bid documents on how to register as an electronic bidder. The bids are to be prepared and submitted at biddocs.com .

ARTICLE 1 - BIDDER'S REPRESENTATION

- 1.1 Each General Bidder or Sub-bidder (hereinafter called the "**Bidder**") by making a bid or sub-bid (hereinafter called "**bid**") represents that:
- .1 The Bidder has read and understands the Contract Documents and the bid is made in accordance therewith.
 - .2 The Bidder has visited the site and is familiar with the local conditions under which the Work must be performed.
- 1.2 Failure to so examine the Contract Documents and site will not relieve any Bidder from any obligation under the bid as submitted.

ARTICLE 2 - REQUESTS FOR INTERPRETATION

- 2.1 Bidders shall promptly notify the contact specified in the Advertisement via written request for information (RFI) of any ambiguity, inconsistency, or error which they may discover upon examination of the Contract Documents, the site, and local conditions.
- 2.2 Bidders requiring clarification or interpretation of the Contract Documents shall make a written request for information (RFI) as specified in the Advertisement. The Awarding Authority may answer such requests if received before the bid date and/or within the time specified in the Advertisement. The Awarding Authority has no obligation to respond to the written requests.
- 2.3 Interpretation, correction, or change in the Contract Documents will be made by written Addendum which will become part of the Contract Documents. Neither the Awarding Authority nor the Prime Designer will be held accountable for any oral interpretations, corrections, or changes.
- 2.4 Copies of addenda will be made available for inspection at the locations listed in the Advertisement where Contract Documents are on file or at biddocs.com. **Hard copies of the addenda will not be forwarded to the plan holders. The bidder is solely responsible for reviewing all addenda posted on the project website.**

ARTICLE 3 - PREPARATION AND SUBMISSION OF BIDS

3.1 Forms and Bid Preparation

Bids shall be submitted electronically on the "**Form for General Bid**" at biddocs.com, as appropriate and available at no cost.

The forms enclosed in the Project Manual shall not be extracted or used.

- .1 All bidders must create a User Profile account at biddocs.com, at no cost, to complete and submit a bid. The Awarding Authority, the Prime Designer or BidDocs ONLINE Inc. will not be held accountable if the bidder fails to create a User Profile in a timely manner.
- .2 All entries on the bid form shall be made online. Any documents that are attached to the bid must be in a pdf format.
- .3 Sums shall be expressed in both words and figures in the space indicated on the bid form. The electronic bid forms automatically match the "word" amount to the numeric "figure" amount entered.

3.1 Bid Deposits shall be:

- .1 at least five percent (5%) of the greatest possible bid amount, considering all alternates (except for projects bid under MGL c. 149 or MGL c. 3039M under \$50,000);
- .2 made payable to the **Awarding Authority**.
- .3 conditioned upon faithful performance by the principal of the agreements contained in the bid, and
- .4 in the form of:
 - .1 cash,
 - .2 certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or
 - .3 bid bond issued by a surety company licensed to do business in the Commonwealth of Massachusetts.

Note: Both the "bid bond" or "check" bid deposits are to be scanned and uploaded to the system as a pdf file. **IMPORTANT NOTICE:** If the bidder elects to make a bid deposit in the form of "cash" or "check", the Bidder must have the cash or check physically delivered to the Awarding Authority prior to the date and time of the bid opening.

- .5 retained until the execution and delivery of the Awarding Authority / Contractor Agreement if they represent the bid deposit of one of the three (3) lowest responsible and eligible General Bidders or one of the three (3) lowest Sub-bidders in a filed sub-bid trade, or a sub-bidder listed by one of the three (3) lowest General Bidders.

3.3 Electronic Submission of General Bids

General Bids, including the bid deposit (if applicable), and required miscellaneous forms noted in the bid documents shall be submitted electronically online at

biddocs.com . No hard copy bids will be accepted.

The Bidder will receive an email and/or system notification confirming submission of the bid. Click on the email link to review and print the submitted bid documents. Keep the email as a **receipt** that the bid was submitted. **Note:** The Bidder may modify the bid at any time prior to the bid date and time advertised. The Bidder will receive a new email each time the Bidder re-submits the bid.

- .1 Date and time for receipt of bids is set forth in the Advertisement.
- .2 Timely submission of a bid online shall be the full responsibility of the Bidder.
Note: The project countdown clock on the website is the official clock that will determine when the bids are due.

3.4 Addenda

All modifications to the bid documents will be issued via an addendum. All registered plan holders will be electronically notified when addenda are issued. **Hard copies of the addenda will not be forwarded to the plan holders.** The Bidder is solely responsible for reviewing all addenda posted on the project website. The Bidder must acknowledge all addenda have been reviewed by selecting “yes” or “no” as part of the e-bidding process. If the Bidder selects “no”, the Bidder will automatically be directed to the Addenda icon on the project page.

ARTICLE 4 - ALTERNATES

- 4.1 Each General Bidder shall acknowledge Alternates in Section C on the Form for General Bid by entering the dollar amount of addition or subtraction necessitated by each Alternate.
- 4.2 In the event an Alternate does not involve a change in the amount of the base bid, the Bidder shall so indicate by entering "**0**" (**numeric figure**) in the “Add” space provided for that Alternate.
- 4.3 General Bidders shall enter on the Form for General Bid a single amount for each Alternate.
- 4.4 The low Bidder will be determined based on the sum of the base bid and the accepted alternates.
- 4.5 Alternates will be considered in numerical sequence as required by Chapter 149, Section 44G of the Massachusetts General Laws.

ARTICLE 5 - WITHDRAWAL OF BIDS

5.1 Before Opening of Bids

Any bid may be withdrawn (retracted) prior to the time designated for receipt of bids upon clicking the tab to "Retract Bid". The Bidder and the Awarding Authority will receive an email confirming that the bidder retracted the bid. Withdrawn bids may be modified and resubmitted up to the time designated for the receipt of bids.

5.2 After Opening of Bids

Bidders may withdraw a bid, without penalty, any time up to the time of Award as defined in paragraph 6.1, and upon demonstrating, to the satisfaction of the – Awarding Authority, that a bona fide clerical error was made during the preparation of the bid. Failure to conclusively demonstrate a bona fide clerical error may result in forfeiture of the bid deposit.

- 5.3 In the event of a general bid withdrawal after opening of bids, the Awarding Authority shall consider the bid from the next lowest eligible and responsible bidder.

ARTICLE 6 - CONTRACT AWARD

- 6.1 **Award** means both the determination and selection of the lowest, responsible, and eligible bidder, by the Awarding Authority.
- 6.2 The Awarding Authority will award the contract to the lowest responsible and eligible bidder within thirty days, Saturdays, Sundays, and legal holidays excluded after the opening of bids in accordance with M.G.L. c.149 §44A.
- 6.3 The Contract will be awarded to the lowest responsible and eligible Bidder, except in the event of substitution as provided under M.G.L. c.149 §§44E and 44F, in which cases the procedure as required by said sections shall govern the award of the Contract.
- 6.4 The award of this Contract is subject to the approval of the Awarding Authority. Contracts without approval shall not be considered valid.
- 6.5 The Awarding Authority reserves the right to waive any informalities in or to reject any or all Bids if it is in the public interest to do so.
- 6.6 As used herein, the term "lowest responsible and eligible bidder" shall mean the General Bidder whose bid is the lowest of those Bidders demonstrably possessing the skill, ability, and integrity necessary for the faithful performance of the work, and who meets the requirements for Bidders set forth in M.G.L. c.149 §44A-J and is not debarred from bidding under M.G.L. c.149 §44C; and who shall certify that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

ARTICLE 7 - FORMS REQUIRED FOR CONTRACT APPROVAL

7.1 Upon Award, the General Bidder shall complete the following forms to ensure prompt contract validation. These forms will be provided to the selected General Bidder by the Awarding Authority.

7.2 **Awarding Authority / Contractor Agreement and Form of Corporate Vote.**

7.3 **Form of Contractor's Equal Employment Certification** in accordance with the General Conditions.

.1 Form of Sub-Contractor's Equal Employment Certification

7.4 **Form of Performance Bond and Form of Payment Bond** must be submitted by the General Contractor on the Awarding Authority's form, in accordance with the General Conditions. The dates on the bonds must coincide with the contract date, and a current Power-of-Attorney must be attached to each bond. The minimal performance and payment bonds are as follows.

BOND	MGL c. 149		MGL c. 3039M	
	\$25K to \$50K	\$50K to \$150K	\$25K to \$50K	Over \$50K
Performance	None	None	None	None
Payment	50%	50%	50%	50%

7.5 **Insurance Certificates** for the General Contractor is required and must be submitted in accordance with the General Conditions. General Contractors must indicate on Builder's Risk insurance or installation floater if stored materials are covered.

7.6 **Statement of Management on Internal Accounting Controls and a Statement prepared by a CPA** expressing an opinion to the state of Management Controls, as required by M.G.L. c.30 §39R. This applies to the General Contractor only.

ARTICLE 8 - CONTRACT VALIDATION

8.1 The Awarding Authority -Contractor Agreement shall not be valid until signed by the Authorized Signatory of the Awarding Authority.

8.2 The Notice to Proceed for construction shall not be issued until the Awarding Authority/Contractor Agreement has been validated by the Authorized Signatory of the Awarding Authority.

8.3 Incomplete or unacceptable submissions of forms required by paragraphs 7.2 - 7.6 will delay the validation of the Awarding Authority/Contractor Agreement by the Awarding Authority.

END OF SECTION

Generated By BidDocs: 05/22/2024 at 12:20PM EDT

Section 00 41 00
FORM FOR GENERAL BID
MGL c.30 §39M Over \$50K

TO THE AWARDING AUTHORITY: Town of Maynard

A. The Undersigned proposes to furnish all labor and materials required for **Green Meadow Elementary School - Early Site Package** at in Maynard, Massachusetts, in accordance with the accompanying plans and specifications prepared by **Mount Vernon group Architects, Inc.** for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda numbered: _____

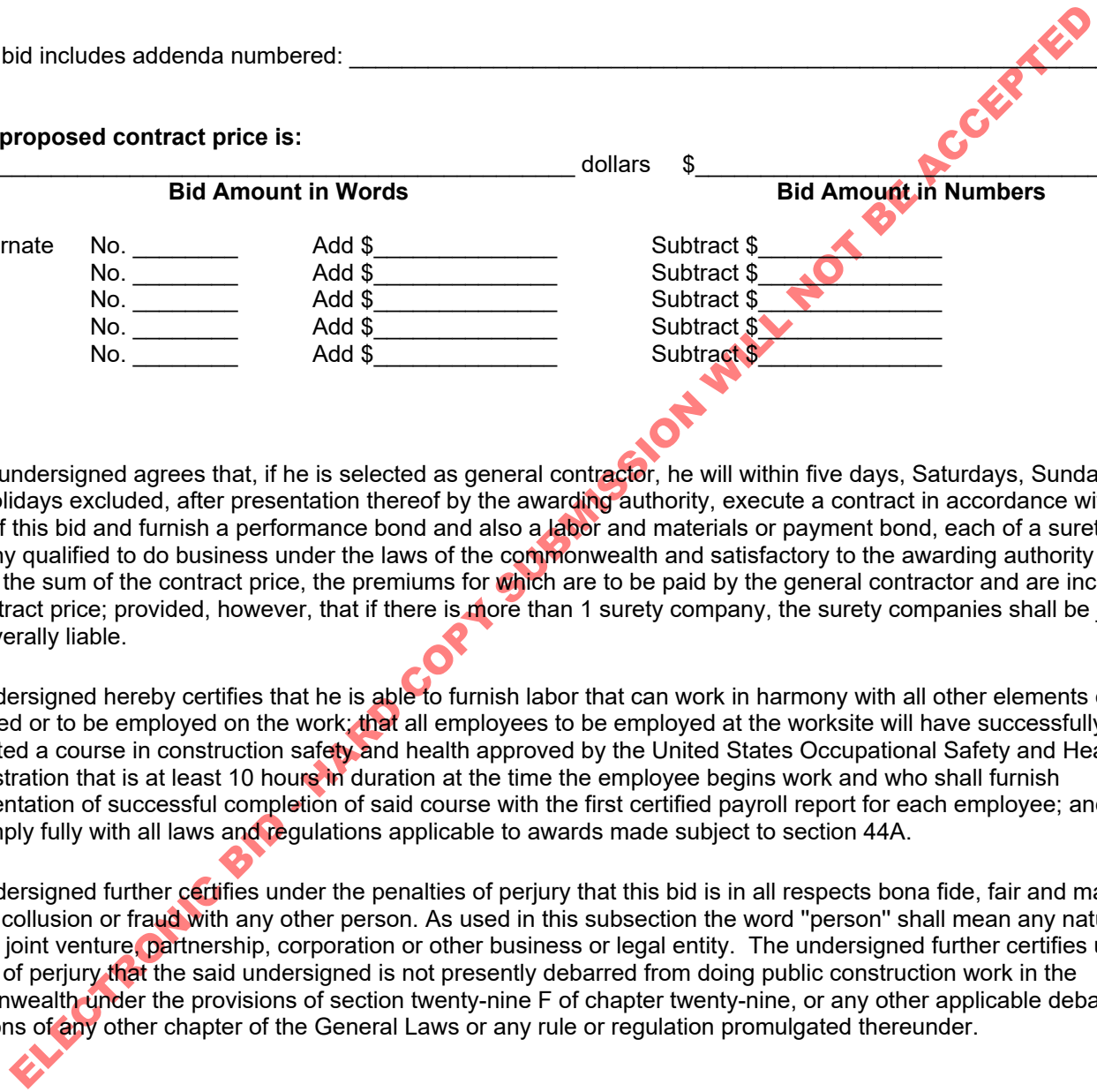
C. The proposed contract price is:

_____		dollars	\$	_____
Bid Amount in Words				Bid Amount in Numbers
For alternate	No. _____	Add \$	_____	Subtract \$ _____
	No. _____	Add \$	_____	Subtract \$ _____
	No. _____	Add \$	_____	Subtract \$ _____
	No. _____	Add \$	_____	Subtract \$ _____
	No. _____	Add \$	_____	Subtract \$ _____

D. The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

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



Generated By BidDocs: 05/22/2024 at 12:20PM EDT

NAME OF BIDDER

SIGNATURE AND TITLE OF PERSON SIGNING BID

BUSINESS ADDRESS

Date: _____

ELECTRONIC BID - HARD COPY SUBMISSION WILL NOT BE ACCEPTED

BID BOND

CONTRACTOR:

Name: _____

Address: _____

SURETY:

Name: _____

Address: _____

AWARDING AUTHORITY:

Name: _____

Address: _____

BOND AMOUNT: _____**PROJECT:** _____

The Contractor and Surety are bound to the Awarding Authority in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Awarding Authority accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Awarding Authority and Contractor, and the Contractor either (1) enters into a contract with the Awarding Authority in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise, acceptable to the Awarding Authority, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Awarding Authority may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Awarding Authority and Contractor to extend the time in which the Awarding Authority may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Awarding Authority and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory and not as a common law bond.

IN THE WITNESS WHEREOF,

the Principal and Surety signed and sealed this _____ day of _____, 20_____

 (Witness) _____ (Contractor as Principal) (Seal)

 (Title)

 (Witness) _____ (Surety) (Seal)

 (Title)

THIS PAGE INTENTIONALLY LEFT BLANK

SIMILAR PROJECTS - REFERENCE FORM

The bidder must provide five (5) similar projects performed & completed within the past five (5) years.

Similar Project 1

Project Address: _____	
Start Date: _____	End Date: _____
Current Cost: _____	Original Cost: _____
Cost Change Explanation: _____	
Project Description: _____ _____ _____	
Awarding Authority Reference Contact	Prime Designer Reference Contact
_____	_____
_____	_____
_____	_____
Project Manager Reference Contact	General Contractor Reference Contact
_____	_____
_____	_____
_____	_____

Similar Project 2

Project Address: _____	
Start Date: _____	End Date: _____
Current Cost: _____	Original Cost: _____
Cost Change Explanation: _____	
Project Description: _____ _____ _____	
Awarding Authority Reference Contact	Prime Designer Reference Contact
_____	_____
_____	_____
_____	_____
Project Manager Reference Contact	General Contractor Reference Contact
_____	_____
_____	_____
_____	_____

ELECTRONIC BID SUBMISSION WILL NOT BE ACCEPTED

Generated By BidDocs: 05/22/2024 at 12:20PM EDT

SIMILAR PROJECTS - REFERENCE FORM

Similar Project 3	
Project Address: _____	
Start Date: _____	End Date: _____
Current Cost: _____	Original Cost: _____
Cost Change Explanation: _____	
Project Description: _____ _____ _____	
Awarding Authority Reference Contact	Prime Designer Reference Contact
_____ _____ _____	_____ _____ _____
Project Manager Reference Contact	General Contractor Reference Contact
_____ _____ _____	_____ _____ _____

Similar Project 4	
Project Address: _____	
Start Date: _____	End Date: _____
Current Cost: _____	Original Cost: _____
Cost Change Explanation: _____	
Project Description: _____ _____ _____	
Awarding Authority Reference Contact	Prime Designer Reference Contact
_____ _____ _____	_____ _____ _____
Project Manager Reference Contact	General Contractor Reference Contact
_____ _____ _____	_____ _____ _____

Generated By BidDocs: 05/22/2024 at 12:20PM EDT

ELECTRONIC BID - HARD COPY SUBMISSION WILL NOT BE ACCEPTED

SIMILAR PROJECTS - REFERENCE FORM

Similar Project 5	
Project Address: _____	
Start Date: _____	End Date: _____
Current Cost: _____	Original Cost: _____
Cost Change Explanation: _____	
Project Description: _____ _____ _____	
Awarding Authority Reference Contact	Prime Designer Reference Contact
_____ _____ _____	_____ _____ _____
Project Manager Reference Contact	General Contractor Reference Contact
_____ _____ _____	_____ _____ _____

ELECTRONIC BID - HARD COPY SUBMISSION WILL NOT BE ACCEPTED

Generated By BidDocs: 05/22/2024 at 12:20PM EDT

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 00 41 13

FORM FOR GENERAL BID

FROM:

TO BE FILLED ONLINE

TO BE FILLED ONLINE

TO BE FILLED ONLINE

TO:

A. The undersigned proposes to furnish all labor and materials required for the Green Meadow Elementary School – Early Site Package, 5 Tiger Drive, Maynard, MA 01754, in accordance with the accompanying Plans and Specifications prepared by the Mount Vernon Group Architects, Inc., 264 Exchange St., Suite G7, Chicopee, MA 01013, (413) 592-9700, for the Contract Price specified below, subject to additions and deductions according to the terms of the Specifications.

B. This Bid includes addenda numbered: _____ TO BE FILLED ONLINE

C. The Proposed Contract Price is: _____ TO BE FILLED ONLINE

_____ TO BE FILLED ONLINE Dollars (\$) _____ TO BE FILLED ONLINE)

D. UNIT PRICES

As authorized by the Owner, should the quantities of certain classes of work to be increased or decreased, as described below, the Unit Prices listed below shall be the basis of payment to the General Contractor, or credit to the Owner, for such increase or decrease in the Work. The Unit Prices shall represent the exact net amount, per unit, to be paid to the General Contractor, in the case of additions. No additional adjustment shall be allowed for overhead, profit, insurance, or other direct or indirect expenses of the General Contractor. No additional adjustments shall be allowed for over excavation, or other related work, without prior written approval of the Owner. The Owner reserves the right to negotiate total additive or deductive change value for any line items which deviate more than 25% from the stated quantities below. Unit prices to be included in the General Contractors base bid.

Unit Price No. 1: Excavation, stockpiling, and removal of petroleum contaminated soil materials and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards at \$ _____ per cubic yard, for a total of _____ (\$ _____).

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

Unit Price No. 2: Excavation, stockpiling, and removal of ledge and boulders measured at 2 cubic yards and larger for the open site excavation and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards at

\$ _____ per cubic yard, for a total of _____
_____ (\$ _____).

Unit Price No. 3: Excavation, stockpiling, and removal of ledge and boulders measured at 2 cubic yards and larger to provide trenches for utility pipes, conduits, and structures and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards at

\$ _____ per cubic yard, for a total of _____
_____ (\$ _____).

The undersigned agrees that if he is selected as General Contractor, he shall promptly confer with the Awarding Authority on the question of Sub-bidders and that the Awarding Authority may substitute for any sub-bid listed above a sub-bid duly filed with the Awarding Authority by another sub-bidder for the sub-trade, against whose standing and ability the undersigned makes no objection; and that the undersigned shall use all such finally selected sub-bidders at the amount named in their respective sub-bids and be in every way responsible for them and their Work as if they had been originally named in this General Bid the total Contract Price being adjusted to conform thereto.

The undersigned agrees that, if he is selected as General Contractor, he shall within days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a Contract in accordance with the terms of this General Bid and furnish a performance bond and also a labor and materials or payment bond each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of one hundred percent (100%) of the Contract Price, the premiums for which are to be paid by the General Contractor and are included in the Contract Price.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work; that all employees to be employed at the worksite shall have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he shall comply fully with all laws and regulations applicable to awards made subject to Massachusetts General Laws, Chapter 149 as amended to date.

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

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any other rule or regulation promulgated thereunder.

The undersigned certifies that he shall comply with the provisions of the "Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program" as set forth in the contract, Article XII, included under Section 00 73 43 - Labor Standard of the Commonwealth.

Should the notice to General Contractors, bid form, contract, plans or specifications require submission of special data to accompany the bid, the awarding authority reserved the right to rule the bidder's failure to submit such data an informality and to receive said bid subsequently, within reasonable time as set by the awarding authority.

TAXES: Required by MGL Chapter 62c, Section 49A, the undersigned certifies that he or she has complied with all laws of the Commonwealth relating to taxes, reporting of employees and General Contractors, and withholding and remitting child support.

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

DATE _____

(Name of General Bidder)

Federal Employer's
Identification Number _____

(Signature) (Title)

(Telephone)

(Business Address)

(City, State and Zip Code)

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

DRAFT AIA® Document A101™ - 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

« »
« »
« »
« »

and the Contractor:
(Name, legal status, address and other information)

« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

« »
« »
« »

The Architect:
(Name, legal status, address and other information)

« »
« »
« »
« »

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

§ 1.2 This contract is only binding upon, and enforceable against the City if: 1) the Contract is signed by the Mayor or her designee; 2) and endorsed with approval of City Counsel as to form. At any time during normal business hours, and as often as the City may deem it reasonably necessary, there shall be available in the office of the Contractor for the purpose of audit, examination, and/or to make excerpts or transcript all records, contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this Agreement.

ARTICLE 2 THE WORK OF THIS CONTRACT

§ 2.1 The Contractor shall fully execute the Work described in the Contract Documents and reasonably inferable therefrom, except as specifically indicated in the Contract Documents to be the responsibility of others.

§ 2.2 The Contractor's project team ("Project Team") will consist of a Project Executive, a Project Manager, and a Superintendent. The Project Team and their qualifications shall be initially as set forth below and the Contractor shall provide the Owner with written notice of the names and qualifications of the Project Manager and Superintendent at least 10 days prior to the Date of Commencement.

Project Executive:

Project Manager:

Superintendent:

§ 2.2.1 The Contractor acknowledges that, in entering into this Agreement, the Owner is relying upon the fact that each of the members of the Project Team will continue to perform his or her services throughout the entirety of the performance of the Work. No change will be made in the membership of the Project Team without the Owner's prior written approval, which approval shall not be withheld on an arbitrary basis; the Owner may require the

replacement of any member of the Project Team for reasonable cause specified in writing, upon notice to the Contractor.

§ 2.2.2 The Contractor will maintain a competent full-time staff (including, without limitation, the Superintendent, a Project Manager and an Assistant Superintendent, if necessary) at the Project Site to coordinate and provide general direction of the Work and the progress of the Subcontractors on the Project. The Project Manager may, at the election of the Owner, be based at the Site or the Contractor's home office, provided that the Project Manager spends all time necessary for the proper administration of the Project.

§ 2.2.3 All labor employed by the Contractor to perform Work on the Site shall cooperate with all other separate contractors, subcontractors, and suppliers performing work on the Site, no matter by whom employed, in furtherance of the Owner's interests.

ARTICLE 3 DATE OF COMMENCEMENT, AND SUBSTANTIAL COMPLETION AND FINAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

The date of this Agreement.

A date set forth in a notice to proceed issued by the Owner.

Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

Not later than One Hundred-Sixty Five (165) calendar days from the date of commencement of the Work.

By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work

Entire project scope as depicted in the Drawings and Specifications

Substantial Completion Date

165 Calendar Days Post Notice to Proceed

§ 3.3.3 If the Contractor fails to achieve Substantial Completion of the Work in accordance with the Contract Times set forth above, the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages and not as a penalty, the following per diem amounts commencing upon the first calendar day following the expiration of the Contract Times set forth above and continuing until the actual Date of Substantial Completion for each segment. Such liquidated damages are hereby agreed by all parties to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work. These liquidated damages are hereby agreed to be actual per diem costs for liquidated damages. No further evaluation of actual damages will be considered by either the Owner

or the Contractor. Liquidated damages shall be in the amount of ~~Three~~One Thousand ~~Five~~Hundred Dollars (\$~~31,0500~~) per calendar day. The Owner may deduct liquidated damages from any unpaid amounts then or thereafter due the Contractor under this Agreement. Any liquidated damages not so deducted shall be payable to the Owner at the demand of Owner, together with interest from the date of the demand at a rate of one percent (1%) per month payable by the Contractor.
~~as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.~~

§ 3.3.4 The Contractor shall achieve Final Completion of the entire Work not later than ~~930~~ days from the date of Substantial Completion or as follows:
(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of Substantial Completion. Unless stated elsewhere in the Contract Documents, insert any requirements for earlier Final Completion of certain portions of the Work.)

The Contractor shall achieve Final Completion of the entire Work not later than

Portion of Work	Final Completion Date
<u>Entire project scope as depicted in the Drawings and Specifications</u>	<u>195 Calendar Days Post Notice to Proceed</u>

subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to complete on time or for bonus payments for early completion of the Work.)

If the Contractor fails to achieve Final Completion of the Work in accordance with the Contract Times set forth above, the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages and not as a penalty, the following per diem amounts commencing upon the first calendar day following the expiration of the Contract Times set forth above and continuing until the actual Date of Final Completion. Such liquidated damages are hereby agreed by all parties to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work. These liquidated damages are hereby agreed to be actual per diem costs for liquidated damages. No further evaluation of actual damages will be considered by either the Owner or the Contractor. Liquidated damages shall be in the amount of ~~Three~~One Thousand ~~Five~~Hundred Dollars (\$~~31,0500~~) per calendar day. The Owner may deduct liquidated damages from any unpaid amounts then or thereafter due the Contractor under this Agreement. Any liquidated damages not so deducted shall be payable to the Owner at the demand of Owner, together with interest from the date of the demand at a rate of one percent (1%) per month payable by the Contractor.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor’s performance of the Contract. The Contract Sum shall be « » (\$ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

«See Sections 3.3.3 and 3.3.4»

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect ~~not later than the « » day of a month, as described in Paragraph 9.3.1 of AIA Document A201-2017 modified, as included in the Contract Documents,~~ the Owner shall make payment of the amount certified to the Contractor not later than the ~~«last»~~ day of the ~~«next calendar»~~ month. If an Application for Payment is received by the Architect after the application date ~~as described in Section 9.3.1 of AIA Document A201-2017 modified, as included in the Contract Documents, fixed above,~~ payment of the amount certified shall be made by the Owner not later than ~~«forty-five»~~ («45») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor ~~as described in Section 9.2 of AIA Document A201-2017 modified, as included in in accordance with the~~ Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect ~~and Owner~~ may require. This schedule of values, ~~unless objected to by the Architect and Owner,~~ shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, ~~modified,~~ General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

Last Modified: 05/22/2024 at 12:20PM EDT

- .3 That portion of Construction Change Directives that the Architect and Owner determines, in the Architect's and Owner's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect and Owner has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017, modified;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect and Owner may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017, modified; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

«Five percent (5%)»

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

«None»

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« In accordance with applicable Massachusetts law, G.L. c. 30, §§ 39G and 39K. See also Section 9.8.6 of AIA Document A201-2017, General Conditions as modified and included in the Contract Documents.»

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. Billing and payment of final retainage at the time of Substantial and Final Completion shall be in accordance with G.L. c. 30, §§ 39G and 39K and the relevant provisions of the General Conditions, namely, The Application for Payment submitted at Substantial Completion shall not include retainage as follows: *(Insert any other conditions for release of retainage upon Substantial Completion.)*

«See Section 9.8.6 of AIA Document A201-2017, General Conditions as modified and included in the Contract Documents.»

~~§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201-2017.~~

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201-2017, modified, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made in accordance with Section 9.10 in AIA-201-2017, General Conditions as modified and included in the Contract Documents. ~~no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:~~

<< >>

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

<<-> % <->

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial INTERPRETATION Decision Maker

The Architect will serve as the Initial Decision Maker ~~provide an initial interpretation of all claims~~ pursuant to Article 15 of AIA Document A201-2017, modified, ~~unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.~~

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

<< >>

<< >>

<< >>

<< >>

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201-2017, modified, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

[] Arbitration pursuant to Section 15.4 of AIA Document A201-2017, modified

[] Litigation in a court of competent jurisdiction

[] Other *(Specify)* pursuant to Section 15.4 of AIA Document A201-2017, modified

<< >>

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-2017, modified.

§ 7.1.1 ~~If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201-2017, then the Owner shall pay the Contractor a termination fee as follows:~~

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

<< >>

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2017, modified.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017, modified or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:
(Name, address, email address, and other information)

<< >>
<< >>
<< >>
<< >>
<< >>
<< >>

§ 8.3 The Contractor’s representative:
(Name, address, email address, and other information)

<< >>
<< >>
<< >>
<< >>
<< >>
<< >>

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in Article 11 of AIA Document A+201™–2017, modified, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in Article 11 of AIA Document A+201™–2017 Exhibit A, modified, and elsewhere in the Contract Documents.

~~§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, modified, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)~~

<< >>

§ 8.7 Other provisions:

<< >>

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, modified, Standard Form of Agreement Between Owner and Contractor
- .2 ~~AIA Document A101™–2017, modified, Exhibit A, Insurance and Bonds~~
- .3 ~~AIA Document A201™–2017, modified~~, General Conditions of the Contract for Construction
- .4 ~~AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:~~

Last Modified: 05/22/2024 at 12:20PM EDT

(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date
See Attached Listing of Drawings		

.6 Specifications

Section	Title	Date	Pages
See Attached Specs Table of Contents			

.7 Addenda, if any:

Number	Date	Pages
See Attached Listing of Addenda		

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[] AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

[] The Sustainability Plan:

Title	Date	Pages

[] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. ~~AIA Document A201™-2017, modified, provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)~~

- Invitation to Bid
- Instructions to Bidders
- Form for General Bid
- Bid Bond Form
- Performance Bond
- Payment Bond
- Commonwealth of Massachusetts Prevailing Wage Rates

Last Modified: 05/22/2024 at 12:20PM EDT

- Davis-Bacon Wage Rates
- Certificate of Non-Collusion & Tax Compliance
- Affidavit of Compliance
- Company Information
- Debarment Disclosure Form
- Statement of Labor Harmony and OSHA Training Compliance

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*

« »

(Printed name and title)

CONTRACTOR *(Signature)*

« »

(Printed name and title)



DRAFT AIA® Document A201™ - 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

<<->
<< >>

THE OWNER:

(Name, legal status and address)

<<-><->
<<
>>

THE ARCHITECT:

(Name, legal status and address)

<< >>< >>
<< >>

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.



ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,

10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.4**

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,

3.12.10.1, 4.2.7, 9.3.2, 13.4.1

Arbitration

8.3.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,

9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,

13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and

Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,

4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,

9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,

7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,

13.4.2, 15.2

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,

3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,

3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,

9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for

Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,

15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

Building Information Models Use and Reliance

1.8

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,

9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval
13.4.4
Certificates of Insurance
9.10.2
Change Orders
1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3,
7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1,
9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2
Change Orders, Definition of
7.2.1
CHANGES IN THE WORK
2.2.2, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,
11.5
Claims, Definition of
15.1.1
Claims, Notice of
1.6.2, 15.1.3
CLAIMS AND DISPUTES
3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4
Claims and Timely Assertion of Claims
15.4.1
Claims for Additional Cost
3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, **15.1.5**
Claims for Additional Time
3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, **15.1.6**
Concealed or Unknown Conditions, Claims for
3.7.4
Claims for Damages
3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3,
11.3.2, 14.2.4, 15.1.7
Claims Subject to Arbitration
15.4.1
Cleaning Up
3.15, 6.3
Commencement of the Work, Conditions Relating to
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,
6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, **15.1.5**
Commencement of the Work, Definition of
8.1.2
Communications
3.9.1, **4.2.4**
Completion, Conditions Relating to
3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,
9.10, 12.2, 14.1.2, 15.1.2
COMPLETION, PAYMENTS AND
9
Completion, Substantial
3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1,
9.10.3, 12.2, 15.1.2
Compliance with Laws
2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2,
13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3,
15.2.8, 15.4.2, 15.4.3
Concealed or Unknown Conditions
3.7.4, 4.2.8, 8.3.1, 10.3
Conditions of the Contract
1.1.1, 6.1.1, 6.1.4

Consent, Written
3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2,
15.4.4.2
Consolidation or Joinder
15.4.4
CONSTRUCTION BY OWNER OR BY
SEPARATE CONTRACTORS
1.1.4, **6**
Construction Change Directive, Definition of
7.3.1
Construction Change Directives
1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3,
7.3, 9.3.1.1
Construction Schedules, Contractor's
3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2
Contingent Assignment of Subcontracts
5.4, 14.2.2.2
Continuing Contract Performance
15.1.4
Contract, Definition of
1.1.2
CONTRACT, TERMINATION OR
SUSPENSION OF THE
5.4.1.1, 5.4.2, 11.5, **14**
Contract Administration
3.1.3, 4, 9.4, 9.5
Contract Award and Execution, Conditions Relating
to
3.7.1, 3.10, 5.2, 6.1
Contract Documents, Copies Furnished and Use of
1.5.2, 2.3.6, 5.3
Contract Documents, Definition of
1.1.1
Contract Sum
2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4,
9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2,
12.3, 14.2.4, 14.3.2, 15.1.4.2, **15.1.5**, **15.2.5**
Contract Sum, Definition of
9.1
Contract Time
1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5,
7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1,
8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2,
14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5
Contract Time, Definition of
8.1.1
CONTRACTOR
3
Contractor, Definition of
3.1, **6.1.2**
Contractor's Construction and Submittal
Schedules
3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2
Contractor's Employees
2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6,
10.2, 10.3, 11.3, 14.1, 14.2.1.1
Contractor's Liability Insurance
11.1

Contractor's Relationship with Separate Contractors and Owner's Forces
3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4
Contractor's Relationship with Subcontractors
1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4
Contractor's Relationship with the Architect
1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1
Contractor's Representations
3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2
Contractor's Responsibility for Those Performing the Work
3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8
Contractor's Review of Contract Documents
3.2
Contractor's Right to Stop the Work
2.2.2, 9.7
Contractor's Right to Terminate the Contract
14.1
Contractor's Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3
Contractor's Superintendent
3.9, 10.2.6
Contractor's Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4
Coordination and Correlation
1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1
Copies Furnished of Drawings and Specifications
1.5, 2.3.6, 3.11
Copyrights
1.5, **3.17**
Correction of Work
2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1
Correlation and Intent of the Contract Documents
1.2
Cost, Definition of
7.3.4
Costs
2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14
Cutting and Patching
3.14, 6.2.5
Damage to Construction of Owner or Separate Contractors
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damage to the Work
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damages, Claims for
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7

Damages for Delay
6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2
Date of Commencement of the Work, Definition of
8.1.2
Date of Substantial Completion, Definition of
8.1.3
Day, Definition of
8.1.4
Decisions of the Architect
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2
Decisions to Withhold Certification
9.4.1, **9.5**, 9.7, 14.1.1.3
Defective or Nonconforming Work, Acceptance, Rejection and Correction of
2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1
Definitions
1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1
Delays and Extensions of Time
3.2, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**, 10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5
Digital Data Use and Transmission
1.7
Disputes
6.3, 7.3.9, 15.1, 15.2
Documents and Samples at the Site
3.11
Drawings, Definition of
1.1.5
Drawings and Specifications, Use and Ownership of
3.11
Effective Date of Insurance
8.2.2
Emergencies
10.4, 14.1.1.2, **15.1.5**
Employees, Contractor's
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1
Equipment, Labor, or Materials
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
Execution and Progress of the Work
1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4
Extensions of Time
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, **15.2.5**
Failure of Payment
9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2
Faulty Work
(See Defective or Nonconforming Work)
Final Completion and Final Payment
4.2.1, 4.2.9, 9.8.2, **9.10**, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

GENERAL PROVISIONS

1

Governing Law

13.1

Guarantees (See Warranty)

Hazardous Materials and Substances

10.2.4, **10.3**

Identification of Subcontractors and Suppliers

5.2.1

Indemnification

3.17, **3.18**, 9.6.8, 9.10.2, 10.3.3, 11.3

Information and Services Required of the Owner

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5,

9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2,

14.1.1.4, 14.1.4, 15.1.4

Initial Decision

15.2

Initial Decision Maker, Definition of

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,

9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

Instruments of Service, Definition of

1.1.7

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5,

11

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

Insurance, Contractor's Liability

11.1

Insurance, Effective Date of

8.2.2, 14.4.2

Insurance, Owner's Liability

11.2

Insurance, Property

10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy

9.9.1

Insured loss, Adjustment and Settlement of

11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

Interest

13.5

Interpretation

1.1.8, 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1,

10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4,

9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8,

15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6,

4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3,

11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15,

15.1.2, 15.1.3, 15.1.5

Materials, Hazardous

10.2.4, **10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2,

10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and

Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Mediation

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1,

15.4.1.1

Minor Changes in the Work

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, **7.4**

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,

10.3.2

Mutual Responsibility

6.2

Nonconforming Work, Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of
2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4,
12.2

Notice

1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4,
3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4,
8.2.2 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1,
13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5,
15.1.6, 15.4.1

Notice of Cancellation or Expiration of Insurance
11.1.4, 11.2.3

Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, **15.1.3**, 15.1.5,
15.1.6, 15.2.8, 15.3.2, 15.4.1

Notice of Testing and Inspections
13.4.1, 13.4.2

Observations, Contractor's
3.2, 3.7.4

Occupancy

2.3.1, 9.6.6, 9.8

Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2,
14.3.1

OWNER

2

Owner, Definition of

2.1.1

Owner, Evidence of Financial Arrangements

2.2, 13.2.2, 14.1.1.4

Owner, Information and Services Required of the

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1,
13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2,
4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1,
7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2,
10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4,
15.2.7

Owner's Insurance

11.2

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work

2.5, 14.2.2

Owner's Right to Clean Up

6.3

**Owner's Right to Perform Construction and to
Award Separate Contracts**

6.1

Owner's Right to Stop the Work

2.4

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2, 14.4

Ownership and Use of Drawings, Specifications and Other Instruments of Service

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12,
5.3

Partial Occupancy or Use

9.6.6, **9.9**

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,
14.2.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,
9.10.3, 14.1.1.3, 14.2.4

Payment, Failure of

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, **9.10**, 12.3, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

Payments, Progress

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

PAYMENTS AND COMPLETION

9

Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

PCB

10.3.1

Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

Permits, Fees, Notices and Compliance with Laws

2.3.1, **3.7**, 3.13, 7.3.4.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION

OF

10

Polychlorinated Biphenyl

10.3.1

Product Data, Definition of

3.12.2

Product Data and Samples, Shop Drawings

3.11, **3.12**, 4.2.7

Progress and Completion

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.4

Progress Payments

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Project, Definition of

1.1.4

Project Representatives

4.2.10

Property Insurance

10.2.5, **11.2**

Proposal Requirements

1.1.1

PROTECTION OF PERSONS AND PROPERTY

10

Regulations and Laws
1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1,
10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8,
15.4
Rejection of Work
4.2.6, 12.2.1
Releases and Waivers of Liens
9.3.1, 9.10.2
Representations
3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1
Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
**Review of Contract Documents and Field
Conditions by Contractor**
3.2, 3.12.7, 6.1.3
Review of Contractor's Submittals by Owner and
Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
Review of Shop Drawings, Product Data and
Samples by Contractor
3.12
Rights and Remedies
1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,
6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2,
12.2.4, **13.3**, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3, **10.1**, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, **3.12**, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
Schedules, Construction
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2
Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Separate Contractors, Definition of
6.1.1
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, **3.12**, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1

Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4
Site Visits, Architect's
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4
Special Inspections and Testing
4.2.6, 12.2.1, 13.4
Specifications, Definition of
1.1.6
Specifications
1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14
Statute of Limitations
15.1.2, 15.4.1.1
Stopping the Work
2.2.2, 2.4, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4,
9.3.1.2, 9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1
Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3,
9.8, 9.9.1, 9.10.2, 9.10.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, **11.3**
Substances, Hazardous
10.3
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3,
12.2, 15.1.2
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
2.3.3
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,
7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, **10**, **12**, **14**, 15.1.4

Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1

Surety

5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7

Surety, Consent of

9.8.5, 9.10.2, 9.10.3

Surveys

1.1.7, 2.3.4

Suspension by the Owner for Convenience

14.3

Suspension of the Work

3.7.5, 5.4.2, 14.3

Suspension or Termination of the Contract

5.4.1.1, 14

Taxes

3.6, 3.8.2.1, 7.3.4.4

Termination by the Contractor

14.1, 15.1.7

Termination by the Owner for Cause

5.4.1.1, 14.2, 15.1.7

Termination by the Owner for Convenience

14.4

Termination of the Architect

2.3.3

Termination of the Contractor Employment

14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT

14

Tests and Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4

TIME

8

Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

Time Limits on Claims

3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work

9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK

12

Uncovering of Work

12.1

Unforeseen Conditions, Concealed or Unknown

3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 9.1.2

Use of Documents

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

Use of Site

3.13, 6.1.1, 6.2.1

Values, Schedule of

9.2, 9.3.1

Waiver of Claims by the Architect

13.3.2

Waiver of Claims by the Contractor

9.10.5, 13.3.2, 15.1.7

Waiver of Claims by the Owner

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7

Waiver of Consequential Damages

14.2.4, 15.1.7

Waiver of Liens

9.3, 9.10.2, 9.10.4

Waivers of Subrogation

6.1.1, 11.3

Warranty

3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2

Weather Delays

8.3, 15.1.6.2

Work, Definition of

1.1.3

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Orders

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is written document signed by both parties including - (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements. As used herein, "Contractor" shall also mean "Construction Manager."

In the event of any conflict among the Contract Documents, the Contract Documents shall be construed according to the following priorities:

Highest Priority: Modifications, with later date having greater priority.

Second Priority: Agreement.

Third Priority: Bidding Requirements

Fourth Priority: Addenda with later date having greater priority.

Fifth Priority: Modifications to General Conditions.

Sixth Priority: General Conditions.

Seventh Priority: Drawings and Specifications

Drawings are considered an extension of the Specifications, and neither shall be considered to supersede the other. In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality and greater quantity of work shall be provided in accordance with the Architect's interpretation.

§ 1.1.1.2 Statutory Provisions: Construction of this Project is subject to statutes, administrative regulations and local ordinances governing public construction contracts in the Commonwealth of Massachusetts (referred to in such paragraphs or subparagraphs as the "Commonwealth"). Each party acknowledges that it is aware of these statutes, administrative regulations and local ordinances. It is the intent of the parties that all such statutes, administrative regulations and the like concerning public construction contracts in the Commonwealth are, without reference expressly incorporated into this agreement. At times the parties have identified certain statutes, administrative regulations and ordinances in this agreement. When a specific reference to M.G.L. ("Statutory Reference") is used the text is intended to be consistent with and incorporate the statute, administrative regulation or local ordinance cited and any deviations or inconsistencies are unintentional. In case of conflict between the Massachusetts General Laws and/or administrative regulations and other provisions of the Contract Documents, the statutes, administrative regulations and local ordinances shall govern.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, except as set forth in Sections 5.3 and 5.4, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. ~~The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.~~

§ 1.1.9 The terms "knowledge," "recognize," "observe" and "discover," their respective derivatives and similar terms, as used in the Contract Documents referring to the Contractor, shall be interpreted to mean what the Contractor knows (or should reasonably know), recognizes (or should reasonably recognize), observes (or should observe) and discovers (or should discover) in exercising the care, skill and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" shall be interpreted to mean reasonably inferable by a contractor familiar with the Project and exercising the care, skill and diligence required by the Contract Documents.

§ 1.1.10 Terminology

1. Unless otherwise indicated the term "provide" shall include furnishing and installing a product, materials, systems, and/or equipment complete in place, fully tested and approved.
2. The terms "approved" and/or "approval" shall mean approved and/or approval in writing unless otherwise indicated.
3. The term "Contractor" shall also mean "Construction Manager" for purposes of this Agreement.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. In the event of inconsistencies within or between parts of the Contract Documents or between the Contract Documents and applicable standards, codes and ordinances, the Contractor shall (i) provide the better quality or greater quantity of Work or (ii) comply with the more stringent requirement; either or both in accordance with the Architect's interpretation.

1. On the Drawings, given dimensions shall take precedence over scaled measurements and large scale drawings over small scale drawings.
2. Before requesting the ordering of any material or doing any Work, the Contractor and each Subcontractor shall verify measurements at the Project site and shall be responsible for the correctness of such measurements. No extra charges or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings.
3. If a minor change in the Work is found to be necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure to the Architect for approval before making the change.

4 Contractor shall thoroughly acquaint itself with and comply with the terms, statutes, rules and regulations governing excavation in the area of underground utilities.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, ~~or is otherwise invalid or unenforceable~~, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade, except to the extent required by Statutory Reference, including but not limited to M.G.L. chapter 149, section 44F. The Contractor and all Subcontractors shall refer to all Contract Documents, including those not specifically showing the Work of their specialized trades, and shall perform all Work necessary to produce the results shown or reasonably inferable therefrom.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 Dimensions given on the Drawings govern scale measurements and large scale drawings govern small scale drawings. All documents are complementary and specific items of work are shown only where most appropriate for clarity. The Drawings are generally made to scale, but all working dimensions shall be taken from the figured dimensions, or by actual measurements taken at the job, and in no case by scaling. Whether or not an error is believed to exist, deviation from the Drawings and the dimensions given thereon shall be made only after approval in writing from the Architect.

§ 1.2.5 All indications or notations which apply to one or a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

§ 1.2.6 It shall be understood that the Architect's drawings are diagrammatic and the Contractor and subcontractors shall work in cooperation with each other in determining the running of pipe duct, electrical, etc. lines and locating equipment. Any necessary variation shall be made to conform to the intent of the diagrammatic drawings without additional costs. Where there are intersections involving various piping and equipment, etc., particular consideration shall be given to clearance.

§ 1.2.7 All manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturers' written instructions unless specifically indicated otherwise in the Contract Documents.

§ 1.2.8 ~~The mechanical, electrical and fire protection drawings are diagrammatic only, and are not intended to show the alignment, physical locations or configurations of such Work. Such Work shall be installed without additional cost to the Owner to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the Contractor shall prepare coordination drawings showing the exact alignment, physical location and configuration of the components of the mechanical, electrical and fire protection systems and demonstrating to the Architect's satisfaction that the installation of such systems will comply with the preceding sentence. The coordination drawings shall be submitted to the Architect for its prior review and shall be revised and resubmitted as required. Exact locations of fixtures and outlets shall be obtained from the Architect as provided in Paragraph 3.2.5 before the Work is roughed in. Work installed without such information from the Architect shall be relocated at the Contractor's expense.~~

§ 1.2.9 ~~Test boring and soil test information provided in the Project Manual was obtained by the Owner for use by the Architect in the design of the Project. The Owner does not hold out such information to the Contractor as a completely accurate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed, except as provided in subparagraph 3.7.4~~

§ 1.2.10 The Sections of Division 1 - General Requirements of the Specifications govern the execution of work of all Sections of the Specifications.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights, except as may be required under the Agreement with the Owner. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect’s consultants.

§ 1.5.3 The Contractor may obtain electronic copies of the Drawings for his use, only for this project. In accepting and utilizing any drawings or other data on any form of electronic media generated and provided by the Architect, the Owner and its agents covenant and agree that all such drawings and data are instruments of service of the Architect, who shall be deemed the author of the drawings and data, and shall retain the common law, statutory law and other rights, including copyrights. The Owner and its agents further agree not to use these drawings and data, in whole or in part for any purpose or project other than the project indicated. The Owner and its agents agree to waive all claims against the Architect, resulting in damage, liability or costs, or loss of any kind, from any unauthorized changes or reuse of the drawings and data for this project or any other project, by anyone other than the Architect. In addition, the Owner and its agents agrees to the fullest extent permitted by law to indemnify and hold the Architect harmless from any damage, liability or costs, including reasonable attorney’s fees and costs of defense arising from any changes made by anyone other than the Architect or from any reuse of the drawings and data without prior written consent of the Architect.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, ~~or~~ by courier providing proof of delivery, or electronic transmission.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 1.9 Character and Intent of Drawings

During the bidding or negotiation period, questions or discrepancies called to the Architect's attention, in writing, will be answered by the Architect by means of an addendum. All addendums shall become part of the Contract Documents. If any item of Work is shown on the Drawings and not specified, or mentioned in the Specifications and not shown on the Drawings, the matter shall be brought to the attention of the Architect during the bidding period so an addendum can be issued correcting the omission. If such correction is not made, the Work in question shall be considered to be required as if it has been specified and shown on the Drawings.

§ 1.9.1 The Architect may, at its discretion, permit the Contractor, or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor who will be preparing shop drawings, to use certain components of the Architect's drawings in electronic format (referred to as "Revit or CADD Drawings") as a starting point for the Shop Drawings, provided that they execute and "Agreement and Release" in the form required by the Architect and compensate the Architect for its service in preparing the documents for this use; such compensation shall be a minimum of \$500.00. The Architect will identify the specific Drawings which may be used for this purpose; refer to Paragraph 3.12.4.1 for this information. Such use of the Architect's Drawings shall not alter nor diminish the Contractor's and subcontractor's responsibilities under other provisions of these Contract Documents.

§ 1.9.2 The Contractor shall not take or use for publication or promotion any photographic or video records of the students, teachers or staff without the express written consent of the Owner and the individual or individuals depicted in said photographic or video records.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. The term "Owner's Representative" means the Owner's authorized representative, authorized in writing by Owner to act on its behalf. Absent express written authority from the Owner no individual or entity shall be an Owners Representative. Where the term "Awarding Authority" appears in any statutory provision, it shall mean the Owner.;

§ 2.1.2 Any approval or other action that is permitted or required under the Contract Documents that affects the Contract Sum or Contract Time shall only be binding on the Owner if done by the individual designated in Paragraph 8.3 of the Agreement as the Owner's Representative; any action taken by the Architect or any other agent or employee of the Owner shall not be binding on the Owner. No officer, agent or employee of Owner shall have the power to amend, modify or alter this Agreement or waive any of its provisions or to bind Owner by making any promise or representation not contained herein, except by a Change Order or other amendment, in writing, executed by the Owner in the same manner as this Agreement is executed. Neither party shall be construed as waiving any provision of the Agreement unless the waiver is executed in writing as a Change Order or other amendment to this Agreement. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach. Forbearance or indulgence in any form or manner by either party shall not be construed as a waiver of any term or condition hereto nor shall it limit the legal or equitable remedies available to that party. The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.1.3 The Owner shall not be responsible for construction means, methods, techniques, sequences and procedures or for site safety except as stated in Article 6.

§ 2.2 Evidence of the Owner's Financial Arrangements

~~§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.~~

~~§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start up, plus interest as provided in the Contract Documents.~~

~~§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~

~~§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.~~

§ 2.3 Information and Services Required of the Owner

~~§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. The Contractor shall assist the Owner as may be reasonably necessary in obtaining such approvals and easements as are the Owner's responsibility hereunder.~~

~~§ 2.3.1.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.23.1, the Contract Time shall be extended appropriately.~~

~~§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.~~

~~§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor ~~to whom the Contractor has no reasonable objection and~~ whose status under the Contract Documents shall be that of the Architect.~~

~~§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the~~

Work. Data concerning site, size, access to site, staging and storing, present obstructions on or near the site, conditions of existing adjacent structures, locations and depths of sewers, conduits or pipes, gas lines, position of sidewalks, curbs and pavements, and other data concerning site conditions, has been obtained from sources Owner believes reliable. Accuracy of such data, however, is not guaranteed and is furnished solely for accommodation of Contractor. Use of such data is made at Contractor's sole risk and expense.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3.7 Unless otherwise provided in the Contract Documents the Owner will hire and pay for services including but not limited to independent materials testing and special inspections as determined necessary by the Architect and Owner to verify the compliance of materials and installations with the Contract Documents. These services provided by the Owner may include and are not limited to soils, cast in place concrete, masonry, steel and fireproofing inspections and testing. These services provided by the Owner do not relieve the Contractor of its obligations in Section 13.4.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or ~~repeatedly~~ fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4.1 The Owner shall have the right to reject Work that it believes does not conform to the Contract Documents. However, neither this authority of the Owner nor a decision made to exercise or not exercise such authority shall give rise to a duty or responsibility of the Owner to the Contractor.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or ~~neglects-fails~~ to carry out the Work in accordance with the Contract Documents and fails within a ~~ten~~seven-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor ~~are both subject to prior approval of the Architect and the Architect~~ may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.5.1 In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

§ 2.5.2 The rights stated in this Article and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (1) granted in the Contract Documents, (2) at law, or (3) in equity.

§ 2.6 Owner's Right to Inspect the Work

§ 2.6.1 The Owner has the right to have full access to and inspect all portions of the Work for quality, progress and conformance to the Contract Documents.

§ 2.7 Commissioning

§ 2.7.1 The Owner may in its discretion perform such inspections and tests of systems as is necessary in its option to validate the proper installation and performance of the Work as intended and required by the Contract Documents. These tests and inspections may be performed by the Owner's Representative or by independent contractors or consultants. The Owner will perform inspections and tests of systems to validate the proper installation and performance of the Work as intended and required by the Contract Documents. These tests and inspections may be performed by the Owner's Representative or by independent contractors or consultants.

§ 2.7.2 The commissioning activities performed by the Owner in no way relieve or replace the obligations of the Architect or the Contractor in their fulfillment of Contract obligations.

§ 2.7.3 The commissioning agent of the Owner will utilize information provided by the Architect for design intent and the Contractor for actual installation conditions.

§ 2.7.4 Any commissioning activities are at the sole discretion of the Owner and not a requirement of this Agreement.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents. No willful and substantial deviation from the Contract Documents shall be made unless authorized by the Owner and Architect in the form of a Construction Change Directive or a Change Order as set forth in Article 7 and Paragraph 7.1.5, [Statutory Reference M.G.L. c. 30, § 39I].

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Owner or the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract or any amendment thereto by the Contractor is a representation that the Contractor has ~~visited~~ investigated the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents. The Contractor and each Subcontractor shall evaluate and satisfy themselves as to the conditions and limitations under which the work is to be performed, including, without limitation (1) the location, condition, layout and nature of the Project site and surrounding areas, (2) generally prevailing climatic conditions, (3) anticipated labor supply and costs, (4) availability and cost of materials, tools and equipment, and (5) other similar issues. The Owner shall not be required to make any adjustment in either the Contract Sum, Contract Time or any Milestone Date in connection with any failure by the Contractor or any Subcontractor to comply with the requirements of this Section.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work and at frequent intervals during the progress thereof, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor, ~~and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, t~~ The Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. However, if the Contractor proceeds with the Work without such notice to the Architect, after having discovered such errors, inconsistencies or omissions, or if by reasonable study of the Contract Documents by the Contractor, the Contractor shall pay all costs arising therefrom.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations unless they bear upon the performance of the Work, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If any portion of the Contract Documents do not clearly define the Work, the Contractor shall immediately notify the Owner and Architect thereof, in writing, by utilizing a Request for Information (RFI) form, and shall request supplementary instructions before proceeding with such Work. If the Contractor proceeds with the Work without first obtaining such supplementary instructions, the Contractor shall make any repairs or corrections to the Work, as required by the Contract Documents, to complete the Work, at the Contractor's expense. If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, unless the Contractor recognized or should have recognized such errors, inconsistencies, omissions or differences and failed to report it to the Architect or Owner. Nothing in this Section 3.2.4 relieves the Contractor of the legal compliance requirements of Section 3.7.2.

§ 3.2.5 RFIs shall be submitted in a timely manner so as to cause no delay in the progress of the Work, and to allow adequate time for review and response prior to the date on which the Contractor's current schedule of submittals requires a subsequent submittal which is dependent on the information requested. Unless another period of time is reasonably requested and agreed to at the time of submittal, the Architect shall respond to each RFI within not more than fourteen (14) days after receiving it. It is understood that larger, more complicated RFIs shall require more than fourteen (14) days to review and respond, but shall be a reasonable amount of time as mutually agreed at time of submission. RFIs shall be sequentially numbered and logged and tracked by the Contractor regardless if the source of the RFI was from the Contractor or Owner.

§ 3.2.6 The Contractor shall reimburse the Owner amounts charged to the Owner by the Architect for responding to an unreasonable number of Contractor's Requests for Information where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner provided information, Contractor prepared Coordination Drawings, or project correspondence or documentation. Such amounts may be deducted by the Owner from any payment otherwise due the Contractor.

§ 3.2.7 Any claim by the Contractor or Subcontractors that, in submitting their respective bids, they did not include all items as shown in the Contract Documents, will be given no consideration for an adjustment of any kind. If any item is specified in a Paragraph which would not normally furnish this item, it shall be the responsibility of the Contractor to coordinate the situation with the Subcontractor, and if the item under consideration is not to be provided by the Subcontractor, it shall be the responsibility of the Contractor to provide the work in question, without any additional cost to the Owner.

§ 3.2.8 Timely Decision by the Awarding Authority [Statutory Reference M.G.L. c. 30, § 39P] Any decision to be made by the Owner or the Architect on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the Work, shall be made promptly and, in any event, no later than thirty (30) days after the Contractor's written submission for decision; but if such decision requires extended investigation and study, the Owner or Architect shall, within thirty (30) days after the receipt of the submission, give the Contractor written notice of the reasons why the decision cannot be made within the thirty (30) day period and the date by which the decision will be made.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques,

sequences, ~~and~~ procedures, and safety precautions and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, ~~or~~ procedures, and safety precautions, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect, and shall not proceed with that portion of the Work~~propose alternative means, methods, techniques, sequences, or procedures~~. The Contractor shall then provide to the Owner and the Architect for review an alternative approach that satisfies the Contractor's concerns regarding the construction means, methods, techniques, sequences, or procedures and meets the intent of the Construction Documents. A resolution must be reached that is agreeable to the Architect, Owner, and Contractor before the disputed work proceeds. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors and for any damages, losses, costs and expenses, including, but not limited to, attorney's fees resulting from such acts or omissions.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor shall be responsible for coordinating, scheduling, notifying and cooperating with the independent materials testing and special inspections services hired and paid for by the Owner as outlined in Section 2.2.6.

§ 3.3.5 The Contractor shall only use specifically assigned areas for parking, storage of materials, and construction operations unless other areas are authorized by the Owner. The Contractor shall comply with any and all local, municipal and state regulations regarding use of and parking on public streets.

§ 3.3.6 The Contractor shall arrange for and attend weekly job meetings with the Architect, the Owner's Project Manager, and such other persons as the Architect may from time to time wish to have present. The Contractor shall be represented by a principal, project manager, general superintendent, or other authorized main office representative, as well as by the Contractor's own superintendent. An authorized representative of any Subcontractor or Sub-Subcontractor shall attend such meetings if the representative's presence is requested by the Architect. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, Change Orders, time schedules, and manpower. Any notices required under the Contract may be served on such representatives. The recording of minutes for these job meetings and their timely distribution to the Owner and Architect shall be the responsibility of the Contractor unless agreed otherwise by the Owner, Architect and Contractor.

§ 3.3.7 The Contractor shall not be relieved of obligation to perform the Work in accordance with the Contract Documents either by activities or duties of the Owner in the Owner's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

§ 3.3.8 The Contractor shall retain a competent Registered Professional Engineer or Registered Land Surveyor acceptable to the Architect who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated Work such as but not limited to roads utilities and site grading. The Engineer or Land Surveyor shall certify as to the actual location for the constructed facilities in relation to property lines, building lines, easements and other restrictive boundaries. Such information shall be turned over to the Owner as a part of Record Documents.

§ 3.3.9 The Contractor shall establish the building grade elevations, levels, columns, walls and partition lines required by the Contractor and Subcontractors in laying out their Work.

§ 3.3.10 The Contractor shall coordinate and supervise the work performed by Subcontractors to ensure that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general

progress of the Work. The Contractor and all Subcontractors shall at all times afford each trade, any separate contractor, or the Owner, every reasonable opportunity for the installation of their work and the storage of materials.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 After the Contract has been executed, the Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements, Division 1 of the Specifications. By making requests for substitutions, the Contractor:

1. represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
2. represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
3. certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
4. shall coordinate the installation of the accepted substitution, making such changes as may be required for the Work to be complete in all respects. Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§3.4.3.1 CORI Reporting. In accordance with M.G.L. c. 71, § 38R, the Superintendent of the School District ("School Superintendent") or School Principal will require criminal offender record information ("CORI") from the Massachusetts Criminal History Systems Board, relating to any worker who is scheduled to work on the site. The Contractor and Subcontractors shall cooperate fully and immediately with a request from the School Superintendent or School Principal to identify all workers and shall provide a list of same including name, address, date of birth and if necessary social security number. The Contractor and its subcontractors shall make every effort to notify the OPM at least two weeks before any workers may be working on the site. The Owner reserves the right to stop work if there has been a failure to comply with this paragraph, in which event the Contractor and Subcontractors shall have no claim for damages, delays or time extensions against the Owner.

§ 3.4.4 Only materials and equipment that are to be used directly in the Work shall be brought to and stored on the project site. Protection of construction materials and equipment stored at the project site from weather, theft, damage, and other adversity is solely the responsibility of the Contractor.

§ 3.4.5 LODGING [Statutory Reference M.G.L. c.149, § 25] Every employee under this contract shall lodge, board and trade where and with whom s/he elects, and neither the Contractor nor its agents or employees shall, either directly or indirectly, require as a condition of the employment of any person that the employee shall lodge, board or trade at a particular place or with a particular person.

§ 3.4.6 Preference to Veterans and Citizens in Public Work; Rate of Wages [Statutory Reference M.G.L. c.149, § 26]. In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the Commonwealth of Massachusetts or by a county, town or district, or by persons contracting or subcontracting for such works, preference shall first be given to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment who are veterans as defined in M.G.L. c. 4, §7 (43), and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the Commonwealth generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to

citizens of the United States. Each county, town or district in the construction of public works, or persons contracting or subcontracting for such works, shall give preference to veterans and citizens who are residents of such county, town or district.

§ 3.4.7 List of Jobs; Classification; Determination of Rate of Wages; Schedule [Statutory Reference M.G.L. c. 149, § 27].
The rate per hour of the wages paid to such mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works shall not be less than the rate of wages to be determined by the Commissioner of Labor and Workforce Development. The Schedule of Wage Rates which shall be updated annually applicable to this Project is bound into this Project Manual.

§ 3.4.8 Employment Records to be Kept by Contractor, Subcontractors; Statement of Compliance [Statutory Reference M.G.L. c.149, § 27B].
Every Contractor and Subcontractor performing part of the Work of this project shall keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs, and laborers employed thereon, in the form of the Weekly Payroll Records Report required by the Department of Labor and Workforce Development Division of Occupational Safety, showing the name, address and occupational classification of each such employee, and shall furnish to the Attorney General and Department of Labor and Workforce Development, Division of Occupational Safety, upon request, a copy of said records, signed by the employer or the employer's authorized agent, under penalties of perjury. (A blank reporting form for Weekly Payroll Records is bound into the Project Manual.) Such records shall be open to inspection by any authorized representative of the Department of Labor and Workforce Development, Division of Occupational Safety at any reasonable time, and as often as may be necessary. Each such Contractor and Subcontractor shall preserve these payroll records for a period of three years from the date of Final Completion of the Contract. Each such Contractor and Subcontractor shall furnish to the Commissioner of Labor and Workforce Development within 15 days after completion of its portion of the Work, a statement of Compliance, in the form required by the Department of Labor and Workforce Development Division of Occupational Safety, and executed by the Contractor, Subcontractor, or public body who supervises the payment of wages. (A copy of the form of the Statement of Compliance is bound into the Project Manual.)

§ 3.4.9 Wage Rate Compliance [Statutory Reference M.G.L. c.149, §§ 26-27H]
It is the obligation of the Contractor to assure that the Contractor and all of its Subcontractors comply with the requirements of the Massachusetts Prevailing Wage Law, M.G.L. c. 149, §§ 26-27H. The Contractor shall be responsible for all loss, cost and damage suffered or incurred by the Owner as a result of any stop work order or other enforcement action taken by the Attorney General under the authority of M.G.L. c.149, § 27, and shall release, indemnify, hold harmless and defend the Owner, the Architect, their officers, employees and consultants, from and against all claims, actions, suits, fines, or administrative proceedings arising out of or related to the violation by the Contractor or any Subcontractor of the said Prevailing Wage Law (or, in the case of the Contractor's defense obligation, the claimed violation thereof). Unless otherwise expressly provided in the Contract Documents, all payroll records required to be submitted to the Owner shall be delivered to a designated employee of the Owner, and not to the Architect.

§ 3.4.9.1 Davis-Bacon Wage Rate Compliance
It is the obligation of the Contractor to assure that the Contractor and all of its Subcontractors comply with the requirements of the Davis-Bacon wage rates as that is required for the Federal tax credit the Town will be pursuing. Unless otherwise expressly provided in the Contract Documents, all payroll records required to be submitted to the Owner shall be delivered to a designated employee of the Owner, and not to the Architect.

§ 3.4.10 Eight Hour Day [Statutory Reference M.G.L. c.149, §§ 30, 34]
No laborer, worker, mechanic, foreman or inspector working within this Commonwealth in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of emergency.

§ 3.4.11 Reserve Police Officers [Statutory Reference M.G.L. c.149, §34B]
The Contractor shall pay to any reserve police officer employed by it in any city or town the prevailing rate of wage paid to regular police officers in such city or town.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.1.1 The Contractor shall submit, prior to the first Application for Payment, statements from materials and systems manufacturers', that they accept the conditions and requirements for warranties for their product or system. Approval for payment for materials or systems, including labor to install, will be withheld if the Contractor fails to submit manufacturers' acceptance to special conditions and requirements as specified.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.5.3 The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties.

§ 3.5.4 The Contractor expressly warrants its' Work for one year after the date of Substantial Completion. Contractor shall make any repair or replacement to the Work resulting from defective materials and/or workmanship. Contractor shall commence making the repairs or replacements required pursuant to this Warranty within ten days after the Owner gives written notice to the Contractor. In the event of Contractor's failure to make timely corrections, Owner shall have the right to make corrections and Contractor shall be responsible for immediate payment thereof. Any other specific or extended warranties are as identified in the Project Manual.

§ 3.5.5 The warranty required by this Section 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

§ 3.5.6 The Contractor shall procure and deliver to the Architect, no later than thirty (30) calendar days after the Date of Substantial Completion, all warranties required by the Contract Documents.

§ 3.5.7 This Warranty shall include the repair and/or replacement of all damaged materials resulting from the defective materials and/or workmanship. This shall include but not be limited to furniture, fixtures, equipment, finishes or any other affected materials or property.

§ 3.5.8 The Contractor shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Architect may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the Architect, would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the Contractor's expense. This provision shall not require the Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

§ 3.5.9 Or Equal [Statutory Reference M.G.L. c.30 §39M(b)] Where products or materials are prescribed by manufacturer name, trade name, or catalog reference, the word "or approved equal" shall be understood to follow. An item shall be considered equal to the item so named or described if, in the opinion of the Architect: (1) it is at least equal in quality, durability, appearance, strength and design; (2) it performs at least equally the function imposed by the general design for the work; and (3) it conforms substantially, even with deviations, to the detailed requirements for the items as indicated by the specifications. Any structural or mechanical changes made necessary to accommodate substituted equipment under this Paragraph shall be at the expense of the Contractor or Subcontractor responsible for the work item.

§ 3.5.10 If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the requirements of the Contract Documents, the Contractor shall expressly inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents. In all cases in which a manufacturer's name, trade name or other proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase "or equal" is used after such name, the Contractor shall furnish the product of the named manufacturer(s) without substitution, unless a written request for a substitute has been submitted by the Contractor and approved in writing by the Architect as provided in this Paragraph 3.5.4. The Architect's approval of a Shop Drawing or other submittal shall not constitute approval under this Paragraph 3.5.4, unless the deviation was expressly identified as such in the applicable submittal.

§ 3.5.11 In requesting approval of deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that attainable if the requirements of the Contract Documents were strictly followed. If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.

§ 3.5.12 The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.

§ 3.5.13 Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner or the Architect, unless such substitution was made at the written request or written direction of the Owner or the Architect.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. If the Owner is an institution exempt from sales tax, Bidders shall take this in consideration in calculating their bid. The Tax Exemption Number will be furnished to the selected Contractor. In addition, the Contractor and Subcontractors shall pay any and all compulsory taxes required or which may be imposed by any governmental agency, as applicable.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders and all other requirements of public authorities applicable to performance of the Work. The Contractor shall be responsible for scheduling all tests and inspections required by authorities having jurisdiction.

§ 3.7.2.1 It shall be the responsibility of all Contractors to confer with the various inspection offices of the local, state, or federal agency having jurisdiction over this construction project with the intent of verifying acceptability of materials and methods of construction indicated and specified herein. The respective Contractors and/or Subcontractors shall visit the building inspector, plumbing inspector, electrical inspector, or any other inspection

office having the authority for granting approvals or construction permits. The Contractor shall be responsible for scheduling all tests and inspections required by authorities having jurisdiction.

§ 3.7.2.2 All construction work shall conform to all prevailing codes.

§ 3.7.2.3 It is the responsibility of the Contractor to determine what local ordinances, if any, will affect its Work. It shall check for any county, city, borough, or township rules or regulations applicable to the area in which the project is being constructed, and in addition, for any rules or regulations of other organizations having jurisdiction, such as chamber-of-commerce, planning commissions, industries, or utilities companies who have jurisdiction over lands which the Contractor occupies.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs, damages and expenses attributable to correction, and shall indemnify the Owner therefore, including supervision, reasonable attorney and professionals fees.

§ 3.7.3.1 If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall promptly notify the Architect and Owner in writing. If the Contractor performs Work which it knows or should know is contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume full responsibility for such Work and shall bear the costs attributable to correction along with any other damages incurred by the Owner.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Bid and Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites, memorial objects such as signs, trees, stones, etc. or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

- 3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.8.4 No allowances shall be included in the Bid Documents by the Architect unless specifically requested by the Architect and approved in writing by the Owner.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The Project Manager, Assistant Project Manager and Superintendent may not be removed without the prior written consent of the Owner. Owner reserves the right to have any employee of Contractor removed from the Project.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect and Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.2.1 The Contractor's site representatives shall be satisfactory to Owner, based upon credentials to be submitted by Contractor, and such representatives shall be changed only with consent of Owner. If for any reason Contractor's representatives are unsatisfactory, and upon request of Owner or architect, other qualified representatives shall be substituted. The Owner and Architect shall have authority to require the removal of any contractor's or sub contractor's from the site if their workmanship or presence is a detriment to the project.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.9.4 The superintendent shall be in attendance at the project site at all times during the progress of the Work until the date of Substantial Completion, and for such time thereafter necessary for the completion of the Work.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, or as part of the Guaranteed Maximum Price (GMP) proposal, (if provided), shall submit for the Owner's and Architect's ~~information approval~~ a Contractor's construction schedule for the Work, which will be considered the baseline schedule. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work, ~~(4) submittal/product approval activities.~~ The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The baseline schedule shall be approved prior to submission of the first Pay Application.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals. The submittal schedule shall be approved prior to the first Pay Application. The submittal schedule shall be updated and reviewed at progress meetings.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.10.4 The construction schedule shall be in a detailed critical path method (CPM) type format satisfactory to the Owner and Architect which shall also (1) provide a graphic representation of all activities and events that will occur during performance of the Work, including but not limited to hazardous material remediation, demolition, furniture and equipment deliveries, Substantial Completion, move-in activities, commissioning, training, punch list, and final cleaning; (2) identify each phase of construction and occupancy; (3) identify float time associated with non-critical path activities and (4) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as Milestone Dates). Upon review and acceptance by the Architect and Owner, the construction schedule shall be deemed the Baseline Construction Schedule for the Project and will be used to determine the validity of Claims for Additional Time as identified in Section 15.1.5. This Baseline Construction Schedule can only be modified with approved changes in Contract Time through the execution of a Change Order. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner and Architect of any delays or potential delays. The construction schedule shall be updated regularly to reflect actual conditions or if requested by the Owner or at least monthly. In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment in the Contract Time, any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to a Change Order.

§ 3.10.5 At weekly or biweekly construction progress meetings, the Contractor shall submit detailed two (2) week look ahead schedules which depict specific activities to occur during that period.

§ 3.10.6 The Contractor shall schedule and conduct construction and progress meetings, on a frequency required to effect coordination, to discuss such matters as procedures, progress, problems and scheduling. The Contractor shall prepare and distribute minutes within three (3) working days of such meetings.

§ 3.10.7 The Contractor shall record the progress of the Project. Submit written progress reports not less frequently than monthly to the Owner and the Architect, including information on each Subcontractor and each Subcontractor's Work, as well as the entire Project, showing percentages of completion and the number and amounts of Change Orders. The Contractor will keep a daily log containing a record of weather, Subcontractor's Work on the site, number of workers, Work accomplished, problems encountered and other similar relevant data as the Owner may require. Upon request, Contractor shall make the log available to the Owner and the Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall ~~make available~~ maintain, at the Project site for the Owner, the Contract Documents, including Change Orders, Construction Change Directives, ~~and other Modifications,~~ baseline schedule, current schedule, schedule of submittals, RFI log and other documents related to the Project as directed by the Architect, in good order and marked currently to ~~indicate record~~ field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work ~~as a record of the Work as constructed.~~ A designated complete set of Contract Documents shall be maintained by the Contractor and kept onsite at all times with up-to-date red-line modifications that accurately record field conditions different than those shown on the original documents. These red-lined drawings shall be turned over to the Architect for record purposes no later than thirty (30) calendar days after the date of Substantial Completion. This set of "red-lined" drawings shall be maintained and kept current by the Contractor and their completeness shall be routinely inspected by the Architect and Owner. If these "red-lined" drawings are not maintained by the Contractor or kept current during construction, then the approval of Applications for Payment, as defined in Section 9.3, shall be denied.

§ 3.12 Shop Drawings, Product Data and Samples

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

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

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

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action. The Contractor's approval shall be noted on the submitted item or in its transmittal letter, together with written notice of any deviation in the submitted item from the requirements of the Work and of the Contract Documents. In collaboration with the Architect, Contractor shall establish and implement procedures for expediting the processing and approval of Shop Drawings, Product Data, Samples and other submittals.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. Each Shop Drawing, Product Data, Sample and similar submittals shall have a cover sheet on them identifying the project name and address, contractor information, drawing and/or specification reference, submission date and contents of the submittal. Ample space shall be provided on this cover sheet to allow for the Contractor's and Architect's review stamps. The Contractor's approval shall be noted on the submitted item or in its transmittal letter, together with written notice of any deviation in the submitted item from the requirements of the Work and of the Contract Documents.

§ 3.12.6 By submitting and approving Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, ~~and~~ (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents and (4) coordinated with information on Shop Drawings, Product Data, Samples, or similar submittals previously approved by the Architect or submitted by the Contractor for approval but not yet acted upon by the Architect, and verification of compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the Contractor. In approving Shop Drawings, Product Data, Samples, and similar submittals, the Architect shall be entitled to rely upon the Contractor's representation that such information is accurate and in compliance with the Contract.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect. If the Contractor procures, performs or installs portions of the Work without required approvals, the Contractor does so at its own risk and such Work may be removed or replaced with approved Work at no cost to the Owner.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. Any submittals forwarded to the Architect for review that includes a deviation from the requirements of the Contract Documents or is not the specific make, model or manufacturer that was listed in the Contract Documents, shall have a completed Substitution Request Form attached to the submittal. This Substitution Request Form shall be provided by the Owner. Unless such deviation is identified by utilizing the Substitution Request Form, the Contractor shall not be relieved of the responsibility for the specific requirements of the Contract Documents even though the subject submittal was approved by the Architect. The Contractor shall not be relieved of responsibility for the Contractor's, Subcontractor's or Vendor's errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional who shall have and maintain reasonable limits of insurance, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, ~~and accuracy~~ and completeness of the services, certifications, and approvals performed or provided by such design professionals, ~~provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy~~. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

~~§ 3.12.11 Services provided by the Architect to evaluate Contractor product substitution requests or to review shop drawings or other project submittals which are required to be submitted more than three (3) times shall be paid for by the Contractor to the Owner.~~

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

~~§ 3.12.11 Services provided by the Architect to evaluate Contractor product substitution requests or to review shop drawings or other project submittals which are required to be submitted more than three (3) times shall be paid for by the Contractor to the Owner.~~

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 Only materials and equipment that are to be used directly in the Work shall be brought to and stored on the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor.

§ 3.13.3 The Contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

§ 3.13.4 The Contractor shall only use specifically assigned areas for parking, storage of materials, and construction operations unless other areas are authorized by the Owner. The Contractor shall comply with any and all local, municipal and state regulations regarding use of and parking on public streets. Access to the site/building will be through Owner approved paths.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, On a regular basis, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project. Immediately prior to the Architect's inspection for Substantial Completion, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed, and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures and equipment shall be thoroughly cleaned. Stains, spots, dust marks, and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the Contractor at the Contractor's expense.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 All areas of new or existing construction which are damaged during the Project shall be restored to their original condition by the Contractor responsible for said damage or disturbance.

§ 3.15.4 The Contractor shall be responsible for temporary site and building dust and dirt control through the use of temporary enclosures, partitions, site watering, calcium chloride or other approved means.

§ 3.15.5 No burning of rubbish at the job site will be permitted. Provision for removal of rubbish shall be made by the Contractor at no additional cost to the local municipality.

§ 3.15.6 All waste materials generated during this Work shall be classified and handled in accordance with local, state, and federal waste regulations. Materials that meet the definition of "Hazardous Waste", "Regulated Waste", or "Massachusetts Regulated Waste" shall be permitted, manifested, and disposed of in accordance with applicable regulations. Copies of permits, manifested, and disposal receipts shall be provided to the Owner prior to application for final payment.

§ 3.15.7 The Owner shall be the generator of all hazardous or regulated waste materials that were in place at this facility prior to the start of this Work. The Contractor shall be the generator of all other waste materials generated during this Work, including, but not limited to, surplus construction materials.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect. In the event of legal action arising out of such infringement for which the Contractor is responsible and which action has the effect of stopping the Work, the Owner may require the Contractor to substitute other products of like kind as will make it possible to pursue and complete the Work. Costs and expenses caused thereby shall be borne by the Contractor.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, its officers, directors, shareholders, trustees, affiliates, insurers, agents, Architect, Architect's consultants, and agents and employees of any of them from and against any and all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 The Contractor's indemnity obligations under this Section 3.18 shall, but not by way of limitation, specifically include, without limitations, all fines, penalties and punitive damages arising out of, or in connection with, any (1) violation of or failure to comply with any governmental requirements by the Contractor or Architect or any person or entity for whom the Contractor is responsible, (2) method of execution of the Work, or (3) failure to obtain, or violation of, any permit or other approval of a public authority applicable to the Work by the Contractor or any entity for whom the Contractor is responsible.

§ 3.18.4 In the event that the Contractor fails or refuses to indemnify any indemnitee hereunder, in addition to all other obligations and upon adjudication in favor of an indemnitee, Contractor shall be responsible for any and all costs associated with the Owner compelling the Contractor to comply with its obligations.

§ 3.18.5 The Contractor, or any successor, assign or subrogee of the Contractor, but not including the Owner, agrees not to bring any civil suit, action or other proceeding in law, equity or arbitration against the Architect, or the officers, employees, agents or consultants of the Architect, for the enforcement of any action which the Contractor may have arising out of or in any manner connected with the Work. The Contractor shall assure that this covenant not to sue is contained in all subcontracts and sub-subcontracts of every tier and shall assure its enforcement. The Architect, its officers, employees, agents and consultants are intended third-party beneficiaries of this covenant not to sue, who are entitled to enforce this covenant in law or equity

§ 3.18.6 Contractor shall indemnify and save Owner harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material, men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. Contractor shall at Owner's request, furnish written satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If Contractor fails to do so, then Owner may, after having served written notice on the said Contractor either pay unpaid bills, of which Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to Contractor shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon Owner to either Contractor or Contractor's Surety. In paying any unpaid bills of the Contractor, Owner shall be deemed the agent of Contractor and any payment so made by Owner, shall be considered as payment made under the Contract by Owner to Contractor and Owner shall not be liable to Contractor for any such payment made in good faith.

§ 3.19 Commissioning

§ 3.19.1 The Contractor will provide access to the Work as well as support and coordination to the Owner for the commissioning activities as described in Section 2.6.

§ 3.19.2 Any and all deficiencies identified during the commissioning process will be the responsibility of the Contractor to correct or complete in order to comply with and fulfill the requirements of the Contract Documents. These deficiencies must be corrected or completed as a condition for the issuance of the final Certificate for Payment.

§ 3.19.3 The requirements of the Contractor to support the Owner's commissioning process may include 1) balancing reports of mechanical systems approved by the Architect; 2) provision and coordination of training as required by the Contract Documents; 3) cooperation of Contractor's personnel with the Owner's commissioning personnel; 4) access to specific equipment or portions of the Work; 5) provision of systems and equipment documentation; and 6) provision of Operations and Maintenance Manuals.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect and Owner will provide administration of the Contract as described in the Contract Documents and ~~will be an the Architect and Owner's Representative will be the~~ Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect and Owner will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, neither the Architect nor Owner will ~~not~~ be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect and Owner will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.2.1 Where it is stated in the Documents that the Contractor shall pay for services of the Architect, such payment shall be at a rate of two and one half (2.5) times the Architect's Direct Personnel Expense plus any expenses incurred in providing such services. Direct Personnel Expense is defined as the direct salaries of the Architect's personnel engaged on the Project and the portion of the cost of their mandatory and customary contributions and benefits related thereto, such as employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions and similar contributions and benefits.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. ~~The Architect will not~~ Neither the Architect nor Owner will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect and Owner will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Owner's Representative, if retained, about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications between the Architect and Contractor shall

be confirmed in writing to the Owner's Representative. Communications between Owner's Representative and Contractor shall be confirmed in writing to the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

~~The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.~~

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect ~~has and~~ Owner have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect ~~or Owner~~ considers it necessary or advisable, the Architect ~~and Owner~~ will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect ~~or Owner~~ nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect ~~or Owner~~ to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept and intent expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time ~~in the Architect's professional judgment~~ to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.8.1 The Architect will evaluate substitutions proposed by the contractor, whether as part of a cost reduction procedure or as otherwise, which are prepared and submitted in accordance with the requirements of subparagraphs 3.4.2. Such evaluation and any action taken by the Architect with respect thereto shall be performed within 14 calendar days, or as requested in writing, as may, in the Architect's professional judgment be required to permit adequate review. The Owner shall evaluate and approve or take other appropriate action upon contractor proposed substitutions and the architect's recommendations with respect thereto, which evaluation shall include, but not be limited to, a review of the total net change to project cost, taking into account the proposed change to the construction cost, the possible additional services costs of the architect, and the possible change in the contract sum, the contract time, or the requirements of the contract documents as a result of an Owner approved substitution shall be reflected in a Change Order.

§ 4.2.9 The Architect and Owner will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. The Architect may, as the Architect judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work; such drawings or instructions may be affected by field order, or notice to the Contractor, and provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such additional drawings or instructions without additional cost or extension of Contract Time. If the Contractor claims additional cost or time on account of such additional drawings or instructions, it shall give notice provided in Section 15. Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith. The Architect shall not be required to render interpretations the sole or primary purpose of which is the resolution of jurisdictional disputes between Contractor and Subcontractor or between Subcontractor and Subcontractor.

§ 4.2.12 Interpretations ~~and decisions~~ of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. ~~When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.~~

§ 4.2.13 The ~~Architect's Owner's~~ decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within ~~any time limits agreed upon~~ fourteen (14) calendar days or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. The issuance of additional Drawings or Specifications shall not, in itself, serve as a basis for adjustment of cost or time.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after, but no later than days after the award of the Contract, shall notify the Owner and Architect concurrently of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Owner and Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.1.1 To facilitate and expedite the investigations of proposed Subcontractors, Sub-subcontractors, fabricators and suppliers of materials and equipment, the Contractor, at the request of the Owner, shall submit a statement in

writing in sufficient detail to establish that each has the capability, experience, reliability and uncommitted productive capacity to carry out the Work to be performed pursuant to each such proposed subcontract, sub-subcontract or procurement contract, in a manner consistent with the requirement of this Contract for Construction. All such submittals shall include a fully detailed analysis of principal personnel and organization, financial condition, construction plant, equipment and facilities.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.2.5 All subcontracts shall be in writing and shall specifically provide that the Owner is an intended third-party beneficiary.

§ 5.2.6 The form of each subcontract shall be submitted to the Owner for its approval, which shall not be unreasonably withheld or delayed. Each subcontract shall expressly provide for the contingent assignment referred to in Subparagraph 5.4.1. The Contractor when sub-contracting with subcontractors in sub-bid classes of work listed in M.G.L. c.149, §44F(4)(c), shall use the form of subcontract set forth in M.G.L. c.149, §44F.

§ 5.3 Subcontractual Relations

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 No entity other than the parties to this agreement shall have any rights under this agreement and no entity other than the Contractor entity (i.e. subcontractors, vendors, supplies, etc.) may require that Owner engage in mediation, arbitration or litigation of any dispute arising under this agreement in which Owner is, or should be a named party or the result of which could affect the Contract Sum or Contract time. Any entity other than the Contractor (i.e. subcontractors, vendors, suppliers, etc.) shall not have the right to require mediation, arbitration, or litigation of any dispute in those cases in which the Owner is a party or in which the outcome could affect the Contract Sum or the Contract Time, except at the sole discretion of the Owner.

§ 5.3.3 All subcontracts shall be in writing and shall specifically provide that the Owner is an intended third-party beneficiary.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner ~~for cause pursuant to Section 14.2~~ and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

~~When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.~~

§ 5.4.2 Each subcontract shall specifically provide that the Owner shall only be responsible to the subcontractor for those obligations of the Contractor that accrue subsequent to the Owner's exercise of any rights under this conditional assignment provision.

~~Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.~~

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. ~~If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 Unless otherwise required in the Contract Documents, ~~T~~he Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12, unless mutually agreed otherwise by Owner and Contractor.

§ 6.1.5 The Owner reserves the right of access to any part of the Project at all times to inspect the same or to install other Work either with its own forces or with separate contractors hired by the Owner. Such access is not to be construed to mean partial occupancy by the Owner and no claim for increase in the Contract Time or Sum will be considered unless such Owner's contractors have delayed or damaged the Contractor's Work. The Contractor shall permit the Owner to place and install as much furniture, equipment and other material during the progress of the Work as is possible before completion of the various parts of the Work and agrees that such placing and the

installation of equipment shall not in any way evidence the completion or acceptance of the Work or any portion of it.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

~~§ 6.2.5.1 If a separate contractor sues or initiates a mediation, arbitration or litigation proceeding against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall at Owner's discretion indemnify and or defend Owner in such proceedings at the Contractor's sole and absolute expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy such judgment or award. Contractor shall reimburse the Owner for all attorney's fees, costs and expenses which the Owner has incurred as the result of such claim. If a separate contractor sues or initiates a mediation, arbitration or litigation proceeding against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and court or arbitration costs which the Owner has incurred.~~

§ 6.2.6 The Contractor shall consult with its subcontractors and other contractors as soon as possible after execution of the Contract to coordinate all work phases in order that the Project as a whole can be completed in a professional and expeditious manner.

~~§ 6.2.7 If a separate contractor sues or initiates a dispute resolution proceeding against the Owner on account of any damage or delay alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall indemnify, defend and hold the Owner harmless from any damages, costs or expenses.~~

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The decision as to whether the Change

Order work is executed via a Change Order, Construction Change Directive, or a minor change in the Work is the decision of the Owner.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement-signature by the Owner and Architect and may or may not be agreed to by the Architect and/or Contractor. Except as permitted in Sections 7.3 and 9.7.2, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order or by Construction Change Directive. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment, shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 The Contractor's itemized accounts for all expenditures or savings for additions to, or deductions from, the Work in the Contract Documents shall at all times be open to inspection by the Owner and Architect.

§ 7.1.5 Proposed changes in the Work requested during the construction period shall be priced by the Contractor and submitted to the Architect and Owner for review, in such form as the Architect and Owner may require, within ten (10) calendar days following the Contractor's receipt of the request. The Contractor shall promptly revise and resubmit such proposal if the Architect and Owner determine that it is not in compliance with the requirements of this Article, or that it contains errors of fact or mathematical errors. If required by the Architect or Owner, in order to establish the exact cost of new Work added or previously required Work omitted, the Contractor shall obtain and furnish to the Architect and Owner bona fide proposals from recognized suppliers for furnishing and material included in such Work. Such proposals shall be furnished at the Contractor's expense.

§ 7.1.6 The Contractor's proposal for a change in the Work, (Change Order Request), shall be itemized completely and shall include: Specific number of calendar days for additional time (if applicable); all material costs and quantities accompanied by the original manufacturer invoices; worker classifications, i.e. licensed electrician versus electrical apprentice, etc. of workers included in the contractor's proposal; quantity of hours per worker; labor wages; unit prices; subcontractor costs; mark ups; equipment costs, profit, overhead, general conditions, fees, bond costs and approved daily time sheet tickets for work performed under the utilization of labor rates. The Architect's and Owner's refusal to approve a Change Order or Change Order Request due to the Contractor's lack of itemized backup information shall not be used to substantiate a claim for additional time.

§ 7.1.7 The methods used in determining the adjustment to the Contract Sum due to the change in the Work may include those listed in Section 7.3.3 and are at the discretion of the Owner.

§ 7.1.8 If the method utilized to execute the Change in the Work is based on the labor rates, unit prices and material costs, then actual daily time sheets/tickets, approved by the Superintendent and the Owner, must accompany the Change Order, Construction Change Directive, or minor change in the Work. Not including these actual daily time sheets/tickets, approved by the Superintendent and the Owner, with the Change Order, Construction Change Directive, or minor change in the Work may be cause for their rejection.

§ 7.1.9 Certificate of Appropriations: Payments to the Contractor for Changes in the Work are subject to appropriation provisions specified in Paragraph 7.5 (M.G.L. c.44 § 31C).

§ 7.1.10 DEVIATIONS [Statutory Reference M.G.L. c.30 § 39I] The Contractor shall perform all the work required by this contract in conformity with the plans and specifications contained herein. No willful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the Owner or by the Engineer or Architect in charge of the work who is duly authorized by the Owner to approve such deviations. In order to avoid delays in the prosecution of the work required by such contract such deviation from the plans or specifications may be authorized by a written order of the Owner or such Engineer or Architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the Owner stating: (1) If such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why

such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefore ; (2) that the specified deviation does not materially injure the project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the Owner and the Contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the Owner.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement on all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the construction schedule.

§ 7.2.3 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3 and are at the discretion of the Owner. Subparagraphs 7.3.3 and 7.3.7 apply to Change Orders as well as to Change Directives.

§ 7.2.4 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both addition and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.2.5 Upon request of the Owner or Architect, the Contractor shall without cost to the Owner, submit to the Architect in such form that the Architect may require a written proposal for a Change in the Work. The proposal shall include the quantity and unit cost of each item of material, and the number of hours of Work and the hourly rate for each class of labor, as well as the description and amounts of all other costs sought by the Contractor to perform the proposed change. The Contractor shall also furnish to the Architect bona fide proposals from Subcontractors and suppliers for all labor, materials and equipment to be incorporated into the Work. The Contractor, when requested, shall furnish in a form satisfactory to the Architect, itemized statements of the cost of the Work, including but not limited to, certified payrolls and copies of accounts, bills and vouchers to substantiate estimates. The proposal shall be furnished promptly as not to delay the Work and shall include an estimate of additional time required to complete the Work. Percentages for overhead and profit shall be in accordance with Paragraph 7.2.7.

§ 7.2.5.1 Contractor's Change Order Proposals shall be complete and all inclusive. The amount of the adjustment in the Contract Sum and Contract Time, if any, shall be stated in the proposal for all Work affected by the proposed change. Once a Change Order is executed, the Contractor shall be required to perform all of the Work required therein (including incidental Work and changes to related Work which may be required to complete the Change Order) in accordance with the Contract Documents for the amount stated in the Change Order.

§ 7.2.5.2 Contractor's requests for changes or substitutes shall be subject to the same requirements as a change initiated by the Architect or Owner.

§ 7.2.6 The cost or credit to the Owner resulting from a Change in the Work, absent the applicability of a unit price for such item(s) set forth in the Contract shall be determined as follows:

- .1 Costs of material and equipment incorporated into the Work.
- .2 Cost of wages, including health and life insurance, pensions, and other comparable fringe benefits.
- .3 Cost of workers compensation insurance, employer liability insurance, federal social security (FICA), federal unemployment compensation (FUTA), and state unemployment compensation.
- .4 Cost of "builders risk" insurance, if applicable.
- .5 Cost of performance and payment bonds.

- .6 Cost of rental equipment whose purchase price is greater than two hundred fifty dollars (\$250.00). Cost of rental shall be substantiated by invoice for the actual rental cost. In the case where equipment is owned, the cost shall be substantiated by providing published documentation of the daily, weekly, and monthly rates for such equipment. The applicable rate shall be as mutually agreed by Contractor and Owner. Cost of fuel consumed by equipment used in the performance of the Work if not included in the published rate.
- .7 Cost of pro rata share of debris removal, dumpster rental, and disposal costs. This cost shall be allowed only when debris removal is associated with Work such as demolition but shall not be allowed as part of general cleanup.
- .8 allowance for General Conditions, superintendence, overhead and profit as provided in subparagraph 7.2.7:

§ 7.2.7 The following allowances for General Conditions, overhead, superintendence, and profit shall be used in determining adjustments to the Contract Sum:

- .1 For the Contractor, for Work performed by the Contractor's own forces, 10% of the cost.
- .2 For the Contractor, for Work performed by the Contractor's Subcontractor, 5% of the amount due that Subcontractor.
- .3 For each Subcontractor involved, for Work performed by that Subcontractor's own forces, 10% of any net increase or decrease of Cost.
- .4 For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, 4% of the aggregate net increase in Cost of the Work performed.
- .5 For each Sub-subcontractor, 6% of any net increase or decrease of the Cost of the Work performed by the Sub-subcontractor's own forces.
- .6 In no case shall the aggregate of all allowances for General Conditions, overhead, superintendence and profit exceed 15% of the direct cost for labor and the actual cost of the materials incorporated in the Work
- .7 For the purpose of defining "General Conditions" in this section 7.2, all costs required by or inferred from the Bidding, Contracting, and Division 1 – General Requirements conditions and obligations are included in the percentage allowance for General Conditions.
- .8 For the purpose of defining "superintendence" in this section 7.2, all costs associated with the General Contractor's Superintendent or any Subcontractor's superintendent, or any Subcontractor's foreman, are included in the percentage allowance for superintendence.

§ 7.2.8 Unit Prices: If unit prices are used as the basis for the adjustment to the Contract Price, the unit prices set forth in an attachment to the Agreement, if any, shall be used. Unless otherwise stated in the description of the unit price item, such unit prices shall be deemed to include a proportionate share of Contractor's and subcontractor's overhead, profit, bonds, insurance, and labor, materials, disposal and equipment costs to perform the work item complete, and all other direct or indirect expenses of the Contractor or Subcontractor as applicable to that class of work, and shall be the exact amount per unit to be paid to the Contractor in the case of increases in the quantity of work, and the exact amount per unit to be refunded to the Owner in the case of decreases.

§ 7.2.9 Credits to the Owner for work deleted shall be the sum of the actual cost of the deleted work, plus the percentage of General Conditions, overhead, superintendence, and profit attributable to such credit amount as set forth in Paragraph 7.2.4, plus the cost of any bonds and insurance attributable to such credit amount.

§ 7.2.10 A Change Order duly executed by the Owner, Architect, and Contractor, provides for an all-inclusive settlement for all changes and all direct, supplemental, indirect, consequential, and cumulative costs and delays associated in any way therewith, and the Contractor, by its signature, waives all rights to file any claim on account of that instrument or the change

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. The Owner may also by Construction Change

Directive order work to be performed that has been interpreted by the Owner or Architect to be part of the Work but is disputed by the Contractor through submission of a Claim.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order or work interpreted by the Owner or Architect to be part of the Contract.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices and rates stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect and Owner shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, ~~general conditions, superintendence, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in sub paragraph 7.2. the Agreement, as determined per Sections 3.5, 3.6 and 3.7 of the AIA A701-1997, modified. Instructions to Bidders and the Bid Form or if no such amount is set forth in the Agreement, a reasonable amount.~~ In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect and Owner may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with ~~the change in~~ the Work involved and advise the Owner and Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect and Owner will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect and Owner determines, in the Architect's and Owner's professional judgment, to be reasonably justified. The Architect's and Owner's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Owner and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 Work Performed Under Protest. The Contractor shall perform all work as directed by the Owner. If the Owner determines that certain work for which the Contractor has requested a Change Order does not represent a change in the Contract, the Contractor shall perform such work under protest and shall follow the Procedures described in subparagraphs 7.3.11.1 and 7.3.11.2, below and the claim procedures set forth in Article 15.

§ 7.3.11.1 The Contractor shall, on or before the first working day following commencement of such work or sustaining such damage, submit to the OPM and the Architect a written statement of the nature of such work or damage sustained. The Contractor will not be entitled to compensation for any portion of its Change Order claim related to work performed prior to the Owner's receipt of such written statement.

§ 7.3.11.2 On or before the second working day after the commencement of any such work or sustaining of such damage, and daily thereafter, the Contractor shall file with the OPM and the Architect itemized statements of the details and costs of such work performed or damage sustained, calculated pursuant to subparagraph 7.3.7; and unless such statements be made as required, its claim for such compensation shall be forfeited and invalid and it shall not be entitled to payment on account of any such work or damage.

§ 7.3.11.3 If the Construction Change Directive is for work which is to be compensated on the basis of Time and Materials calculated pursuant to subparagraph 7.3.7, the Contractor shall maintain detailed records on a time and materials basis of work required by the Construction Change Directive. At the beginning of each day in which Time and Materials work is to be performed, the Contractor shall notify the OPM or, where applicable, the Clerk of the Works where and what type of work is to be performed; and at the end of each work day in which Time and Materials work was performed, the Contractor must obtain the signature of the OPM or Clerk of the Works verifying actual time spent and materials used on the change. Costs submitted without the signed verification of the OPM or Clerk of the Works will not be approved.

§ 7.4 Minor Changes in the Work

The Architect, with approval from the Owner, may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and Owner and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect and Owner that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

§ 7.5 CERTIFICATE OF APPROPRIATION [Statutory Reference M.G.L. c.44, § 31C]

This contract shall not be deemed to have been made or legally enforceable until the auditor or accountant or other officer of the city or town having similar duties has certified thereon that an appropriation in the amount of this contract is available therefor and that an officer or agent of the city, town, or Owner has been authorized to execute said contract and approve all requisitions and change orders. No order to the Contractor for a change in or addition to the work, whether in the form of a drawing, plan, detail or any other written instruction, unless it is an order which the Contractor is willing to perform without any increase in the contract price, shall be deemed to be given until the auditor or accountant, or other officer of the Owner having similar duties, has certified thereon that an appropriation in the amount of such order is available therefor ; but such certificate shall not be construed as an admission by the Owner of its liability to pay for such work. The certificate of the auditor or accountant or other officer of the Owner having similar duties, that an appropriation in the amount of this contract or in the amount of such order is available, shall bar any defense by the Owner on the grounds of insufficient appropriation.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.1.1 The Contractor shall not be entitled to additional compensation for work performed outside of regular working hours.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 If in any Application for Payment the total value of the completed Work in place, as certified by the Architect, is less than 95% of the total value of the Work in place estimated in the Progress Schedule, the Owner may, at the Owner's option, require the Contractor to accelerate the progress of the Work without cost to the Owner by increasing the work force or hours of work, or by other reasonable means approved by the Owner and Architect.

§ 8.2.5 If each of three successive Applications for Payments, as certified by the Architect, indicates that the actual Work completed is less than 95% of the values estimated in the Progress Schedule to be completed by the respective dates, the Owner may, at the Owner's option, treat the Contractor's delinquency as a default justifying the action permitted.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) ~~by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2,~~ or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect and Owner determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect and Owner may determine.

§ 8.3.2 Claims relating to time shall be invalid unless made in strict accordance with applicable provisions of Article 15.

§ 8.3.2.1 Claims of delay and requests for extension of time shall set forth in detail the circumstances of such claim, the dates upon which claimed delay began and ended, and the number of days' extension of time requested. The Contractor shall provide supporting documentation as the Architect may require, including a revised Construction Schedule indicating the effect of the circumstances which form the basis for the claim.

§ 8.3.2.2 The Contractor shall not be entitled to an extension of time for each and every one of a number of causes which have a concurrent and interrelated effect on the progress of the Work.

§ 8.3.2.3 Claims for extension of time arising out of authorized changes in the Work shall be made in writing prior to or concurrent with the submission of the Contractor's proposal for such change. No extension of time arising out of

changes in the Work will be granted after the date upon which the Contractor is authorized to proceed with such change unless specific provision for an extension of time has been incorporated in the authorization.

§ 8.3.2.4 Any additional cost to the Contractor arising from such change shall be included in the amended Contract Sum set forth in such Change Order. No claim for damages for delay, arising from such change in the Work, shall be recognized or be deemed valid.

§ 8.3.3 Notwithstanding anything to the contrary in the Contract Documents, the Contractor's remedy for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity, or (4) other similar claims (collectively referred to as "Delays") whether or not such Delays are foreseeable, shall be an extension of time in which to complete the Work if permitted under Section 8.3.1. ~~In the event of a concurrent delay by the Owner, the parties agree to share in proportion to their fault, the direct cost and time associated with said delay.~~ In no event shall the Contractor be entitled to any other remedy or compensation or recovery or any damages, in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar remuneration. This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.3.4 The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Owner or the Architect on account of any delay in the commencement of the Work and/or delay or suspension of any portion of the Work, whether such delay is caused by the Owner, the Architect, or otherwise, other than as set forth in this Section. ~~In the event of a delay, the Contractor may submit a claim pursuant to Section 4.3 to recover from the Owner the Contractor's general conditions costs, equipment storage costs, increased direct costs of performance, demobilization and remobilization costs and other direct and unavoidable costs incurred during the period of such delay, but only to the extent delay is not caused by the Contractor. Contractor shall not be entitled to recover any consequential damages including, by way of example, interest on working capital, unabsorbed home office overhead or lost opportunity costs.~~ The Contractor acknowledges that the Contractor's sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article.

§ 8.3.5 No extension of time shall be granted because of seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the Contractor, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on account of any additional costs of operations or conditions resulting therefrom.

§ 8.3.6 No extension of time shall be granted because of the known impacts of COVID-19 pandemic as of the Date of Commencement of the Work, seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the Contractor, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on account of any additional costs of operations or conditions resulting therefrom.

§ 8.3.7 SUSPEND OR DELAY [Statutory Reference M.G.L. c.30 § 390]

§ 8.3.7.1 The Owner may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the Owner; provided, however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the Owner to act within the time specified in this Contract, the Owner shall make an adjustment in the Contract Sum for any increase in the cost of performance of this Contract but shall not include any profit to the Contractor on such increase; and provided further, that the Owner shall not make any adjustment in the Contract Sum under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this Contract provides for an equitable adjustment of the Contract Sum under any other contract provisions.

§ 8.3.7.2 The Contractor must submit the amount of a claim under paragraph 8.3.6.1 to the Owner in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this Contract and, except for costs due to a suspension order, the Owner shall not approve any costs in the claim incurred more than twenty days before the Contractor notified the Owner in writing of the act or failure to act involved in the claim.

§ 8.3.7.3 In the event a suspension, delay, interruption or failure to act of the Owner increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the Contractor for payment

for an increase in the cost of its performance as paragraphs 8.3.6.1 and 8.3.6.2 give the Contractor against the Owner, but nothing in paragraphs 8.3.6.1 and 8.3.6.2 shall in any way change, modify or alter any other rights which the Contractor or the Subcontractor may have against each other.

§ 8.3.8 If the progress of the Work is delayed by an act or neglect of the Contractor, a Subcontractor, Sub-subcontractor, or anyone directly or indirectly employed by them, so that the Substantial Completion date is extended beyond the date set forth in Paragraph 8.2, subject to adjustment of the Contract Time as provided for in the Contract Documents, then the Contractor shall reimburse the Owner upon demand for amounts charged by the Architect and the OPM for administration of the Contract during such extension.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect and Owner before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect and Owner. This schedule, unless objected to by the Architect or Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment. The description of the Work shall be sufficiently broken down to indicate labor and material costs associated with each area of Work. Any breakdown that fails to include sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work, will be rejected. The Schedule of Values shall be revised if later determined by the Owner or Architect to be inaccurate. Any changes to the schedule of values shall be submitted to the Architect and Owner and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect or Owner, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. In addition, the Contractor shall submit to the Architect and the OPM, at least 14 days before the first Application for Payment, a Cash Flow Schedule that shows the percentage completion to be obtained and the total dollar value of Work to be completed as of the first of each month until Substantial Completion. All calculations in the Cash Flow Schedule shall be on the basis of Work in place and shall exclude the value of materials delivered but not in place.

§ 9.2.1 The Cash Flow Schedule shall be based on an orderly progression of the Work allowing adequate time for each operation (including adequate time for submission and review of submittals) and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The Cash Flow Schedule will be reviewed by the Architect for compliance with the requirements of the Contract Documents. Unless specifically required by law, no payment under this Contract shall be due until the Cash Flow Schedule has been reviewed and approved by the Architect. The Architect's review of the Cash Flow Schedule shall not impose any duty on the Architect or the Owner with respect to the timing, planning, scheduling or execution of the Work. In particular if the Contractor proposes a Cash Flow Schedule indicating a date of Substantial Completion which is earlier than the Contract Time the Contractor shall not be entitled to additional payment or compensation of any kind if for any reason the full Contract Time is required to achieve Substantial Completion of the Work.

§ 9.3 Applications for Payment

§ 9.3.1 ~~At least ten days before the date established for each progress payment,~~ In order to expedite monthly payments during the course of the Project, the Contractor shall prepare for the Architect's and Owner's review a preliminary draft of the Application for Payment (pencil copy), at least approximately ten (10) days before the end of each month. The payment period shall conclude on the last of that month. Then, five (5) days before the end of each month the Contractor shall have made mutually agreed modifications of the pencil copy and the Contractor shall submit to the Architect and Owner for approval an itemized Proposed Final Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The

application shall be notarized, if required,; The Contractor shall utilize and submit AIA G702 and G703 and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 Payments for changes in the Work which have not been formally approved in a Change Order, shall not be included.

As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Application for Payment will reflect the amount due to the Contractor for the cost of the Work less retainage as determined in the Owner-Contractor Agreement.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. The Contractor shall assume responsibility to protect all such materials from loss or damage at no costs to the Owner, until they are finally incorporated into the Work, whether or not they have been paid for by the Owner. In approving payment for materials and equipment stored off-site, the Owner may require, without limitation, evidence that the off-site location is properly secure, proof of insurance, and segregation and/or marking of stored materials or equipment, and the ability of the Architect or Owners Representative to visit the location of the stored material, at the contractor's expense, for verification purposes.

§ 9.3.2.1 In addition, for consideration of payment for stored products:

- (a) Storage shall be agreed upon in advance prior to shipment;
- (b) Location of storage shall be agreed upon in advance;
- (c) Contractor shall be responsible for, and pay costs of, the verification and inspection of storage;
- (d) Insurance certificate required for stored items; and
- (e) Bill of sale from supplier to verify transfer of goods to the Owner

§ 9.3.2.2 Schedule of Values and Construction Schedule will be considered in decision on any specific request for payment for storage.

§ 9.3.2.3 Payment for material and equipment delivered and stored shall not relieve Contractor of responsibility for furnishing equipment and material required for the Work in the same manner as if such payment were not made.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.3.3.1 The Contractor shall certify that the Application for Payment is correct and complete, and the Work is complete and in accordance with the Contract Document and approved Shop Drawings.

§ 9.3.4 To the extent payment has been made by the Owner for amount due, Contractor hereby expressly waives, releases and relinquishes any and all right to maintain, or have filed or maintained, any mechanic's lien or claim

against the aforesaid premises, or any part thereof, or any building or buildings thereon, for or on account of any work, labor and materials performed or furnished under this Agreement, and agrees that no such lien or claim shall be so filed or maintained by or on behalf of Contractor; and Contractor further agrees to save the Owner harmless from the lien or claim of liens against the aforesaid premises or any part thereof, or any buildings thereon, of any subcontractor, or any persons acting through or under the Contractor and agrees, that if at any time there shall be any evidence of the filing or maintenance of any such lien or claim for liens, the Owner shall have the right to deduct from the amount otherwise due to the Contractor hereunder, an amount sufficient to indemnify it for any or all loss or damages which may result from such lien or claim; and the Contractor further agrees that this waiver shall be an independent covenant, and shall operate and be effective, not only with respect to materials furnished or labor performed under and any Agreement supplemental to this principal Agreement and under any Agreement for extra labor or materials for the above described premises and buildings.

§ 9.3.4.1 Each Application for Payment or periodic estimate requesting payment shall be accompanied by a waiver of lien on account of prior payments from each Subcontractor. This waiver of lien shall include the dollar amount that the Subcontractor has been paid to date.

§ 9.3.4.2 Each Application for Payment or periodic estimate requesting payment shall be accompanied by a statement from each Contractor and Subcontractor certifying that there are no delay claims for the period being paid.

§ 9.3.5 To the extent payment has been made by the Owner for amounts due, Owner shall be entitled to withhold payment to Contractor upon receipt of notice of any intent to file a lien in an amount sufficient to protect the interests of the Owner. Owner shall allow Contractor a reasonable opportunity to bond off a lien. Owner shall have the right, on its own and without the Contractor's consent, to resolve any lien claims and deduct the costs thereof from any amounts due Contractor. In the event sufficient funds are not due Contractor, Contractor shall immediately pay to Owner any sums paid by Owner to resolve lien claim(s) upon demand.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect and Owner determines is properly due, and notify the Contractor ~~and Owner~~ of the Architect's and Owner's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor ~~and Owner~~ of the Architect's and Owner's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief professional judgment, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to

such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 failure to maintain specified record documents relating to the Work;
- .9 failure to provide lien waivers as required herein; or
- .10 failure to provide response to on-going construction commissioning reports.
- .11 Failure of the Contractor to provide required warranties under subparagraph 9.3.3, claims for direct payment, or reasonable evidence indicating probable filing of such claims;
- .12 costs incurred by the Owner under subparagraph 10.2.5;
- .13 failure of the Contractor to submit prerequisite documentation required by the General Requirements;
- or
- .14 liquidated damages due the Owner pursuant to Paragraph 9.11.

~~§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.~~

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment. In no event shall joint payment create any obligations or contracts between Owner and a Subcontractor or supplier or create any rights in such Subcontractor or supplier against the Owner.

§ 9.5.5 If the Contractor disputes any determination by the Architect with regard to any Certificate of Payment, the Contractor nevertheless shall continue diligently with performance of the Work and the Contract. The Contractor shall not delay or stop work during or pending the resolution of any such dispute.

§ 9.6 Progress Payments

§ 9.6.1 PAYMENT [Statutory Reference M.G.L. c. 30, § § 39K, 39F, 39G]

§ 9.6.1.1 Within fifteen days after receipt from the Contractor, at the place designated by the Owner if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the Owner will make a periodic payment to the Contractor for the Work performed during the preceding month and for the materials not incorporated in the Work but delivered and suitably stored at the site (or some location agreed upon in writing) to which the Contractor has title or to which a Subcontractor has title and has authorized the Contractor to transfer title to the Owner, upon certification by the Contractor that they are the lawful Owner and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the Contractor and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of Subparagraph 9.6.2, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the Contractor fully completes the Work or substantially completes the Work so that the value of the Work remaining to be done is, in the estimate of the Owner, less than one percent of the original Contract Sum, or (b) the Contractor substantially completes the Work and the Owner takes possession for occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the Contract less (1) a retention based on

its estimate of the fair value of its claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of Work and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of Subparagraph 9.6.2, or based on the record of payments by the Contractor to the Subcontractors under this contract if such record of payment indicates that the Contractor has not paid Subcontractors as provided in Subparagraph 9.6.2. If the Owner fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the Contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days after receipt of such periodic estimate from the Contractor, at the place designated by the Owner if such a place is so designated. The Contractor agrees to pay to each Subcontractor a portion of any such interest paid in accordance with the amount due each Subcontractor.

§ 9.6.1.2 The Owner may make changes in any periodic estimate submitted by the Contractor, and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the Owner may, within seven days after receipt, return to the Contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter.

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

§ 9.6.1.4 A certificate of the Architect to the effect that the Contractor has fully or substantially completed the work shall, subject to the provisions of M.G.L. c. 30, § 39J, be conclusive for the purposes of this Subparagraph 9.6.1.

§ 9.6.1.5 [Statutory Reference M.G.L. c. 30, § 39G] Within fifteen (15) days of the effective date of Substantial Completion and the Owner has taken possession for occupancy, the Owner may shall send to the Contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The Contractor shall then complete all such work items, within 30 days of receipt of such list or before the contract final completion date, whichever is later. If the Contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the Owner or before the contract final completion date, whichever is later, subsequent to an additional 14 days' written notice to the Contractor by certified mail, return receipt requested, the Owner may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the Contractor and such termination shall be without prejudice to any other rights or remedies the Owner may have under the Contract. The Owner shall note any such termination in the evaluation form to be filed by the Owner pursuant to the provisions of section 44D of M.G.L. chapter 149.

§ 9.6.2 REDUCTION OF DISPUTED AMOUNTS [Statutory Reference M.G.L. c. 30, § 39F]

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

§ 9.6.2.2 Not later than the sixty-fifth day after each Subcontractor substantially completes its work in accordance with the plans and specifications, the entire balance due under the subcontract, less amounts retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the Subcontractor; and the Owner shall pay that amount to the Contractor. The Contractor shall forthwith pay to the Subcontractor the

full amount received from the Owner less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the Contractor.

§ 9.6.2.3 Each payment made by the Owner to the Contractor pursuant to Sub-subparagraphs 9.6.2.1 and 9.6.2.2 for the labor performed and the materials furnished by a Subcontractor shall be made to the Contractor for the account of that Subcontractor; and the Owner shall take reasonable steps to compel the Contractor to make each such payment to each such Subcontractor. If the Owner has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the Subcontractor as provided in Sub-subparagraphs 9.6.2.1 and 9.6.2.2, the Owner shall act upon the demand as provided in this Subparagraph 9.6.2.

§ 9.6.2.4 [Statutory Reference M.G.L. c. 30, §39 F] If, within seventy days after the Subcontractor has substantially completed the subcontract work, the Subcontractor has not received from the Contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less any amount retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, the Subcontractor may demand direct payment of that balance from the Owner. The demand shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the Contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the Subcontractor has substantially completed the subcontract work. Within ten days after the Subcontractor has delivered or so mailed the demand to the Owner and delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the Subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor and of the amount due for each claim made by the Contractor against the Subcontractor.

§ 9.6.2.5 Within fifteen days after receipt of the demand by the Owner, but in no event prior to the seventieth day after substantial completion of the subcontract work, the Owner shall make direct payment to the Subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor, less any amount (i) retained by the Owner as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the Contractor in the sworn reply; provided that the Owner shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by Sub-Subparagraph 9.6.2.4. The Owner shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this Sub-Subparagraph.

§ 9.6.2.6 The Owner shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of Sub-Subparagraph 9.6.2.5 in an interest-bearing joint account in the names of the Contractor and the Subcontractor in a bank in Massachusetts selected by the Owner or agreed upon by the Contractor and the Subcontractor and shall notify the Contractor and the Subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the Contractor and the Subcontractor or as determined by decree of a court of competent jurisdiction.

§ 9.6.2.7 All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to Sub-Subparagraph 9.6.2.6 shall be made out of amounts payable to the Contractor at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the Contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the Owner to the Contractor to the extent of such payment.

§ 9.6.2.8 The Owner shall deduct from payments to a Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to Sub-Subparagraph 9.6.2.6, are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be earmarked for such direct payments, and the Subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the Contractor.

§ 9.6.2.9 If the Subcontractor does not receive payment as provided in Sub-Subparagraph 9.6.2.1 or if the Contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the Subcontractor and the Subcontractor does not receive payment for same when due less the deductions provided for in Sub-Subparagraph 9.6.2.1, the Subcontractor may demand direct payment by following the procedure in Sub-Subparagraph 9.6.2.4 and the Contractor may file a sworn reply as provided in that same Sub-Subparagraph. A demand made after the first day of the month following that for which the Subcontractor performed or furnished the labor and materials for which the Subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the Contractor. Thereafter the Owner shall proceed as provided in Sub-subparagraphs 9.6.2.5 through 9.6.2.8.

§ 9.6.2.10 Any assignment by a Subcontractor of the rights under this paragraph to a surety company furnishing a bond under the provisions of M.G.L. c.149, §29 shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the Owner or which are on deposit pursuant to Sub-Subparagraph 9.6.2.6 shall be subordinate to the rights of all Subcontractors who are entitled to be paid under this paragraph and who have not been paid in full.

§ 9.6.2.11 "Subcontractor" as used in this Sub-subparagraph 9.6.2 shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the Owner in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the Contractor. "Subcontractor" as used in other provisions of the Contract Documents shall, except as otherwise expressly provided, have the meaning set forth in Subparagraph 5.1.1.

§ 9.6.2.12 [Statutory Reference M.G.L. c.30, § 39F(i)(4)] A Contractor or a Subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in Sub-Subparagraph 9.6.2.6 by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A Subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in Sub-Subparagraph 9.6.2.6 by a petition in equity in the superior court against the Owner and the Contractor shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this Paragraph. M.G.L. c. 231, §§ 59,59B shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to §§ 59, 59B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any Subcontractor with the petition of one or more Subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will prevent unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a Subcontractor filing a demand for direct payment for which no funds due the Contractor are available for direct payment shall have a right to file a petition in a court of equity against the Owner claiming a demand for direct payment is premature, and such Subcontractor must file the petition before the Owner has made a direct payment to the Subcontractor and has made a deposit of the disputed portion as provided in part (iii) of Sub-Subparagraph 9.6.2.5 and in Sub-Subparagraph 9.6.2.6.

§ 9.6.2.13 In any petition to collect any claim for which a Subcontractor has filed a demand for direct payment the court shall, upon motion of the Contractor, reduce by the amount of any deposit of a disputed amount by the Owner as provided in part (iii) of Sub-Subparagraph 9.6.2.5 and in Sub-Subparagraph 9.6.2.6 any amount held under a trustee writ or pursuant to a restraining order or injunction.

§ 9.6.2.14 For purposes of this subparagraph 9.6.2, the phrase "periodic estimate" shall mean the Contractor's Application for Payment. ~~After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.~~

~~§ 9.6.2~~ The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 Amounts owed to the Owner by the Contractor as reimbursement for additional services provided by the Architect and OPM, including but not limited to those services described in subparagraphs 2.3.1, 2.4.2, 3.9.1.1, 3.12.12.1, 3.12.12.2, 4.2.2, 8.3.7, 9.10.1.1, 10.3.5, and 12.2.1, shall be deducted from payments otherwise due the Contractor pursuant to this Article 9. The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.6.9 The Contractor shall furnish a payment bond in accordance with Paragraph 11.5.

§ 9.7 Failure of Payment

§ 9.7.1 If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon ~~seven~~fourteen additional days' ~~written~~ notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.7.2 Notwithstanding anything to the contrary, in no event shall the Contractor stop the Work in connection with any withholding or payment for an item or failure to make payment relating to an item made in connection with a good faith dispute.

§ 9.7.3. Liens

(1) If any subcontractor, vendor, or any other party for whom the Contractor is responsible files any lien against the Project and/or the Project site, the Contractor shall discharge such lien within fifteen (15) calendar days of the Contractor's learning of such lien, unless the Owner requests that the Contractor obtain a lien discharge bond in which case the Contractor shall obtain within the same fifteen (15) calendar day period, at no cost to the Owner, a lien discharge bond for which both the surety and the form of bond are acceptable to the Owner. (2) If the Contractor fails to discharge such lien (or, if requested by the Owner, fails to obtain a lien discharge bond acceptable to the Owner) within such fifteen (15) calendar day period, the Owner shall have the right to withhold from the next

progress payment or any other sum payable to the Contractor an amount equal to one hundred and fifty percent (150%) of the total of (i) the amount of such lien plus (ii) reasonable costs and expenses the Owner may incur related to such lien. The Owner may either: (i) apply amounts so withheld to discharging such lien and paying the costs and expenses for such discharge; or (ii) retain such amounts (including amounts for costs and expenses) until such liens are discharged by the Contractor, thereafter crediting to the Contractor any amounts remaining after payment of the costs and expenses the Owner incurs related to such lien. (3) The Contractor shall defend, indemnify, and hold harmless the Owner from all costs and expenses incurred by the Owner in connection with such liens, unless and to the extent that such liens are the result of the Owner's failure to make timely payment of amounts due to the Contractor in accordance with the requirements of the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when (1) the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents; ~~so that~~(2) the Owner can occupy or utilize the Work for its intended use; (3) the issuance of a formal Certificate of Occupancy by the authority having jurisdiction; (4) the premises have been cleaned as per Section 3.15; and (5) only minor items remain to be corrected or completed that have no significant interference with the Owner's use of the Work.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion which the Owner agrees to accept separately, is substantially complete, as defined in Section 9.8.1 above, the Contractor shall notify the Architect and Owner in writing and shall prepare and submit to the Architect (1) a comprehensive list of items to be completed or corrected prior to final payment and (2) all Certificates of Occupancy and applicable permits required by the Contract Documents, endorsed by the Contractor and in a form reasonably acceptable to the Architect and Owner. Promptly after receiving such notice, the Architect will conduct a preliminary review to determine whether or not the Documents are generally complete and correct. If the Architect finds on the basis of this review that the Contractor's notice and supporting documents are not generally complete or correct, the Architect will return them to the Contractor for revision and resubmittal, describing in general the additions or corrections required. If the Architect finds on one preliminary review of the Contractor's resubmittal that the resubmitted notice and supporting documents are still not generally complete and correct, the Contractor shall again correct and resubmit them, and shall, in addition, reimburse the Owner for the cost of any change in the Architect's services resulting from such a second and any subsequent preliminary reviews. When the Architect finds on the basis of a preliminary review that the Contractor's notice and supporting documents are substantially complete, the Architect will proceed as stated in Section 9.8.3 below. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect and Owner will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's or Owner's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect or Owner. In such case, the Contractor shall then submit a request for another inspection by the Architect or Owner to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. This list will be comprised of all items identified by the Contractor, Architect and Owner. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof in accordance with Section 9.8.6. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 The retainage, as determined by the Owner Contractor Agreement, will continue to be withheld in full, and the Owner will release such retainage within thirty (30) days after the date of the issuance of a Certificate of Substantial Completion by the Architect. The Owner will continue to hold retainage in an amount of one hundred fifty percent (150%) of the estimated cost of incomplete or unsatisfactory work. Further, the Owner will consider a reduction of retainage on a trade-by-trade (subcontractor-by-subcontractor) basis based upon their satisfactory progress and/or substantial completion of their Work prior to project Substantial Completion.

§ 9.8.7 Services provided by the Architect to conduct more than three (3) inspections of completed Work and any inspections beyond sixty (60) days after the scheduled date of substantial completion of any portion of the Work as stated in the Agreement shall be paid by the Contractor to the Owner. The Owner may deduct the cost of such services and inspections from payments due the Contractor.

§ 9.8.8 In addition to the foregoing, the Owner shall also retain all rights relative to the substantial completion of the Work as set forth in Paragraph 9.6.1.5 and M.G.L. c.30, § 30K.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor ~~or, if no agreement is reached, by decision of the Architect.~~

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and ~~belief~~ professional judgment, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Owner prior to submission of the final Application for Payment. The final payment will not be made by the Owner until all close-out documents including as-built documents, operation and maintenance manuals, training and any other requirements identified in the Contract Documents have been received and accepted by the Owner and provided in the media and format requested by the Owner.

§ 9.10.1.1 The Contractor is put on notice that the Architect will inspect the work only once at the time of Final Completion, in its entirety, and not by parts or by systems. The Contractor shall reimburse the Owner for additional time expended by the Architect because an inspection is suspended or repeated.

§ 9.10.1.2 Notwithstanding anything in the Contract Documents to the contrary, final payment shall be made in accordance with the statutory requirements specified for progress payment in 9.6.1.1 through 9.6.1.4 (M.G.L. c. 30, §39K).

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect and Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect and Owner so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.3.1 If after ninety (90) calendar days after Substantial Completion of the Work, or as otherwise stated in the Owner-Contractor Agreement, Final Completion thereof is not achieved due to actions or inaction of the Contractor, the Contractor shall reimburse the Owner for any and all costs incurred by the Owner for professional fees, including those of the Architect and Owner's Representative.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.11 LIQUIDATED DAMAGES

§9.11.1 If the Contractor shall neglect, fail or refuse to bring all the required Work under the Contract Documents to Substantial Completion, as defined in the General Conditions, by the date stipulated in Article 8 of these General Conditions, including authorized adjustments thereof, the Owner shall deduct from the sums otherwise due under the Contract the sum of one thousand five hundred dollars (\$1,500), for each calendar day after said Substantial Completion date, or authorized extension thereof, up to and including the date that Substantial Completion of the Work is certified by the Architect. The said amount is so fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain.

§9.11.2 Additionally, if after Substantial Completion of the Work has been achieved, the Contractor shall neglect, fail or refuse to bring all the required Work under the Contract Documents to Final Completion, permitting the Owner full and unencumbered use of the facilities, within the time period stipulated in the Agreement, the Owner shall deduct from the sums otherwise due under the Contract, the sum of one thousand five hundred dollars (\$1,500.00) for each calendar day after said Final Completion date, or authorized extension thereof, up to and including the date that Final Completion is certified by the Architect.

§ 9.11.3 The provisions of this subparagraph 9.11 shall not prohibit the Owner from pursuing other rights or remedies against the Contractor for damages incurred on account of the Contractor's failure to complete the Work in a timely manner, including the recovery of the Owner's actual damages, if ascertainable, in excess of the amount stipulated in Subparagraph 9.11.1.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Owner assumes no responsibility or liability for the safety of the Project site. Contractor shall be solely responsible for providing a safe place for the performance of the Work.

§ 10.1.2 The Contractor shall ensure that all individuals working on or employed on the Project have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) and of at least 10 hours in duration.

§ 10.1.3 The Contractor shall ensure that all Subcontractors on the Project provide written verification of compliance with Federal Department of Homeland Security Requirements, including but not limited to the Employment Eligibility Verification (Form I-9) Process.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- .4 work or property of the Owner, its tenants, or other parties at or near the Project site with the Owner's permission.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.4.1 When there are indications that the use of explosives or other hazardous materials, equipment or unusual methods is necessary, the Contractor shall give the Owner reasonable advance notice of the conditions.

§ 10.2.4.2 The Contractor shall be solely responsible for the handling, storage, and use of explosive or other hazardous materials when their use is permitted.

§ 10.2.4.3 The Contractor shall not bring explosives onto the site or use in the Work without the prior written permission of the Architect. For such use, the Contractor shall obtain necessary permits with copies to the Architect. Contractor shall furnish Owner and Architect with certificates indicating proper and adequate insurance.

§ 10.2.5 The Contractor shall promptly, and at its own expense, remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. ~~The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.~~ The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18. The insurance that the Contractor is required to maintain under Article 11 shall cover such Work or operations, and the Contractor shall indemnify defend and hold the Owner, the Architect, and the owners of such adjacent properties harmless from and against all claims, suits, losses or costs arising out of such Work or operations. Where the damage or loss presents an immediate danger to the public, the Owner in its sole discretion and at the Contractor's expense, may promptly remedy such damage or loss without prior notice to the Contractor.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.2.9 The Contractor shall, within five (5) business days, report in writing to the Owner and Architect all accidents out of or in connection with the Work that caused death, personal injury or property damage, giving names, addresses, and telephone numbers of those involved and any witnesses.

§ 10.2.10 The Contractor shall be responsible for the adequate strength and safety of all scaffolding, staging and hoisting equipment and for temporary shoring, bracing and tying.

§ 10.2.11 The Contractor shall, at all times, be responsible for maintaining fire safety on the site, including prompt removal of all combustible rubbish, provision of fire extinguishing apparatus, and other measures, and/or services specified herein or required by the State Fire Marshal or other authority having jurisdiction. If such authority determines that the Contractor has failed to provide or maintain adequate fire safety, the Contractor shall, at its own expense, provide any compensatory services, equipment or devices required by the authority having jurisdiction, including but not limited to maintaining a continuous fire watch.

§ 10.2.12 Cutting and welding to be performed in or immediately adjacent to existing spaces and shall not be performed without written approval of the Owner for each instance.

§ 10.2.13 The Contractor shall comply with the requirements of the Occupational Safety and Health Act and the Construction Safety Act of 1969, including all standards and regulations which have been promulgated by the governmental authorities which administer such Acts and said requirements, standards and regulations are incorporated herein by reference. The Contractor shall be directly responsible for compliance therewith on the part of its agents, employees, subcontractors, and material suppliers and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of its agents, employees, material suppliers or subcontractors, to so comply.

§ 10.2.13.1 The Contractor shall indemnify the Owner, the OPM and Architect and save them harmless from any and all losses, cost and expenses, including fines and reasonable attorney's fees incurred by the Owner, the OPM and Architect., by reason of real or alleged violation of such laws, ordinances, regulations and directives, Federal, State and Local, which are currently in effect or which become effective in the future, by the Contractor, its Subcontractors or material suppliers.

§ 10.2.14 The Contractor shall, at all times, protect excavations, trenches, buildings, and materials from rain water, ground water, ice, snow, back-up or leakage of sewers, drains, or other piping, and from water of any other origin and shall remove promptly any accumulation of water. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end.

§ 10.2.15 The Contractor shall remove snow or ice within the limits of the Work indicated in the Contract Documents which might result in damage or delay.

§ 10.2.16 During the progress of the Work and at all times prior to the Date of Substantial Completion or occupancy of the Work by the Owner, whichever is earlier, the Contractor shall provide temporary heat, ventilation, and enclosure adequate to permit the Work to proceed in a timely fashion, and to prevent damage to completed Work or work in progress, or to materials stored on the premises. The permanent heating and ventilation systems may be used for these purposes when available unless otherwise provided in the Contract Documents. The use of the permanent heating system for temporary heat shall be subject to the prior written approval of the Owner and Architect.

§ 10.2.17 The Contractor shall be responsible for protecting the Work, materials and equipment at all times from commencement of Work until completion of its Work. It may, if it wishes, employ watchmen to assure such protection.

§ 10.2.18 In case of an emergency involving danger to life or property, the Contractor may act at its discretion to prevent injury or damage to the threatened life or property.

§ 10.2.19 The Contractor shall maintain its hand tools, machinery, personnel protective equipment, etc. in safe operating condition and shall require its subcontractors and individual mechanics to maintain their equipment in the same condition.

§10.2.20 TEMPORARY HEAT [Statutory Reference M.G.L. c.149, § 44F(1)] The Contractor shall install weather protection and furnish adequate heat in the protected area from November 1 to March 31.

§ 10.2.21 The Contractor shall furnish approved hard hats, other personal protective equipment as required, approved first aid supplies, name of first aid attendant posted list of emergency facilities.

§ 10.2.22 The Contractor shall take immediate action to correct any hazardous conditions reported.

§ 10.2.23 No unauthorized visitors shall be allowed on or in the Work site without permission from the Owner or the Owner's Representative.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. ~~Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity~~

proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time ~~shall~~ may be extended appropriately and the Contract Sum ~~shall~~ may be increased by the amount of the Contractor's reasonable additional costs, if any, of shutdown, delay, and start-up.

§ 10.3.2.1 If Hazardous Material is determined to be present on the site, the Contractor will cooperate with the Owner and the Owner's consultants and contractors to coordinate the Work in conjunction with the abatement, handling, disposal, or other procedures related to the presence of the Hazardous Material to maintain a safe working environment and to progress with the execution of the Work to avoid delay.

~~§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to reasonable attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.~~

§ 10.3.43 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.45 The Contractor shall reimburse the Owner, indemnify, defend and hold Owner harmless for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

~~§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.~~

§ 10.3.5 The Contractor shall be responsible for any abatement of hazardous materials called for in the Contract Documents, such Work to be performed in accordance with all applicable law.

§ 10.3.6 The parties anticipate that certain hazardous substances and/or materials are present or may be discovered at the site. When such conditions are set forth in the Contract Documents, the Contractor acknowledges that such conditions have been considered in establishing the Contract Time and Contract Sum. No extension of the Contract Time or increase in the Contract Sum shall be claimed or allowed with respect to any hazardous substances or materials located at the site which were disclosed in the Contract Documents. The Contractor shall strictly comply with all laws, regulations, rules, orders, ordinances and the like related to the excavation, storage, removal and disposal of any such hazardous substances or materials.

§ 10.3.7 The Contractor, when providing, using, storing, delivering or disposing of any toxic, hazardous or potentially dangerous materials, shall advise the Town, in writing, of the condition of such hazardous materials in advance of conducting any Work and is responsible for protecting his own employees, those of the Town, and all agents from the hazards associated with such materials. The Contractor shall furnish written directions, precautions, or training, provided or made available from the supplier of the materials, or other acceptable source, for use by all persons who may be subject to the hazard. The Contractor shall comply with all applicable regulations and laws. The Contractor shall dispose of any hazardous or toxic substances in accordance with all applicable regulations or laws, including E.P.A and D.O.T., and shall provide the Town with the appropriate generator E.P.A. number. The Contractor shall perform all required procedures necessary to ensure that there will be no discharge, spillage, uncontrolled loss, seepage or filtration of any hazardous or toxic waste on the site caused by his operations. Contractor is responsible for any and all costs and liabilities associated with the clean-up of any such spillage, etc., or as required by regulating authorities having jurisdiction, and holds the Town and its agents, harmless against any current or future liabilities resulting from such incidents.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

§ 10.4.1 The Contractor shall promptly notify insurers as applicable, the Architect and the Owner of the nature of the emergency. Immediately thereafter, the Contractor shall submit to the Architect a written report including description of circumstances of the emergency and details of actions taken.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents or as required by the Owner. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Owner's Representative, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents. Such coverage shall be maintained for no less than ~~four~~one (41) years following final payment. The Owner shall be named additional insureds. Contractor shall provide a Blanket Additional Insured Endorsement. Contractor shall provide Owner with evidence of workers' compensation coverage. The Contractor shall not commence the Work under the Contract nor permit any subcontractor to commence work on a subcontract until all the insurance required is obtained. The Contractor may carry, at its own expense, such additional coverage as it may deem necessary. The Contractor shall not be deemed to be relieved of any responsibility by the fact it carries insurance. Should the Contractor at any time neglect or refuse to provide the insurance required herein or should such insurance be cancelled, or should the full annual aggregate or any policy not be available to satisfy the requirements of the Contract, the Owner shall have the right to procure such insurance and the cost thereof shall be deducted from monies then due or thereafter to become due the Contractor.

§ 11.1.1.1 The Contractor shall purchase the following types of insurance, and maintain all insurance coverage for the life of the contract and said insurance shall be in effect for 1 year following Substantial Completion, from an insurance company or companies with an A.M. Best rating of A- (VII) or better. Such insurance shall protect and indemnify the Owner from all claims which may arise out of or result from the Contractor's obligations under this Agreement, whether caused by the Contractor or by a subcontractor or any person or entity directly or indirectly employed by said Contractor or by anyone for whose acts said Contractor may be liable:

A. Worker's Compensation

Contractor shall provide worker's compensation and employer's liability insurance that complies with the regulations of the State of ~~Connecticut~~ Massachusetts with limits no less than \$1,000,000 each accident by bodily injury; \$1,000,000 each accident by disease; and a policy limit of \$1,000,000. Such policy shall contain a waiver of subrogation endorsement in favor of the Owner.

B. Commercial General Liability Insurance

Contractor shall provide a commercial general liability insurance policy that includes products, operations and completed operations. Limits should be at least: Bodily injury & property damage with an occurrence limit of \$1,000,000; Personal & advertising injury limit of \$1,000,000 per occurrence; General aggregate limit of \$22,000,000 (other than products and completed operations); Products and completed operations aggregate limit of \$22,000,000. The policy shall name the Owner as an additional insured.

- Such coverage will be provided on an occurrence basis and will be primary and shall not contribute in any way to any insurance or self-insured retention carried by the Owner.
- Such policy shall contain a waiver of subrogation endorsement in favor of the Owner.
- Such coverage shall contain a broad form contractual liability endorsement or similar wording within the policy form.
- Such Policy shall name the Owner as an Additional Insured with respect to claims arising out of the Contractor's negligence or for the negligence of those for whom the Contractor is responsible, by endorsement, ISO Forms CG2010 (07-04) and CG 2037 (07-04).

- Such Policy shall be maintained for at least one year after Substantial Completion.

C. Commercial Automobile Insurance

Contractor shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit basis. Such coverage shall also include hired and non-owned automobile coverage.

- The policy shall include a CA 99 48 Broadened Pollution Endorsement.
- The policy shall name the Owner as additional insured.
- The policy shall contain a Waiver of Subrogation in favor of the Owner.

D. Umbrella Liability Insurance

Contractor shall provide an umbrella liability policy in excess (without restriction or limitation) of those limits described in items (A) through (C). Such policy shall contain limits of liability in the amount of \$55,000,000 each occurrence and \$55,000,000 in the aggregate which may be amended during the term of the contract if deemed reasonable and customary by the Owner at the sole cost and expense of the Contractor.

~~E. Errors/Omission: Professional Liability~~

~~Contractor shall provide, if required by the Owner, errors & omissions coverage covering the contractor's professional liability with a limit of \$1,000,000 per claim and \$1,000,000 in the aggregate, and maintain such policy for one year after Substantial Completion.~~

F. Pollution Liability

Contractor shall provide, if required by the Owner, pollution liability coverage covering the contractor's pollution liability exposure, with a limit of \$1,000,000 per claim and \$42,000,000 in the aggregate, and maintain such policy for the duration of the project. Owner shall be included as an additional insured.

§ 11.1.1.1 The limits specified in the Contract Documents are minimum requirements and shall not be construed in any way as limits of liability or as constituting acceptance by Owner of responsibility for losses in excess of such limits. The Contractor shall be responsible for all deductibles applicable to any insurance. No acceptance and/or approval of any insurance by Owner shall be construed as relieving or excusing Contractor from any liability or obligation imposed by the provisions of the Contract Documents.

The contractor shall provide a Blanket Additional Insured Endorsement and shall provide Owner with evidence of worker's compensation and all other required coverage.

~~§ 11.1.1.2 The Contractor will furnish a Certificate of Insurance form incorporated into and made a part of this Agreement naming the Town of Maynard as an "Additional Insured" on the appropriate insurance policies. Properly executed certificates must be on file with the Municipality prior to commencement of this Agreement, including a copy of the endorsement to their insurance policy naming the Town as an Additional Insured.~~

The Contractor shall procure and maintain in full force and effect during the term of this Agreement insurance against any and all losses, liabilities, claims, costs, expenses and damages, including third-party claims that are alleged to have arisen in connection with activities of the Contractor, and/or any agents, representatives, subcontractors or employees as pertains to the project. Property Coverage shall include all materials and supplies being transported by the contractor as the Town's Property. Products and Completed Operations should be maintained for up to 3 years after the completion of the project.

When higher limits are required, such provisions will be listed in the project specifications issued by the Town of Maynard.

All insurance policies must state that the Contractor shall, to the maximum extent permitted by law, indemnify, defend and save harmless the Town of Maynard and all of its officers, agents and employees from and against any and all damages, liabilities, any suits, causes of action, claims, judgments, proceedings, demands, losses, costs and expenses (including reasonable attorneys' fees) that may arise out of or in connection with the work being

performed or to be performed by the Contractor or other liability that may arise as a result of the Contractor's action or failure to act.

Mutual indemnification will not be accepted. No waivers of subrogation are implied or will be accepted.

Insurance companies must be licensed by the Commonwealth of Massachusetts or otherwise acceptable to the Municipality. The cost of such insurance, including required endorsements or amendments, certificates and renewals, shall be the sole responsibility of the Contractor. Full disclosure of any non-standard exclusion is required for all required coverages. All policies shall be written so that the Town of Maynard shall be notified of cancellation or the addition of "restrictive amendments" by Registered Mail not later than twenty (20) days prior to the effective date of such cancellation or amendment.

The Contractor shall, when subcontractors are permitted by the agreement, require that each subcontractor procure and maintain, until the completion of that subcontractor's work, insurance of the types where applicable and to the limits set forth in the above sections. All such coverage by subcontractors shall be in favor of the Contractor and the Town shall be indemnified and held harmless from liability in all such policies and named as an additional insured with respects to that subcontractor's involvement in the project.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. The surety, form and substance of the bond shall be satisfactory to the Owner. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the state in which the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 **Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide written notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.1.5 **Property / Builder's Risk Insurance.** The Contractor shall purchase and maintain property / builder's risk insurance upon the entire Work at the site to the full insurable value thereof. Coverage for such builder's risk insurance shall be provided by a company or companies reasonably acceptable to the Owner. Contractor shall furnish to Owner written confirmation as to the insurance carrier's most current financial ratings prior to commencing work. Such insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include "all risks" insurance for physical loss or damage including without duplication, theft, vandalism and malicious mischief. This insurance shall also cover portions of the Work stored off the site or in transit. If this insurance is written with stipulated amounts deductible, the Owner shall not be responsible for any difference between the payments made by the insurance carrier and the claim. The policy shall contain a provision that coverages afforded under policies will not be canceled or allowed to expire until at least 30 days' written notice has been given to the Owner. The Owner shall be named insured within the policy. Builder's Risk Insurance must carry the value of the project.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall may purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 **Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the

Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 Contractor waive all rights against Owner (1) and any of Owner's subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property or other insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused to the extent of actual recovery of any insurance proceeds obtained pursuant to this Section.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect or Owner, be uncovered for the Architect's or Owner's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect or Owner has not specifically requested to examine prior to its being covered, the Architect or Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or Owner or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, and any cost, loss or damage to the Owner resulting therefrom, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within

a thirty (30) day period ~~reasonable time during that period~~ after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.3 Upon completion of any Work under or pursuant to this Section 12.2, the one year correction period in connection with the Work requiring correction shall be renewed and recommence.
~~The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.~~

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable, even if such Work was installed as submitted and approved in shop drawings. Such adjustment shall be effected whether or not final payment has been made. Contractor may not assume that non-conforming work has been accepted unless the Contractor has obtained such acceptance from the Owner in writing.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed solely by the laws of the Commonwealth of Massachusetts without giving effect to conflicts of laws principles. Except as otherwise specified herein, the parties to the Contract irrevocably and unconditionally consent to the exclusive jurisdiction of the Commonwealth of Massachusetts Superior Court and the venue of Essex County, Massachusetts to resolve all disputes, claims or controversies arising out of or relating the Contract.~~The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~

§ 13.1.1 This agreement is subject to the applicable sections and provisions of the Massachusetts General Laws, including but not limited to M.G.L. c. 30 and 149 and all other laws and regulations relating to public construction projects and agreements therefore and said laws are hereby incorporated herein, whether or not specifically set out or referenced.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity ~~acceptable to~~ engaged by the Owner, or with the appropriate public authority, ~~and shall bear all related costs of tests, inspections, and approvals.~~ The Owner will hire and pay for services as outlined in Section 2.2.6, from which reports will be forwarded to the Contractor. The Contractor shall give the Architect ~~and Owner~~ and Owner timely notice of when and where tests and inspections are to be made so that the Architect ~~and Owner~~ and Owner may ~~be present for~~ observe such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect ~~and Owner~~ and Owner of when and where tests and inspections are to be made so that the Architect ~~and Owner~~ and Owner may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense, including testing and costs related to remedial work.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 The Owner shall have the right to conduct testing and inspections related to, but not limited to, commissioning as outlined in Section 2.6 and 3.19.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.6 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice. Notice to the owner shall be deemed to have been duly served if delivered in the forgoing manner to the duly elected Select Board Chair or the Town of Maynard, Massachusetts.

§ 13.7 LIMITATION OF LIABILITY

The Owner shall be liable only as allowed by Massachusetts law, and in no event in an amount greater than its interest in the Project, and no elected or appointed official of the Town of, Massachusetts or, officer, director, trustee, partner, agent or employee of the Owner (or any partner of a partner or any agent or employee of a partner) shall ever be personally or individually liable with respect to this Contract or the Work. Each subcontract shall include the foregoing limitation, which shall be effective if the Owner ever succeeds to the Contractor's rights and obligations under a subcontract.

§ 13.8 DEFENSE OF SUITS

§ 13.8.1 Contractor shall at its sole and absolute cost defend, indemnify and hold Owner harmless (collectively "Indemnify") from any and all demands, claims, suits or liability for damages of any nature or kind, on account of the errors, acts or omissions Contractor, and/or without limitation any of its subcontractors, suppliers, officers, agents, employees or servants or the like, made against Owner whether or not caused in part by the active or passive negligence or other fault of Owner (collectively "Claims"). Owner shall in its sole and absolute discretion control the defense of such Claims. Contractor shall reimburse Owner within thirty (30) days of Contractor's receipt of a request for payment of any reasonable cost of Indemnification incurred by Owner under this provision. Contractor's duties under this provision shall not arise if such Claims are determined by a court of competent jurisdiction after all appellate rights having been exhausted to have been caused by the sole negligence or act of Owner. The provisions of any Workers' Compensation act or similar statute shall not limit Contractor's obligations under this provision.

Procedures Relating to Indemnification.

In order for Owner to be entitled to any Indemnification provided for under this agreement in respect of, arising out of, or involving a claim or demand made by any Person against Owner (a "Third-Party Claim"), the Owner must notify Contractor in writing of the Third-Party Claim no later than thirty (30) days after such claim or Third Party Claim is first asserted in writing to Owner. Such notice shall state in reasonable detail the amount or estimated amount of such Third-Party Claim and shall identify the specific basis (or bases) for such Third-Party Claim. Failure to give such notification shall not affect Indemnification provided hereunder except to the extent the Contractor is actually prejudiced as a result of such failure. Contractor shall reasonably cooperate in the defense or prosecution of the Third-Party Claim. Such cooperation shall include, but shall not be limited to, the provision to Owner of records and information, which are reasonably relevant to such Third-Party Claim, and making employees available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder. Insomuch as Owner is defending the Third Party Claim pursuant to this provision, Contractor shall not without the prior written consent of Owner (which consent shall not be unreasonably withheld or delayed) admit to any liability with respect to, or settle, compromise or discharge such Third-Party Claim.

§ 13.8.2 Neither final acceptance nor occupation of the premises by the Owner shall relieve the Contractor of responsibility for all claims for labor, materials, and equipment arising out of this Contract.

§ 13.9 FOREIGN CORPORATIONS

§ 13.9.1 The Contractor, if a foreign corporation, shall comply with all Massachusetts Laws governing foreign corporations including but not limited to M.G.L. c. 181 §§ 3, 5 and M.G.L. c. c. 30 §39L.

§ 13.10 Ethics Training. A summary of the Conflict of Interest Law is attached hereto as Exhibit A and must be distributed to all key employees of the Contractor whose services are specifically required by name, implication or understanding of the parties. Pursuant to Chapter 28 of the Acts of 2009, as amended, all key employees must complete online ethics training on the State Ethics Commission's website, www.mass.gov/ethics. Within thirty (30) days of the date of this Contract, each key employee must provide to the Owner a signed acknowledgment of receipt of the summary of the Conflict of Interest Law, in the form attached hereto as Exhibit A, and a certificate of completion of the online training which must be printed at the completion of the training. In the event that the term of this Contract extends for more than two years, all continuously employed key employees shall repeat the online training and provide the Owner with a new certificate of completion within ninety (90) days before or ninety (90) days after the two-year anniversary of the date of this Contract. Any new key employee who becomes employed by the Contractor after the date of this Contract and whose services are specifically required by this Contract must complete the online training and provide the Owner with a certificate of completion within thirty (30) days of the date on which his services commence pursuant to this Contract. Satisfaction of these requirements is the sole

responsibility of the Contractor and its key employees, and the Owner shall have no liability for the Contractor's or its key employees' failure to meet these requirements.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, ~~as well as reasonable overhead and profit on Work not executed,~~ and direct costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials so as to cause the Owner or the Architect to reasonably conclude that the Contractor will not complete the Work within the Contract Time, for the Contract Sum or in substantial compliance with the requirements of the Contract Document;
 - .1.1 repeatedly fails to preform Work in a good an workmanlike manner or in substantial compliance with the requirements of the Contract Document
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or
- .5 is adjudged a bankrupt or makes a general assignment for the benefit of the Contractor's creditors, or if a receiver is appointed on account of the Contractor's insolvency.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, ~~and upon certification by the Architect that sufficient cause exists to justify such action,~~ the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and

- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor, without limiting Owner's other rights, if any, shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be reviewed by the Architect-certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine. In said event, the Owner shall equitably adjust the Contract Sum and Contract Time, if warranted.

§ 14.3.2 The Contract Sum and Contract Time ~~shall~~ may be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 Upon such termination, the Contractor shall recover as its sole remedy payment for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination and for items properly and timely fabricated off the project site, delivered and stored in accordance with the Owner's instructions. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, overhead anticipated and/or unearned profits, consequential or indirect damages. In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2. Failure of the Contractor to initiate a Claim in accordance with the requirements of this Paragraph 15.1.2 shall constitute waiver of such claim. The Owner shall provide the Contractor with timely notice of any Claim related to Contractor delay, interference, or back charges and will provide reasonable notice of all other Claims.

§ 15.1.2.1 The Contractor must submit a cost and/or time proposal for the Claim in accordance with Article 7 within 10 days of such written notice, or the Claim shall be waived. The Contractor's failure to provide written notice in strict accordance with this sub paragraph will result in the Contractor's having waived its claim.

§ 15.1.2.2 The Contractor shall furnish the Architect and OPM with such additional documentation as the Architect may request to evaluate the Claim.

§ 15.1.2.3 Changes or additions to a previously made Claim may be made only within the same 21-day time period as the original claim or before the time the Architect has rendered a decision in accordance with this Article 15, whichever occurs first. No changes may be made after the Architect has rendered a decision.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor must be initiated by written notice to the other party with a copy sent to the Architect. Claims by the Contractor must be initiated within 21 days after occurrence of the event giving rise to such Claim. Claims by the Owner must be initiated within 21 days after the Owner first recognizes the condition giving rise to the Claim. After a Change Order Request or a formal Change Order has been executed, no additional Claim based on the same scope of work will be considered.

~~Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.~~

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Owner shall have no obligation to make payments to the Contractor on or against such claims, disputes, or other matters in question during the pendency of any mediation, arbitration, or other proceedings to resolve such matters. Owner shall continue to make payments of undisputed amounts.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.4.3 If the Contractor submits a claim that is interpreted by the Architect or Owner as being part of the Work and the Contractor disputes this interpretation, a Construction Directive will be issued per Article 7. The Contractor shall immediately proceed with the execution of the disputed Work.

§ 15.1.5 Claims for Additional Cost

~~If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.~~INTENTIONALLY OMITTED

§ 15.1.6 Claims for Additional Time

~~§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall be as per Article 8.3 include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.~~

~~§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be as per Article 8.3 documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction. There shall be no extension of the Contract time for adverse weather conditions unless the number of days of inclement weather is substantially greater or conditions substantially more severe than the average for the calendar period as recorded by a recognized weather observation agency.~~

~~§ 15.1.6.3 Whenever the Contractor claims an extension of the Contract Time, only the unavoidable delay caused to the completion of the Work as a whole shall be considered in measuring or evaluating the extent of the delay. Any extension shall be granted only to the extent that the effect of such delay cannot be avoided or mitigated by the exercise of reasonable precautions, efforts and measures (including planning, scheduling and rescheduling) whether before or after the occurrence of the cause of delay. No extension shall be granted for any delay which in whole or part results from or arises out of the act or omission of the Contractor or its Subcontractors or others performing the Work or for any delay resulting from or arising out of concurrent causes, one of which is an act or omission of the Contractor or its Subcontractors or others performing the Work. Any extension of the Contract Time allowed hereunder shall be net of any contingency or "float" time included in the Progress Schedule.~~

~~§ 15.1.6.3.1 The Contract Time shall not be extended due to a delay until all schedule float time is used. No claim for extension of Contract time shall be allowed on account of a delay caused by the Owner when the Contractor's activities have caused prior or concurrent delay to the extent that float times available for the Owner's activities had been reduced to zero (or to a negative value) before the Owner impact occurred.~~

~~§ 15.1.6.4 The Contractor shall give written notice to the Owner and Architect within twenty-one (21) days after the time that he knows or should know of any cause which will result (or has resulted) in delay for which he claims or intends to claim an extension of the Contract Time, including those causes for which the Owner or Architect is responsible or has knowledge. Such notice shall not be effective unless given to both the Owner and Architect. Any such written notice shall (1) explicitly state that an extension is claimed; (2) state in detail the circumstances which form the basis for delay; and (3) describe as fully as practicable at the time the date of commencement and duration or expected duration of the delay and its effect on the various parts of the Work. The Contractor shall provide such supporting documentation as the Owner and Architect may require, including a revised Critical Path Method Schedule indicating all of the activities affected by the circumstances which form the basis for the Claim. The submission of such written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time, otherwise the Claim shall be waived.~~

~~§ 15.1.6.5 Claims for extension of time arising out of authorized changes in the Work shall be made in writing prior to or concurrent with the submission of the Contractor's proposal for such change. No extension of time arising out of changes in the Work will be granted after the date upon which the Contractor is authorized to proceed with such change unless specific provisions for an extension of time has been incorporated in the authorization. Reserving the right to future delays in time will not be permitted as part of the authorization.~~

~~§ 15.1.6.6 If authorized by the Owner, any additional cost to the Contractor such as increased costs of General Conditions or required acceleration of the Work resulting from a change shall be included in the amended Contract Sum set forth in such Change Order. No additional or later claim for added costs or time for the same change will be permitted. Extensions of the Contract Time and added costs as included in the Change Order shall be the Contractor's sole and exclusive remedy for delays of any kind.~~

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Interpretation Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the ~~Architect for initial interpretation. Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision-~~ An initial interpretation shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the ~~Initial Decision Maker-Architect~~ and all affected parties agree, the ~~Architect Initial Decision Maker~~ will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The ~~Initial Decision Maker-Architect~~ will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) ~~approve-recommend approval of~~ the Claim, (4) suggest a compromise, or (5) advise the parties that the ~~Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker-Architect is unable to interpret the Claim if the Architect~~ lacks sufficient information to evaluate the merits of the Claim or if the ~~Initial Decision Maker-Architect~~ concludes that, in the ~~Initial Decision Maker's-Architect's~~ sole discretion, it would be inappropriate for the ~~Initial Decision Maker to resolve-Architect to interpret~~ the Claim.

§ 15.2.3 In evaluating Claims, the ~~Initial Decision Maker-Architect~~ may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the ~~Initial Decision Maker-Architect~~ in rendering ~~an initial interpretation-a decision~~. The ~~Initial Decision Maker-Architect~~ may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the ~~Initial Decision Maker-Architect~~ requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the ~~Initial Decision Maker-Architect~~ when the response or supporting data will be furnished, or (3) advise the ~~Initial Decision Maker-Architect~~ that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the ~~Initial Decision Maker-Architect~~ will either reject or ~~approve-recommend approval of~~ the Claim in whole or in part.

§ 15.2.5 The ~~Initial Decision Maker-Architect~~ will render an initial ~~decision-interpretation or indicate that the Architect is unable to interpret the Claim-approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim~~. This initial ~~decision-interpretation~~ shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties ~~and the Architect, if the Architect is not serving as the Initial Decision Maker,~~ of any change in the Contract Sum or Contract Time or both. The initial ~~decision-interpretation~~ shall be ~~final and binding-on-considered by~~ the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial ~~decision-interpretation~~ at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 ~~Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.2.9 INTERPRETATIONS [Statutory Reference M.G.L. ch. 30, § 39P] In every case in which this Agreement requires the Owner or Architect to make a decision or interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, the decision shall be made promptly and, in any event, no later than thirty days after the written submission for decision; but if such decision requires extended investigation and study, the Owner or Architect shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made.

§ 15.2.10 EFFECT OF DECISIONS [Statutory Reference M.G.L. ch. 30, §39 J] A decision by the Owner or the Architect on a dispute, whether of fact or of law, arising under this Contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily, is unsupported by substantial evidence, or is based upon error of law.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings ~~and shall be bound by with respect to~~ the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration Litigation

§ 15.4.1 ~~Any matter not resolved by way of mediation may be filed with a court of competent jurisdiction in the courts of the Commonwealth of Massachusetts, Middlesex County. If the parties have selected arbitration as mutually agree that arbitration is the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the~~

Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

~~§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.~~

~~§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.4 Consolidation or Joinder~~

~~§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).~~

~~§ 15.4.4.2 Any unresolved claims between Owner and Contractor, Owner and Architect, Contractor and Architect, Contractor and its Surety, or Contractor and its Subcontractors or Suppliers may be submitted for arbitration as provided in this Section 15 and any or all of the parties named above shall, at the Owner's request, be joined or consolidated therein.~~

~~Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.~~

~~§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.~~

ARTICLE 16 CONTRACTOR'S ACCOUNTING METHOD REQUIREMENTS [Statutory Reference M.G.L. c.30, § 39R]

§ 16.1The words defined herein shall have the meaning stated below whenever they appear in this Article 16:

§ 16.1.1 "Contractor" means the Contractor as defined in the Contract.

§ 16.1.2 "Contract" means this agreement.

§ 16.1.3 "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.

§ 16.1.4 "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public account under the laws of the place of its 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 Owner.

§ 16.1.5 "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.

§ 16.1.6 "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 its 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 therefore 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.

§ 16.1.7 "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.

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

§ 16.2 The following provisions shall apply to the Contract:

§ 16.2.1 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.

§ 16.2.2 Until the expiration of six years after final payment, the Owner, 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 its Subcontractors that directly pertain to, and involve transactions relating to, the Contractor or its Subcontractors.

§ 16.2.3 The Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the Owner, including in its description the date of the change and reasons therefore, and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes.

§ 16.2.4 The Contractor shall file a statement of management on internal accounting controls as set forth in Paragraph 16.3 below prior to the execution of the Contract.

§ 16.2.5 The Contractor shall file prior to the execution of the Contract and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in Paragraph 16.5 below.

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

§ 16.3.1 Transactions are executed in accordance with management's general and specific authorization;

§ 16.3.2 Transactions are recorded as necessary:

- .1 to permit preparation of financial statements in conformity with generally accepted accounting principles, and
- .2 to maintain accountability for assets;

§ 16.3.3 Access to assets is permitted only in accordance with management's general or specific authorization; and

§ 16.3.4 The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

§ 16.4 The Contractor shall also file with the Owner 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:

§ 16.4.1 Whether the representations of management in response to this Paragraph and Paragraph 16.2 above are consistent with the result of management's evaluation of the system of internal accounting controls; and

§ 16.4.2 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.

§ 16.5 The Contractor shall annually file with the commissioner of capital asset management and maintenance during the term of the Contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the Owner upon request.

ARTICLE 17 EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION (Statutory Reference M.G.L. c.151B; Executive Orders No. 74, No. 116, and No. 246)

The provisions of this Article 17 are intended to comply with the Commonwealth's Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program, referred to in Executive Order No. 116 and administered by the Massachusetts Commission Against Discrimination. If no specific percentage has been inserted in Subparagraph 17.2.3 below, the applicable minimum percentage provided for in such Supplemental Program shall be deemed to have been so inserted.

§ 17.1 DEFINITIONS

For purposes of this contract, "minority" refers to Asian-Americans, Blacks, Spanish Surnamed Americans, North American Indians, and Cape Verdeans. "Commission" refers to the Massachusetts Commission Against Discrimination.

§ 17.2 NON-DISCRIMINATION AND AFFIRMATIVE ACTION REQUIREMENTS

During the performance of its contract, the Contractor and all of its Subcontractors (hereinafter collectively referred to as the Contractor), for itself, its assignees, and successors in interest, agree as follows:

§ 17.2.1 In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, sex or sexual orientation. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth.

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

§ 17.2.3 As part of its obligation of remedial action under the foregoing Subparagraph 17.2.2, the Contractor shall maintain on this project a not less than eight (8%) percent ratio of minority employee man hours to total man hours in each job category including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those "classes of work" enumerated in M.G.L. c.149, §44F:

§ 17.2.4 In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the Commission, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee (described in Subparagraph 17.2.5 below) or the Commission.

§ 17.2.5 At the discretion of the Commission there may be established for the life of this contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, hereinafter called the administering agency, the Commission and such other representatives as may be designated by the Commission in conjunction with the administering agency.

§ 17.2.6 The Contractor (or its agent, if any, designated by it 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.

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

§ 17.2.8 Records of employment referral orders, prepared by the Contractor, shall be made available to the Commission and to the Liaison Committee on request.

§ 17.2.9 The Contractor shall prepare weekly reports in a form approved by the Commission of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these shall be provided at the end of each such week to the Commission and to the Liaison Committee.

If the Contractor shall use any subcontractor on any work performed under this contract, he shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include notification to the Office of Minority Business Assistance (within the Executive Office of Communities and Development) or its designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.

In the employment of journeymen, apprentices, trainees and advanced trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work to which the employment relates, and, secondly, to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States.

A designee of the Commission and a designee of the Liaison Committee shall each have right of access to the construction site.

§ 17.3 COMPLIANCE WITH REQUIREMENTS

The Contractor shall comply with the provisions of Executive Order No. 74, as amended by Executive Order No. 116, dated May 1, 1975, and of M.G.L. c.151B, both of which are herein incorporated by reference and made a part of this contract.

§ 17.4 NON-DISCRIMINATION

The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on grounds of race, color, religious creed, national origin, age, sex or sexual orientation in employment practices, in the selection or retention of Subcontractors, or in the procurement of materials and rentals of equipment.

§ 17.5 SOLICITATIONS FOR SUB-CONTRACTS, AND FOR THE PROCUREMENT OF MATERIALS AND EQUIPMENT

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential Subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this contract relative to non-discrimination and affirmative action.

§ 17.6 CERTIFICATION REQUIREMENT

The Contractor hereby certifies it shall comply with the manpower ratios and specific action steps contained herein. The Contractor shall be required to obtain from each of its subcontractors and submit to the Owner prior to the performance of any work under the Contract a certification by said Subcontractor, regardless of tier, that it will comply with the manpower ratios and specific affirmative action steps contained herein. Such certification shall be provided on forms furnished by the Owner.

§ 17.7 CONTRACTOR'S CERTIFICATION

The Contractor's certification form must be signed by all successful low bidder(s) prior to award by the contracting agency.

§ 17.8 COMPLIANCE-INFORMATION, REPORTS AND SANCTIONS

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

§ 17.8.2 Whenever the administering agency, the Commission, or the Liaison Committee believes the Contractor or any Subcontractor may not be operating in compliance with the terms of this Paragraph 17.8, the commission directly, or through its designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Paragraph 17.8. If the Commission or its agent finds the Contractor or any Subcontractor not in compliance, it shall make a preliminary report on noncompliance, and notify such Contractor in writing of such steps as will in the judgment of the Commission or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Commission shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If, however, the Commission believes the Contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen days of the receipt of the recommendations of the Commission, the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:

- .1 The recovery by the administering agency from the Contractor of 1/100 of 1% of the contract award price or \$1,000, whichever sum is greater, in the nature of liquidated damages or, if a Subcontractor is in non-compliance, the recovery by the administering agency from the Contractor, to be assessed by the Contractor as a back charge against the Subcontractor, of 1/10 of 1% of the subcontract price, or \$400, whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply;
- .2 The suspension of any payment or part thereof due under the contract until such time as the Contractor or any Subcontractor is able to demonstrate its compliance with the terms of the contract;
- .3 The termination, or cancellation, of the contract, in whole or in part, unless the Contractor or any Subcontractor is able to demonstrate within a specified time its compliance with the terms of the contract;
- .4 The denial to the Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.

If at any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate that it is in compliance with this Paragraph 17.8, it may request that administering agency, in consultation with the Commission, to suspend the sanctions conditionally, pending a final determination by the Commission as to whether the Contractor is in compliance. Upon final determination of the Commission, the administering agency, based on the recommendation of the Commission, shall either lift the sanctions or reimpose them.

Sanctions enumerated under Subparagraph 17.8.2 of this Paragraph 17.8 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used in M.G.L. c.30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

§ 17.9 SEVERABILITY

The provisions of this Article 17 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.

§ 17.10 EQUAL EMPLOYMENT OPPORTUNITY FOR THE HANDICAPPED

The Contractor shall comply with the provisions of Executive Order No. 246, relating to discrimination against and equal employment opportunity for the handicapped, which is herein incorporated by reference and made a part of this contract. In connection with the performance of work under this contract, the Contractor, Subcontractors and suppliers of goods and services shall not discriminate against the handicapped. Furthermore, Contractors, Subcontractors and suppliers of goods and services must give written notice of their commitments under this Paragraph 17.10 to any labor union, association or brotherhood with which they have a collective bargaining contract or other agreement, and must give such notice to handicap contractors and to handicapped contractor associations. A copy of such notice must be furnished to the Owner at the time of the signing of the contract.

§ 17.11 SUSPENSION OF PAYMENTS

§ 17.11.1 If the Owner determines after investigation that the Contractor or any Subcontractor is not in compliance with the terms of Article 17, it may suspend any payment or portion thereof due under the contract until Contractor demonstrates compliance with the terms of Article 17.

§ 17.11.2 If the Owner determines after investigation that the Contractor or any Subcontractor is not in compliance with the terms of Article 17, it may suspend any payment or portion thereof due under the contract until Contractor demonstrates compliance with the terms of Article 17, or the Owner may terminate the Contract.

§ 17.11.3 Payment may be suspended only after the Contractor and any other interested party shall have been given the opportunity to present evidence in support of its position at an informal hearing held by the Owner and the Owner has concluded upon review of all the evidence that such penalty is justified.

§ 17.11.4 This temporary suspension of payments by the Owner is separate from the sanctions set forth in Paragraph 17.8 above, which are determined by the Commission and recommended to the Owner.

§ 18 Plain Meaning: Unless specifically defined in this agreement, all words used in this agreement shall be given their plain and ordinary meaning.

§ 19 Legal Construction: The Parties agree that the terms of this agreement shall not be interpreted in favor of or against any party as the draftsman, but shall be interpreted solely for the purposes of fairly effectuating the express intent of the parties as detailed in this agreement.

§ 20 Headings: In interpreting this agreement headings shall have no meaning and shall be treated as being provided for informational purposes only.

§ 21 Severability: Except for the release provisions, if any term, provision, covenant or condition of this Agreement shall be held by a court of competent jurisdiction to be invalid, void or unenforceable, in whole or in part, such decision shall not affect the validity of any remaining portion of this Agreement and the remaining portion of this agreement shall stand in full force and effect, and shall in no way be effected, impaired or invalidated.

§ 22 Entire Agreement: Unless otherwise specified herein this agreement constitutes the entire agreement and understanding of the parties, is an integrated document and supersedes any and all prior agreements and understandings of the parties, whether oral written or otherwise.

§ 23 Authority to Execute Agreement: Each party executing this agreement warrants and represents to the other Parties that he/she or it is an authorized representative of the party holding valid and legal authority to execute this agreement and to bind the entities they represent to the terms of this agreement.



 **AIA[®] Document A310[™] – 2010****Bid Bond****CONTRACTOR:***(Name, legal status and address)***SURETY:***(Name, legal status and principal place of business)***OWNER:***(Name, legal status and address)***BOND AMOUNT: \$****PROJECT:***(Name, location or address, and Project number, if any)*

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.

AIA Document A310[™] – 2010. Copyright © 1963, 1970 and 2010 by The American Institute of Architects. **All rights reserved. WARNING: This AIA[®] Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA[®] Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** This document was produced by AIA software at 12:50:28 on 09/12/2018 under Order No.1693828218 which expires on 11/21/2018, and is not for resale.

User Notes:

(1165387851)

Signed and sealed this day of ,

(Contractor as Principal) *(Seal)*

(Witness)

(Title)

(Surety) *(Seal)*

(Witness)

(Title)

Last Modified: 05/22/2024 at 12:20PM EDT



Init.

/

Additions and Deletions Report for **AIA[®] Document A310[™] – 2010**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 12:50:28 on 09/12/2018.

There are no differences.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 12:50:28 on 09/12/2018 under Order No. 1693828218 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A310™ – 2010, Bid Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

 **AIA[®] Document A312[™] – 2010****Performance Bond****CONTRACTOR:***(Name, legal status and address)***SURETY:***(Name, legal status and principal place of business)***OWNER:***(Name, legal status and address)***CONSTRUCTION CONTRACT**

Date:

Amount: \$

Description:

*(Name and location)***BOND**

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: None See Section 16**CONTRACTOR AS PRINCIPAL**Company: *(Corporate Seal)*

Signature: _____

Name and

Title:

*(Any additional signatures appear on the last page of this Performance Bond.)***SURETY**Company: *(Corporate Seal)*

Signature: _____

Name and

Title:

*(FOR INFORMATION ONLY — Name, address and telephone)***AGENT or BROKER:****OWNER'S REPRESENTATIVE:***(Architect, Engineer or other party:)***ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

Init.

AIA Document A312™ – 2010 Performance Bond. The American Institute of Architects. All rights reserved. **WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** This document was produced by AIA software at 12:51:31 on 09/12/2018 under Order No.1693828218 which expires on 11/21/2018, and is not for resale.

User Notes:

(1899127923)

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

Init.

AIA Document A312™ – 2010 Performance Bond. The American Institute of Architects. All rights reserved. **WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** This document was produced by AIA software at 12:51:31 on 09/12/2018 under Order No.1693828218 which expires on 11/21/2018, and is not for resale.

User Notes:

(1899127923)

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

Last Modified: 05/22/2024 at 12:20PM EDT

Init.

/

Additions and Deletions Report for **AIA® Document A312™ – 2010**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 12:51:31 on 09/12/2018.

There are no differences.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 12:51:31 on 09/12/2018 under Order No. 1693828218 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ – 2010, Performance Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

 **AIA[®] Document A312[™] – 2010****Payment Bond****CONTRACTOR:***(Name, legal status and address)***SURETY:***(Name, legal status and principal place of business)***OWNER:***(Name, legal status and address)***CONSTRUCTION CONTRACT**

Date:

Amount: \$

Description:

*(Name and location)***BOND**

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: None See Section 18**CONTRACTOR AS PRINCIPAL**Company: *(Corporate Seal)***SURETY**Company: *(Corporate Seal)*

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

Signature: _____

Name and

Title:

*(FOR INFORMATION ONLY — Name, address and telephone)***AGENT or BROKER:****OWNER'S REPRESENTATIVE:***(Architect, Engineer or other party:)***ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____ (Corporate Seal)

Company: _____ (Corporate Seal)

Signature: _____

Signature: _____

Name and Title: _____

Name and Title: _____

Address: _____

Address: _____

Last Modified: 05/22/2024 at 12:20PM EDT

Init.

/

Additions and Deletions Report for **AIA® Document A312™ – 2010**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 12:51:40 on 09/12/2018.

There are no differences.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 12:51:40 on 09/12/2018 under Order No. 1693828218 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ – 2010, Payment Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

SECTION 00 45 13

AFFIDAVIT OF COMPLIANCE
(Bid Form Attachment)

_____, I, _____, President _____ Clerk of _____

(Name of Corporation)

whose principal office is located at

do hereby certify that the above named corporation has filed with the State Secretary all certificates and annual reports required by Massachusetts General Law (MGL) Chapter 156B Section 109 (business corporation), or by MGL Chapter 180, Section 26A (non-profit corporation) and all other applicable requirements contained in the General Laws of the Commonwealth of Massachusetts.

SIGNED UNDER PENALTIES OF PERJURY

This _____ day of _____, 2024

(Signature of Responsible Corporate Officer)

_____ Massachusetts Business Corp. _____ Foreign Corp. _____ Non-Profit Corp.

END OF DOCUMENT

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 00 45 16

DEBARMENT DISCLOSURE FORM
THIS FORM MUST BE SIGNED & RETURNED
WITH YOUR BID OR CONTRACT *(PLEASE PRINT)*

The said undersigned certifies under the pains and penalties of perjury that the said undersigned is not presently debarred thorn doing public construction work or from contacting or subcontracting with the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the Massachusetts General Laws, or any Rule or Regulation promulgated hereunder, nor is the said undersigned presently debarred from entering into contracts for the furnishing of supplies, services or constriction to any public agency, and/or any federal & state agency.

NAME OF BIDDER: _____

BY: _____

PLEASE PRINT NAME & TITLE OF AUTHORIZED PERSON SIGNING

ADDRESS

CITY, STATE, ZIP CODE

PHONE NUMBER

DATE

END OF DOCUMENT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 00 43 19

COMPANY INFORMATION

(Bid Form Attachment)

The following information is furnished by the bidder for the information of the Awarding Authority: If a Corporation:

Incorporated in what state _____

President: _____

Treasurer: _____

Secretary: _____

If a foreign corporation [incorporated or organized under laws other than laws of the Commonwealth of Massachusetts], is the corporation registered with the Secretary of State of Massachusetts?

Yes _____, No. _____

If the bidder is selected for the work referred to above, it is required under Massachusetts General Laws (MGL) Chapter 30 Section 39L to furnish to the Awarding Authority a certificate of the Secretary of State stating that the corporation has complied with all applicable requirements set forth in the General Laws of the Commonwealth of Massachusetts.

If a Partnership: [Name All Partners]

Name of Partner: _____

Residence _____

Name of Partner: _____

Residence _____

Last Modified: 05/22/2024 at 12:20PM EDT

If an Individual doing business under a firm name:

Name of Firm: _____

Name of Individual: _____

Business Address: _____

Residence: _____

END OF DOCUMENT

SECTION 00 43 23

STATEMENT OF LABOR HARMONY

(Attachment to Agreement Form – Document XXXXXX)

Pursuant to M.G.L. c.30, §39S, any person submitting a bid for, or signing a contract to work on, a public building or public works project estimated to cost more than \$10,000 shall certify on the bid, or contract, under penalties of perjury, as follows:

1. that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work;

I, _____, authorized signatory for _____, do hereby certify under the pains and penalties of perjury that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work.

Signature of Individual or Corporate Name

(Corporate Officers Title)

By: _____

Social Security Number or
Federal Identification Number

(Corporate Officers Title)

Date

END OF DOCUMENT

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE

MAY 22, 2024

5 TIGER DRIVE, MAYNARD, MA 01754

Mount Vernon Group Architects, Inc., Project No. 02021.10

SECTION 00 45 13

BIDDER QUALIFICATIONS

Under M.G.L. c. 30, § 39M, the public owner is required to determine whether the apparent low bidder is responsible and eligible. Accordingly, bidders are required to complete the following Bidder Qualifications Schedules.

END OF DOCUMENT

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE IS LEFT INTENTIONALLY BLANK

SECTION 00 45 16
BIDDER QUALIFICATION SCHEDULES

General Contractor's Firm Name _____

SCHEDULE A – BUSINESS OWNERS: Interested General Contractor **MUST** provide the following information and attach a copy of the resume for each and every business owner of the firm.

NAME	TITLE	ROLE / JOB RESPONSIBILITIES / SCOPE OF WORK	# OF YEARS WITH FIRM	EDUCATION / EXPERIENCE

General Contractor's Firm Name _____

SCHEDULE B – MANAGEMENT PERSONNEL: Interested General Contractors **MUST** provide the following information and attach a copy of the resume for each and every person who will have any direct or indirect management responsibility for the Project, including but not limited to, project executives, project managers, project superintendents, etc.

NAME	TITLE	ROLE / JOB RESPONSIBILITIES / SCOPE OF WORK	# OF YEARS WITH /FIRM	EDUCATION / EXPERIENCE	COMPLETED PROJECTS

Last Modified: 05/22/2024 at 12:20PM EDT

General Contractor's Firm Name _____

SCHEDULE C - SIMILAR PROJECT EXPERIENCE: Interested General Contractor **MUST** list all similar projects your firm has completed during the last 7 years. For the purpose of this IFB "similar projects" shall be defined as publicly funded projects estimated to cost greater than \$5M.

NAME	TITLE	ROLE / JOB RESPONSIBILITIES / SCOPE OF WORK	# OF YEARS WITH / FIRM	EDUCATION / EXPERIENCE	COMPLETED PROJECTS

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
 Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

General Contractor's Firm Name _____

SCHEDULE C.1 - SIMILAR PROJECT EXPERIENCE: Interested General Contractor **MUST** list all similar projects your firm has completed during the last 7 years. For the purpose of this IFB "similar projects" shall be defined as publicly funded projects estimated to cost greater than \$5M.

PROJECT NAME	COMPANY NAME	CONTACT PERSON	TELEPHONE & EMAIL
	Owner:		
	Designer:		
	GC:		
	Owner:		
	Designer:		
	GC:		
	Owner:		
	Designer:		
	GC:		
	Owner:		
	Designer:		
	GC:		

General Contractor's Firm Name _____

SCHEDULE D - TERMINATIONS: Interested General Contractors are required to list each and every project on which it was terminated or failed to complete the project.

PROJECT NAME & LOCATION	SCOPE OF WORK PERFORMED	CONTRACTED WITH	START & END DATES	ESTIMATED CONTRACT AMOUNT	COMPLETE	REASON FOR TERMINATION

Last Modified: 05/22/2024 at 12:20PM EDT

General Contractor's Firm Name _____

SCHEDULE E - LEGAL PROCEEDINGS: Interested General Contractors are required to list each and every legal proceeding, administrative proceeding or arbitration currently pending and each and every legal proceeding, administrative proceeding and arbitration concluded adversely against it within the past three (3) years.

PROJECT NAME & LOCATION	PROJECT OWNER	DESCRIPTION OF LEGAL PROCEEDING (include caption of case, parties, location of proceeding, description of the dispute or enforcement action and status and/or outcome)

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

General Contractor's Firm Name _____

SCHEDULE F – SAFETY RECORD: Interested General Contractors are required to provide the three (3) three-year history of its workers' compensation experience modifier and attached documentation from its insurance carrier supporting the ratings reported herein.

YEAR	WORKERS' COMP. EXPERIENCE MODIFIER	COMMENTS

END OF DOCUMENT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 00 45 19

CERTIFICATE OF NON-COLLUSION AND TAX COMPLIANCE

NON-COLLUSION CERTIFICATION

The undersigned certifies under the penalties of perjury that this Bid has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee or organization, entity, or group of individuals.

TAX COMPLIANCE CERTIFICATION

Pursuant to Massachusetts General Laws, c.62C, §49a, the undersigned certifies, under the penalties of perjury, that the undersigned, or if applicable, the corporation the undersigned represents, has filed all state tax returns, and has paid all state taxes required under the laws of Commonwealth.

BIDDER:

Signature of Individual or Corporate Name

Social Security Number
or Federal I.D. Number

By: Corporate Officer (if applicable)

END OF DOCUMENT

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 00 45 23

CERTIFICATION OF OSHA TRAINING

Name of Prime Contractor

Project Name

This project is subject to the safety and health regulations of the Massachusetts Department of Labor and Work Force Development of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations" (Industrial Bulletin No. 12). Contractors shall be familiar with the requirements of these regulations

The undersigned hereby certifies that:

1. All employees and subcontractors who work on this project will have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004.
2. The Contractor, and all subcontractors on this project, will provide certificates of compliance with this requirement for every employee working on this project site.
3. The successful bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act, on the Site to inspect the work and to supervise the conformance of the work with the regulations of the Act.

Name & Title of Signer (Print or Type)

Signature

Date

OSHA GENERAL CONTRACTOR CERTIFICATION FORM Pursuant to Chapter 306 of the Acts of 2004 An Act Relative to the Health and Safety on Construction Projects, the undersigned, hereby certify under penalties of perjury that I, and all subcontractors who are not filed sub-bidders, shall: (1) certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is a least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____ (Individual Submitting Bid) Duly Authorized Name of

Business or Entity: _____ Date: _____

RETURN THIS FORM WITH YOUR BID

END OF DOCUMENT

Last Modified: 05/22/2024 at 12:20PM EDT

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 00 45 26

CORPORATE RESOLUTION

If the Bidder is a corporation, the individual signing this form on behalf of said corporation hereby certifies, under the pains and penalties of perjury, that he is authorized to sign said form on behalf of the corporation and to execute contracts in the name and on behalf of said corporation, and the execution of any contract or obligation in the corporate name by the undersigned shall be valid and binding upon the corporation.

I, _____, hereby certify that I am the duly qualified and
(Secretary of the Corporation)

acting Secretary of _____ and I further certify
(Name of Corporation)

that a meeting of the Directors of said Company, duly called and held on _____,
(Date of Meeting)

at which all Directors were present and voting, the following individuals:

were duly authorized and empowered to execute and submit Forms of General Bid, Contracts, Agreements or Bonds on behalf of the Corporation.

I further certify that the above authority is still in effect and has not changed or modified in any respect.

By: _____
Secretary of Corporation

A True Copy:

Attest: _____
Notary Public

My Commission Expires:

Date

END OF DOCUMENT

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

WEEKLY CERTIFIED PAYROLL REPORT AND WORKFORCE PARTICIPATION FORM

CERTIFIED PAYROLL REPORT: Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a true and accurate copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

WORKFORCE PARTICIPATION GOALS: The Commonwealth of Massachusetts has set the following goals for workforce participation for minorities and women. The participation goals for this project shall be 15.3% for minorities and 6.9% for women. The Contractor shall strive to achieve on this project the labor workforce participation goals contained herein. **The Contractor shall enter the number of hours worked in each trade by each employee, identified as woman, minority, or non-minority below.**

Company Name:				Address:				Phone No.:				Payroll No.:			
Employer's Signature:				Title:				Contract No.:		Tax Payer ID #:		Work Week Ending:			
Awarding Authority Name:				Public Works Project Name:				Public Works Project Location:				Min. Wage Rate Sheet Number:			

General / Prime Contractor's Name:				Subcontractor's Name:				Employer Hourly Fringe Benefit Contributions											
(B+C+D+E) (A x F)																			

Employee Name & Complete Address	Work Classification	Project Hours Non-Minority	Project Hours Minority	Project Hours Women	Employee is OSHA 10 certified (?)	Appr. Rate (%)	Hours Worked							Project Hours (A) All Other Hours	Hourly Base Wage (B)	Health & Welfare Insurance (C)	ERISA Pension Plan (D)	Supp. Unemp. (E)	Total Hourly Prev. Wage (F)	Project Gross Wages Total Gross Wages	Check No. (H)	
							Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.									

APPRENTICESHIP DOCUMENTATION: Please answer the questions below.

(1) Are any apprentice employees identified above?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
(2) If yes, are all apprentice employees identified above currently registered with the MA DLS Division of Apprentices Standards?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
(3) If yes, is a copy of the apprentice ID card issued by the MA DLS Division of Apprentices Standards included for all apprentice employees identified above?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

Last Modified: 05/22/2024 at 12:20PM EDT

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20_____

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

do hereby state:

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

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

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

Signature _____

Title _____

SECTION 00 62 16

CERTIFICATE OF INSURANCE

The Contractor shall take out and maintain insurance coverage in compliance with Article 11 of the AIA-A201 General Conditions to the Contract. This insurance shall be provided at the Contractor's expense and shall be in full force and effect for the full term of the Contract as outlined in the Insurance Requirements.

The Town of Maynard shall be named as an "additional insured" on the Contractor's Commercial Liability Policies.

Mutual indemnification will not be accepted.

No waivers of subrogation are implied or will be accepted.

Properly executed certificates must be on file with the Municipality prior to commencement of the Agreement.

END OF DOCUMENT

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

"General Decision Number: MA20240001 03/22/2024

Superseded General Decision Number: MA20230001

State: Massachusetts

Construction Type: Building

Counties: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk and Suffolk Counties in Massachusetts.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes and apartments up to and including 4 stories)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 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 2024.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date

Last Modified: 05/22/2024 at 12:20PM EDT

0	01/05/2024
1	01/19/2024
2	02/09/2024
3	03/01/2024
4	03/22/2024

ASBE0006-001 09/01/2023

	Rates	Fringes
--	-------	---------

Insulator/asbestos worker
Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems

(ZONE A).....	\$ 53.50	35.16
(ZONE B).....	\$ 53.50	35.16

ZONES:

ZONE A

BARNSTABLE COUNTY (Brewster, Chatham, Dennis, Eastham, Harwich, Orleans, Provincetown, Truro, Wellfleet, Yarmouth)
BRISTOL COUNTY (Easton), MIDDLESEX COUNTY, and NORFOLK COUNTY (Avon, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxborough, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Randolph, Sharon, Stoughton, Walpole, Wellesley, Westwood, Weymouth)

ZONE B

BARNSTABLE COUNTY (Barnstable, Bourne, Falmouth, Mashpee, Sandwich), BRISTOL COUNTY (All cities except Easton), and NORFOLK COUNTY (Bellingham, Franklin, Plainville)

ASBE0006-002 09/01/2023

BARNSTABLE (Brewster, Chatham, Dennis, Eastham, Harwich, Orleans, Provincetown, Truro, Wellfleet and Yarmouth); BRISTOL (Easton); ESSEX; MIDDLESEX; NORFOLK (Avon, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Holbrook, Hull, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Randolph, Sharon Stoughton, Walpole, Wellesley, Westwood, and Weymouth) AND SUFFOLK COUNTIES

	Rates	Fringes
--	-------	---------

HAZARDOUS MATERIAL HANDLER
(Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems whether they contain asbestos or not)....

\$ 53.50	35.16
----------	-------

ASBE0006-010 09/01/2023

BARNSTABLE (Barnstable, Bourne, Falmouth, Mashpee and Sandwich); BRISTOL (Acushnet, Attleboro city, Berkeley, Dartmouth, Dighton, Fairhaven, Fall river City, Freetown,

Last Modified: 05/22/2024 at 12:20PM EDT

Marion, Mansfield, New Bedford City, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Somerset, Swansea, Taunton City and Westport); DUKES; NANTUCKET; NORFOLK (Bellingham, Franklin, Plainville, and Wrentham); PLYMOUTH (Lakeville, Mattapoisett, Middleboro, Rochester and Wareham)

Rates Fringes

Insulator/asbestos worker (Includes the application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.)....\$ 53.50 35.16

BOIL0029-001 01/01/2021

Rates Fringes

BOILERMAKER.....\$ 45.87 29.02

BRMA0001-008 08/01/2023

FOXBORO CHAPTER
BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton) AND NORFOLK (Bellingham, Canton, Dedham, Foxboro, Franklin, Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood, Wrentham) COUNTIES

Rates Fringes

Bricklayer, Cement Mason, Plasterer.....\$ 60.26 33.71

BRMA0001-009 08/01/2023

LOWELL CHAPTER
MIDDLESEX (Acton, Asby, Ayer, Bedford, Billerica, Boxboro, Carlisle, Chemsford, Dracut, Dunstable, Ft. Denvens, Groton, Littleton, Lowell, North Acton, Pepperell, Shirley, South Acton, Tewksbury, Townsend, Tyngsboro, West Acton, Westford, Wilmington)

Rates Fringes

Bricklayer and plasterer.....\$ 60.26 33.71

BRMA0001-010 08/01/2023

LOWELL CHAPTER
MIDDLESEX (Ashland, Framingham, Holliston, Hopkinton, Hudson, Maynard, Natick, Sherborn, Stow); and NORFOLK (Medfield, Medway, Millis)

Rates Fringes

BRICKLAYER.....\$ 60.26 33.71

BRMA0003-001 08/01/2023

Last Modified: 05/22/2024 at 12:20PM EDT

	Rates	Fringes
Marble & Tile Finisher.....	\$ 47.89	32.43
Marble, Tile & Terrazzo Workers.....	\$ 62.42	34.37
TERRAZZO FINISHER.....	\$ 61.34	34.21

BRMA0003-003 08/01/2023

BOSTON CHAPTER
MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford,
Melrose, Somerville); NORFOLK (Brookline, Milton); and SUFFOLK

	Rates	Fringes
BRICKLAYER.....	\$ 62.40	34.40

BRMA0003-006 08/01/2023

LYNN CHAPTER
ESSEX (Amesbury, Andover, Beverly, Boxford, Danvers, Essex,
Georgetown, Gloucester, Groveland, Hamilton, Haverhill,
Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead,
Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport,
North Andover, Peabody, Rockport, Rowley, Salisbury, Salem,
Saugus, Swampscott, Topsfield Wakefield, Wenham, West Newbury);
and MIDDLESEX (Reading, North Reading, Wakefield)

	Rates	Fringes
Bricklayer, cement mason and plasterer.....	\$ 62.40	34.40

BRMA0003-007 08/01/2023

WALTHAM CHAPTER
MIDDLESEX (Belmont, Burlington, Concord, Lexington, Lincoln,
Stoneham, Sudbury, Waltham, Watertown, Wayland, Weston,
Winchester, Woburn)

	Rates	Fringes
Bricklayer and plasterer.....	\$ 62.40	34.40

BRMA0003-008 08/01/2023

NEWTON CHAPTER
MIDDLESEX (Newton) and NORFOLK (Dover, Needham, Wellesley)

	Rates	Fringes
Bricklayer, cement mason and plasterer.....	\$ 62.40	34.40

BRMA0003-009 08/01/2023

NEW BEDFORD
BARNSTABLE; BRISTOL (Acushnet, Darmouth, Farhaven, Fall River,
Freetown, New Bedford, Somerset, Swansea, Westport); DUKES; and
NANTUCKET COUNTIES

Last Modified: 05/22/2024 at 12:20PM EDT

	Rates	Fringes
Bricklayer, cement mason and plasterer.....	\$ 62.40	34.40

BRMA0003-010 08/01/2023

QUINCY CHAPTER
NORFOLK COUNTY (Avon, Braintree, Cohasset, Holbrook, Quincy, Randolph, Soughton, Weymouth)

	Rates	Fringes
Bricklayer, cement mason and plasterer.....	\$ 62.40	34.40

CARP0056-011 08/01/2023

SUFFOLK (All of County); and those areas of BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX & NORFOLK COUNTIES situated inside Boston Beltway (I-495) and North of Cape Cod Canal. ALL of DUKES AND NANTUCKET COUNTIES

	Rates	Fringes
PILEDRIVERMAN.....	\$ 53.11	35.10

CARP0056-012 08/01/2023

The areas of BARNSTABLE, BRISTOL, and NORFOLK COUNTIES situated OUTSIDE Boston Beltway (I-495) and South of Cape Cod Canal

	Rates	Fringes
PILEDRIVERMAN.....	\$ 53.11	35.10

CARP0056-013 08/01/2022

Those areas of ESSEX and MIDDLESEX COUNTIES situated OUTSIDE Boston Beltway (I-495)

	Rates	Fringes
PILEDRIVERMAN.....	\$ 45.75	34.10

* CARP0327-001 03/01/2024

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford, Somerville); NORFOLK (Brookline, Dedham, Milton); and SUFFOLK

	Rates	Fringes
CARPENTER.....	\$ 57.20	31.04

* CARP0339-001 03/01/2024

BRISTOL (Attleborough, North Attleborough); ESSEX; MIDDLESEX (Except Belmont, Cambridge, Everett, Malden, Medford, Somerville); AND NORFOLK (Bellingham, Canton, Foxboro,

Last Modified: 05/22/2024 at 12:20PM EDT

Franklin, Medfield, Medway, Millis, Needham, Norfolk, Norwood, Plainville, Sharon, Walpole, Wellesley, Westwood, Wrentham)

	Rates	Fringes
CARPENTER.....	\$ 46.86	30.94

* CARP0346-003 03/01/2024

NORFOLK COUNTY (Braintree, Cohasset, Scituate, Weymouth, Quincy)

	Rates	Fringes
CARPENTER.....	\$ 46.86	30.94

CARP0624-005 09/01/2017

DUKES; NANTUCKET

	Rates	Fringes
CARPENTER.....	\$ 46.43	28.35

CARP0624-007 09/01/2017

BARNSTABLE; BRISTOL (Except Attleboro & North Attleboro); AND NORFOLK (Avon, Holbrook, Randolph, Stoughton) COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 39.28	27.90

CARP1121-001 01/01/2024

SUFFOLK COUNTY

	Rates	Fringes
MILLWRIGHT.....	\$ 48.03	33.49

CARP1121-003 01/01/2024

BARNSTABLE, BRISTOL, DUKES, ESSEX, MIDDLESEX, NANTUCKET and NORFOLK COUNTIES

	Rates	Fringes
MILLWRIGHT.....	\$ 42.76	33.24

* CARP2168-001 03/01/2024

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford, Somerville); NORFOLK (Brookline, Dedham, Milton); and SUFFOLK

	Rates	Fringes
FLOOR LAYER: Carpet.....	\$ 53.51	31.24

* CARP2168-004 03/01/2024

Last Modified: 05/22/2024 at 12:20PM EDT

BRISTOL; ESSEX; MIDDLESEX (Except Belmont, Cambridge, Everett, Malden, Medford, Somerville); Remainder of Norfolk County

	Rates	Fringes
FLOOR LAYER: Carpet.....	\$ 53.51	31.24

* CARP2168-005 03/01/2024		

BARNSTABALE; DUKES; AND NANTUCKET

	Rates	Fringes
FLOOR LAYER: Carpet.....	\$ 48.20	31.24

ELEC0096-001 09/03/2023		

MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend)

	Rates	Fringes
ELECTRICIAN.....	\$ 45.99	33.06
Teledata System Installer.....	\$ 34.49	31.44

ELEC0099-001 06/01/2021		

BRISTOL (Attleboro, North Attleboro, Seekonk)

	Rates	Fringes
ELECTRICIAN.....	\$ 43.61	54.71%
Teledata System Installer.....	\$ 31.21	13.1%+14.93

* ELEC0103-001 03/01/2024		

ESSEX; MIDDLESEX (Excluding Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend); NORFOLK (Excluding Avon, Holbrook, Plainville, Randolph, Stoughton) SUFFOLK

	Rates	Fringes
Teledata System Installer.....	\$ 49.49	33.93

* ELEC0103-002 03/01/2024		

ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX (Bedford, Billerica, Boxboro, Burlington, Carlisle, Chelmsford, Dracut, Dunstable littleton, Lowell, North Reading, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
ELECTRICIAN.....	\$ 61.86	36.14

* ELEC0103-004 03/01/2024		

Last Modified: 05/22/2024 at 12:20PM EDT

ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Topsfield, Wenham)

	Rates	Fringes
ELECTRICIAN.....	\$ 61.86	36.14

* ELEC0103-005 03/01/2024

ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington, Belmont, Cambridge, Concord, Everett, Framingham, Holliston, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklino, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham and Hull);SUFFOLK

	Rates	Fringes
ELECTRICIAN.....	\$ 61.86	36.14

ELEC0104-001 08/29/2022

	Rates	Fringes
Line Construction:		
Cableman.....	\$ 53.06	28.49+A
Equipment Operator.....	\$ 45.10	25.20+A
Groundman.....	\$ 29.18	12.10+A
Lineman.....	\$ 53.06	28.49+A

A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day and Columbus Day, provided the employee has been employed 5 working days prior to any one of the listed holidays.

ELEC0223-005 09/01/2023

BARNSTABLE; BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET AND NORFOLK (Avon, Halbrook, Plainville, Randolph, Stoughton)

	Rates	Fringes
ELECTRICIAN.....	\$ 47.87	29.92

ELEC0223-006 09/01/2023

BARNSTABLE; BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET AND NORFOLK (Avon, Halbrook, Plainville, Randolph, Stoughton)

	Rates	Fringes
Teledata System Installer.....	\$ 40.69	27.40

Last Modified: 05/22/2024 at 12:20PM EDT

ELEV0004-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 68.38	37.335+a+b

FOOTNOTE FOR ELEVATOR MECHANICS:

- a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.
- b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ENGI0004-001 12/01/2023

	Rates	Fringes
Power equipment operators:		
Group 1.....	\$ 55.03	32.45
Group 2.....	\$ 54.43	32.45
Group 3.....	\$ 35.62	32.45
Group 4.....	\$ 44.47	32.45
Group 5.....	\$ 24.41	32.45
Group 6.....	\$ 29.86	32.45

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

HOURLY PREMIUM FOR BOOM LENGTHS (Including Jib):

Over 150 ft. +2.28
Over 185 ft. +4.05
Over 210 ft. +5.67
Over 250 ft. +8.59
Over 295 ft. +11.86
Over 350 ft. +13.82

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1: Crane; shovel; truck crane; cherry picker; dragline; trench hoe; backhoe; three drum machine; derrick; pile driver; elevator tower; hoist; gradall; shovel dozer; front end loader; fork lift; sugar; boring machine; rotary drill; post hole hammer; post hole digger; pumpcrete machine; asphalt plant (on site); concrete batching and/or mixing plant (on site); crusher plant (on site); paving concrete mixer; timber jack

Group 2: Sonic or vibratory hammer; grader; scraper; tandem scraper; concrete pump; bulldozer; tractor; york rake; mulching machine; portable steam boiler; portable steam generator; roller; spreader; tamper (self propelled or tractor drawn); asphalt paver; mechanic - maintenance; paving screed machine; stationary steam boiler; paving concrete finishing machine; cal truck; ballast regulator; switch tamper; rail anchor machine; tire truck

Group 3: Pumps (1-3 grouped); compressor; welding machine (1-3 grouped); generator; concrete vibrator; heater (power driven 1- 5); well point system (operating); syphon-pulsometer; concrete mixer; valves controlling permanent plant air or steam; conveyor; Jackson type tamper; single diaphragm pump; lighting plant

Last Modified: 05/22/2024 at 12:20PM EDT

- Group 4: Assistant engineer (fireman)
- Group 5: Oiler (other than truck cranes and gradalls)
- Group 6: Oiler (on truck cranes and gradalls) stant engineer (on truck crane and gradall)

 IRON0007-006 09/16/2023

AREA 1: BRISTOL (Easton); ESSEX (Beverly, Gloucester, Lynn, Lynnfield, Manchester, Marblehead, Nahant, Rockport, Salem, Saugus, Swampscott); MIDDLESEX (Arlington, Bedford, Belmont, Burlington, Cambridge, Carlisle, Concord, Dunstable, Everett, Framingham, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Except Medway); SUFFOLK

AREA 2: ESSEX (Amesbury, Andover, Boxford, Danvers, Essex, Georgetown, Hamilton, Haverhill, Ipswich, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, Topsfield, Wenham, West Newbury); MIDDLESEX (Action, Billerica, Chelmsford, Dracut, Groton, Groveland, Littleton, Lowell, Middleton, North Reading, Pepperell, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
Ironworkers:		
AREA 1.....	\$ 53.70	36.21
AREA 2.....	\$ 49.29	36.21

 IRON0007-010 09/16/2023

MIDDLESEX (Ashby, Ashland, Ayer, Boxboro, Holliston, Hopkinton, Hudson, Marlboro, Shirley, Stow, Townsend); NORFOLK (Medway)

	Rates	Fringes
IRONWORKER.....	\$ 53.40	36.21

 IRON0037-005 09/16/2023

BARNSTABLE; BRISTOL (Acushnet, Attleboro, Berkley, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, Mansfield, New Bedford, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Somerset, Swansea, Taunton, Westport); DUKES; NANTUCKET; NORFOLK (Billingham, Franklin, Plainville, Wrentham)

	Rates	Fringes
IRONWORKER.....	\$ 40.00	32.58

 LAB0022-001 12/01/2023

	Rates	Fringes
Laborers: (HEAVY CONSTRUCTION)		
GROUP 1.....	\$ 37.86	27.59
GROUP 2.....	\$ 38.11	27.59
GROUP 3.....	\$ 38.61	27.59
GROUP 4.....	\$ 38.86	27.59

Last Modified: 05/22/2024 at 12:20PM EDT

GROUP 5.....	\$ 25.40	27.59
GROUP 6.....	\$ 39.86	27.59

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher tenders, plasterer tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operator, jack hammer operator, pavement breaker, carbide core drilling machine, chain saw operator, barco type jumping tampers, concrete pump, motorized mortar mixer, ride-on-motorized buggy

GROUP 3: Air track operator; block paver; rammer; curb setter, hydraulic and similar self powered drills

GROUP 4: Blaster; powderman

GROUP 5: Flagger

GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LAB00022-003 12/01/2021

	Rates	Fringes
--	-------	---------

Plasterer tender		
BARNSTABLE, BRISTOL, DUKES, ESSEX, NANTUCKET, MIDDLESEX (with the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn); NORFOLK (with the exception of Brookline Dedham and Milton) COUNTIES.	\$ 35.41	26.59
SUFFOLK COUNTY (Boston, Chelsea, Revere, Winthrop, Deer Island, Nut Island); MIDDLESEX COUNTY (Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn only); NORFOLK COUNTY (Brookline, Dedham, and Milton only)....	\$ 41.18	27.52

LAB00022-004 12/01/2021

	Rates	Fringes
--	-------	---------

Plasterer tender.....	\$ 35.41	26.59
-----------------------	----------	-------

Last Modified: 05/22/2024 at 12:20PM EDT

LAB0022-005 12/01/2021

Rates Fringes

Plasterer tender

BARNSTABLE, BRISTOL,
 DUKES, ESSEX, NANTUCKET,
 MIDDLESEX (with the
 exception of Arlington,
 Belmont, Burlington,
 Cambridge, Everett,
 Malden, Medford, Melrose,
 Reading, Somerville,
 Stoneham, Wakefield,
 Winchester, Winthrop and
 Woburn); NORFOLK (with the
 exception of Brookline
 Dedham and Milton) COUNTIES.\$ 35.41 26.59
 SUFFOLK COUNTY (Boston,
 Chelsea, Revere, Winthrop,
 Deer Island, Nut Island);
 MIDDLESEX COUNTY
 (Arlington, Belmont,
 Burlington, Cambridge,
 Everett, Malden, Medford,
 Melrose, Reading,
 Somerville, Stoneham,
 Wakefield, Winchester,
 Winthrop and Woburn only);
 NORFOLK COUNTY (Brookline,
 Dedham, and Milton only)....\$ 41.18 27.52

LAB0022-009 12/01/2021

SUFFOLK COUNTY (Boston, Chelsea, Revere, Winthrop, Deer & Nut
 Islands); MIDDLESEX COUNTY (Arlington, Belmont, Burlington,
 Cambridge, Everett, Malden, Medford, Melrose, Reading,
 Somerville, Stoneham, Wakefield, Winchester, Winthrop, and
 Woburn only); NORFOLK COUNTY (Brookline, Dedham, and Milton
 only)

Rates Fringes

Laborers:

GROUP 1.....\$ 41.18 27.52
 GROUP 2.....\$ 41.43 27.56
 GROUP 3.....\$ 41.93 27.56
 GROUP 4.....\$ 42.18 27.56
 GROUP 5.....\$ 41.93 27.56
 GROUP 6.....\$ 43.18 27.52
 GROUP 7.....\$ 24.50 27.52

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; Carpenter Tenders

GROUP 2: Jackhammer operator; pavement breaker; asphalt
 raker carbide core drilling machine; chain saw operator;
 pipelayer; barco type jumping tampers; laser beam; concrete
 pump; mason tender; motorized mortar mixer; ride-on
 motorized buggy; fence and beam rail erector

GROUP 3: Air track, block paver; rammer; curb setter,
 hydraulic and similar self-powered drills

Last Modified: 05/22/2024 at 12:20PM EDT

- GROUP 4: Blaster; powderman
- GROUP 5: Pre-cast floor and roof plank erector
- GROUP 6: Asbestos removal laborers/haz-mat laborers
- GROUP 7: Flaggers

LAB0022-010 12/01/2021

Counties of BARNSTABLE; BRISTOL; DUKES; ESSEX; NANTUCKET; MIDDLESEX (with the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Waketfield, Winchester, Winthrop and Woburn); NORFOLK (with the exception of Brookline, Dedham and Milton)

Rates Fringes

Laborers:

GROUP 1.....	\$ 35.41	26.59
GROUP 2.....	\$ 35.66	26.59
GROUP 3.....	\$ 36.16	26.59
GROUP 4.....	\$ 36.41	26.59
GROUP 5.....	\$ 36.16	26.59
GROUP 6.....	\$ 37.41	26.59

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; Carpenter Tenders

GROUP 2: Jackhammer operator; pavement breaker; asphalt raker carbide core drilling machine; chain saw operator; pipelayer; barco type jumping tampers; laser beam; concrete pump; mason tender; motorized mortar mixer; ride-on motorized buggy; fence and beam rail erector

GROUP 3: Air track, block paver; hammer; curb setter, hydraulic and similar self-powered drills

- GROUP 4: Blaster; powderman
- GROUP 5: Pre-cast floor and roof plank erector
- GROUP 6: Asbestos removal laborers/haz-mat laborers

LAB01421-004 12/01/2021

BARNSTABLE, BRISTOL, DUKES, ESSEX, MIDDLESEX, NANTUCKET NORFOLK AND SUFFOLK COUNTIES

Rates Fringes

Laborers: (Wrecking)

Group 1.....	\$ 41.33	27.37
Group 2.....	\$ 42.08	27.37
Group 3.....	\$ 42.33	27.37
Group 4.....	\$ 37.33	27.37
Group 5.....	\$ 40.43	27.37
Group 6.....	\$ 41.33	27.37

Last Modified: 05/22/2024 at 12:20PM EDT

- Group 1: Adzeman, Wrecking Laborer.
- Group 2: Burners, Jackhammers.
- Group 3: Small Backhoes, Loaders on tracks, Bobcat Type Loaders, Hydraulic ""Brock"" Type Hammer Operators, Concrete Cutting Saws.
- Group 4: Yardman (Salvage Yard Only).
- Group 5: Yardman, Burners, Sawyers.
- Group 6: Asbestos, Lead Paint, Toxic and Hazardous Waste.

PAIN0011-007 06/01/2023

BARNSTABLE, BRISTOL, DUKES, AND NANTUCKET COUNTIES

	Rates	Fringes
GLAZIER.....	\$ 41.18	24.55

FOOTNOTE:

A. PAID HOLIDAY: LABOR DAY (provided employee has worked any part of the week prior to Labor Day and any part of the week after Labor Day)

PAIN0035-004 07/01/2023

BARNSTABLE; BRISTOL; ESSEX; NANTUCKET; DUKES; COUNTIES;
REMAINDER OF NORFOLK; MIDDLESEX AND SUFFOLK COUNTIES

	Rates	Fringes
PAINTER		
NEW CONSTRUCTION:		
Brush, Taper.....	\$ 45.01	35.10
Spray, Sandblast.....	\$ 46.41	35.10
REPAINT:		
Brush, Taper.....	\$ 43.07	35.10
Spray, Sandblast.....	\$ 44.47	35.10

PAIN0035-013 07/01/2023

MIDDLESEX (Cambridge, Everett, Malden, Medford, Somerville)
SUFFOLK COUNTY (Boston, Chelsea) NORFOLK COUNTY (Brookline)

	Rates	Fringes
PAINTER		
NEW CONSTRUCTION:		
Brush, Taper.....	\$ 45.01	35.10
Spray, Sandblast.....	\$ 46.41	35.10
REPAINT:		
Brush, Taper.....	\$ 43.07	35.10
Spray, Sandblast.....	\$ 44.47	35.10

PAIN0035-020 07/01/2023

ESSEX; MIDDLESEX; NORFOLK; SUFFOLK

	Rates	Fringes
GLAZIER.....	\$ 45.01	35.10

Last Modified: 05/22/2024 at 12:20PM EDT

PLAS0534-001 07/01/2023

ESSEX; MIDDLESEX; NORFOLK AND SUFFOLK COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 48.19	39.37

PLAS0534-004 07/01/2023

MIDDLESEX; NORFOLK AND SUFFOLK COUNTIES

	Rates	Fringes
PLASTERER.....	\$ 48.19	39.37

* PLUM0004-001 03/01/2024

MIDDLESEX (Ashby, Ayer-West of Greenville branch of Boston and
Maine Railroad, Ft. Devens, Groton, Shirley, Townsend)

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 53.95	28.42

* PLUM0012-005 03/03/2024

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers,
Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill,
Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen,
Middleton, Newbury, Newburyport, North Andover, Peabody,
Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West
Newbury)

	Rates	Fringes
PLUMBER.....	\$ 67.74	35.03

* PLUM0012-007 03/03/2024

ESSEX (Lynn, Lynnfield, Nahant, Saugus, and Swampscott);
MIDDLESEX (Acton, Arlington, Ashford, Ayer-except west of
Greenville Branch of Boston & Maine Rail Road, Bedford,
Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlise,
Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham,
Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton,
Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick,
Newton, North Reading, Pepperell, Reading, Sherborn,
Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro,
Wakefield, Watham, Watertown, Wayland, Westford, Wilmington,
Winchester and Woburn), NORFOLK (Bellingham, Braintree,
Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin,
Medford, Medway, Millis, Milton, Needham, Norfolk, Norwood,
Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood,
Weymouth and Wrentham); PLYMOUTH (Hingham, Hull, Scituate);
SUFFOLK; WORCESTER (Hopedale and Southboro)

	Rates	Fringes
PLUMBER.....	\$ 67.74	35.03

PLUM0051-004 09/01/2018

Last Modified: 05/22/2024 at 12:20PM EDT

BARNSTABLE; BRISTOL; DUKES; NANTUCKET; AND NORFOLK (Avon, Holbrook, Randolph, Stoughton) COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 42.04	29.91

PLUM0537-005 09/01/2023		

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Saugus, Swampscott, Topsfield, Wenham, West Newbury); MIDDLESEX (Acton, Arlington, Ashford, Ayer-except west of Greenville Branch of Boston & Maine Rail Road, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Watham, Watertown, Wayland, Westford, Wilmington, Winchester and Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medford, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth and Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK; WORCHESTER (Hopdale and Southboro)

	Rates	Fringes
PIPEFITTER.....	\$ 63.48	36.67

ROOF0033-001 02/01/2024		

	Rates	Fringes
Roofers: All Tear-off and/or removal of any types of roofing and all spudding, sweeping, vacuuming and/or cleanup of any and all areas of any type where a roof is to be relaid.....	\$ 50.03	34.94

* SFMA0550-001 03/01/2024		

BRISTOL (Portion within 35 mile radius from Boston City Hall; ESSEX; MIDDLESEX (Except Ashby, Townsend, and portions of Pepperell and Shirley beyond 35 mile radius from Boston City Hall); NORFOLK; PLYMOUTH (Portion within 35 mile radius of Boston City Hall); SUFFOLK

	Rates	Fringes
SPRINKLER FITTER.....	\$ 69.04	36.12

a. PAID HOLIDAYS: Memorial Day, July 4th, Labor Day,

Last Modified: 05/22/2024 at 12:20PM EDT

Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

* SFMA0550-002 03/01/2024

BRISTOL (Seekonk, Swansea, and Somerset)

	Rates	Fringes
SPRINKLER FITTER.....	\$ 62.14	36.12

a. PAID HOLIDAYS: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

SFMA0669-001 01/01/2024

BARNSTABLE; BRISTOL (Beyond 35 mile radius of Boston City Hall); DUKES; MIDDLESEX (Ashby, Townsend, portions of Pepperell and Shirley beyond 35 mile radius of Boston City Hall); NANTUCKET; PLYMOUTH (Beyond 35 mile radius of Boston City Hall)

	Rates	Fringes
SPRINKLER FITTER.....	\$ 47.43	29.16

* SHEE0017-003 02/01/2024

BRISTOL (Attleboro, Berkley, Easton, Mansfield, North Attleboro, Norton, Raynham, Taunton); ESSEX; MIDDLESEX; NORFOLK; PLYMOUTH (except except Marion, Mattapoisett, Rochester, Wareham); SUFFOLK

	Rates	Fringes
Sheet metal worker.....	\$ 57.86	45.82

* SHEE0017-007 10/01/2023

BARNSTABLE; BRISTOL (Acushnet, Assonet, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, New Bedford, Rehoboth, Seekonk, Somerset, Swansea, Westport); DUKES; AND NANTUCKET

	Rates	Fringes
Sheet metal worker.....	\$ 39.29	36.22

TEAM0379-001 06/01/2023

	Rates	Fringes
Truck drivers:		
Group 1.....	\$ 38.78	31.86+a+b
Group 2.....	\$ 38.95	31.86+a+b
Group 3.....	\$ 39.02	31.86+a+b
Group 4.....	\$ 39.14	31.86+a+b
Group 5.....	\$ 39.24	31.86+a+b
Group 6.....	\$ 39.53	31.86+a+b

Last Modified: 05/22/2024 at 12:20PM EDT

Group 7.....\$ 39.82 31.86+a+b

POWER TRUCKS \$.25 DIFFERENTIAL BY AXLE
TUNNEL WORK (UNDERGROUND ONLY) \$.40 DIFFERENTIAL BY AXLE
HAZARDOUS MATERIALS (IN HOT ZONE ONLY) \$2.00 PREMIUM

TRUCK DRIVERS CLASSIFICATIONS

Group 1: Station wagons; panel trucks; and pickup trucks

Group 2: Two axle equipment; & forklift operator

Group 3: Three axle equipment and tireman

Group 4: Four and Five Axle equipment

Group 5: Specialized earth moving equipment under 35 tons
other than conventional type trucks; low bed; vachual;
mechanics, paving restoration equipment

Group 6: Specialized earth moving equipment over 35 tons

Group 7: Trailers for earth moving equipment (double hookup)

FOOTNOTES:

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

B. PAID VACATION: Employees with 4 months to 1 year of
service receive 1/2 day's pay per month; 1 week vacation
for 1 - 5 years of service; 2 weeks vacation for 5 - 10
years of service; and 3 weeks vacation for more than 10
years of service

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

=====
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>.

Last Modified: 05/22/2024 at 12:20PM EDT

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 classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union

average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

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

=====

END OF GENERAL DECISION"

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE INTENTIONALLY LEFT BLANK



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

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: Town of Maynard
Contract Number: **City/Town:** MAYNARD
Description of Work: Tree and site clearing, ledge removal, and geothermal well installation.
Job Location: 5 Tiger Drive, Maynard, MA 01754

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 annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- 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.

Last Modified: 05/22/2024 at 12:20PM EDT

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$38.95	\$15.07	\$18.67	\$0.00	\$72.69
	06/01/2024	\$39.95	\$15.07	\$18.67	\$0.00	\$73.69
	12/01/2024	\$39.95	\$15.07	\$20.17	\$0.00	\$75.19
	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.02	\$15.07	\$18.67	\$0.00	\$72.76
	06/01/2024	\$40.02	\$15.07	\$18.67	\$0.00	\$73.76
	12/01/2024	\$40.02	\$15.07	\$20.17	\$0.00	\$75.26
	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.14	\$15.07	\$18.67	\$0.00	\$72.88
	06/01/2024	\$40.14	\$15.07	\$18.67	\$0.00	\$73.88
	12/01/2024	\$40.14	\$15.07	\$20.17	\$0.00	\$75.38
	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2023	\$40.80	\$14.50	\$11.05	\$0.00	\$66.35
	06/01/2024	\$41.80	\$14.50	\$11.05	\$0.00	\$67.35
	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2024	\$60.26	\$11.49	\$22.90	\$0.00	\$94.65
BRICKLAYERS LOCAL 3 (LOWELL)	08/01/2024	\$62.36	\$11.49	\$22.90	\$0.00	\$96.75
	02/01/2025	\$63.66	\$11.49	\$22.90	\$0.00	\$98.05
	08/01/2025	\$65.81	\$11.49	\$22.90	\$0.00	\$100.20
	02/01/2026	\$67.16	\$11.49	\$22.90	\$0.00	\$101.55
	08/01/2026	\$69.36	\$11.49	\$22.90	\$0.00	\$103.75
	02/01/2027	\$70.76	\$11.49	\$22.90	\$0.00	\$105.15

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Lowell

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.13	\$11.49	\$22.90	\$0.00	\$64.52
2	60	\$36.16	\$11.49	\$22.90	\$0.00	\$70.55
3	70	\$42.18	\$11.49	\$22.90	\$0.00	\$76.57
4	80	\$48.21	\$11.49	\$22.90	\$0.00	\$82.60
5	90	\$54.23	\$11.49	\$22.90	\$0.00	\$88.62

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.18	\$11.49	\$22.90	\$0.00	\$65.57
2	60	\$37.42	\$11.49	\$22.90	\$0.00	\$71.81
3	70	\$43.65	\$11.49	\$22.90	\$0.00	\$78.04
4	80	\$49.89	\$11.49	\$22.90	\$0.00	\$84.28
5	90	\$56.12	\$11.49	\$22.90	\$0.00	\$90.51

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2023	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$46.96	\$9.65	\$18.22	\$0.00	\$74.83
	12/01/2024	\$48.43	\$9.65	\$18.22	\$0.00	\$76.30
	06/01/2025	\$49.93	\$9.65	\$18.22	\$0.00	\$77.80
	12/01/2025	\$51.43	\$9.65	\$18.22	\$0.00	\$79.30
	06/01/2026	\$52.98	\$9.65	\$18.22	\$0.00	\$80.85
	12/01/2026	\$54.48	\$9.65	\$18.22	\$0.00	\$82.35

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2024	\$47.12	\$9.83	\$19.97	\$0.00	\$76.92
	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
2	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
3	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
4	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
5	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
6	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
7	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77
8	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
2	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
3	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
4	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
5	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
6	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
7	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77
8	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77

Notes:

Apprentice to Journeyworker Ratio:1:5

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME <i>CARPENTERS-ZONE 3 (Wood Frame)</i>	10/01/2023	\$25.55	\$7.02	\$4.80	\$0.00	\$37.37
	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
2	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
3	65	\$16.61	\$7.02	\$1.00	\$0.00	\$24.63
4	70	\$17.89	\$7.02	\$1.00	\$0.00	\$25.91
5	75	\$19.16	\$7.02	\$4.80	\$0.00	\$30.98
6	80	\$20.44	\$7.02	\$4.80	\$0.00	\$32.26
7	85	\$21.72	\$7.02	\$4.80	\$0.00	\$33.54
8	90	\$23.00	\$7.02	\$4.80	\$0.00	\$34.82

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
2	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
3	65	\$17.32	\$7.02	\$1.00	\$0.00	\$25.34
4	70	\$18.66	\$7.02	\$1.00	\$0.00	\$26.68
5	75	\$19.99	\$7.02	\$4.80	\$0.00	\$31.81
6	80	\$21.32	\$7.02	\$4.80	\$0.00	\$33.14
7	85	\$22.65	\$7.02	\$4.80	\$0.00	\$34.47
8	90	\$23.99	\$7.02	\$4.80	\$0.00	\$35.81

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$18.52/ 3&4 \$21.07/ 5&6 \$28.70/ 7&8 \$31.26

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (LOWELL)</i>	01/01/2024	\$49.33	\$13.00	\$23.57	\$1.30	\$87.20
--	------------	---------	---------	---------	--------	---------

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Lowell

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$13.00	\$15.93	\$0.00	\$53.60
2	60	\$29.60	\$13.00	\$18.57	\$1.30	\$62.47
3	65	\$32.06	\$13.00	\$19.57	\$1.30	\$65.93
4	70	\$34.53	\$13.00	\$20.57	\$1.30	\$69.40
5	75	\$37.00	\$13.00	\$21.57	\$1.30	\$72.87
6	80	\$39.46	\$13.00	\$22.57	\$1.30	\$76.33
7	90	\$44.40	\$13.00	\$23.57	\$1.30	\$82.27

Notes:
Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$56.13	\$15.00	\$16.40	\$0.00	\$87.53
	06/01/2024	\$57.45	\$15.00	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.93	\$15.00	\$16.40	\$0.00	\$90.33
	06/01/2025	\$60.26	\$15.00	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.73	\$15.00	\$16.40	\$0.00	\$93.13
	06/01/2026	\$63.06	\$15.00	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.54	\$15.00	\$16.40	\$0.00	\$95.94

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
------------------------------------	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
------------------------------------	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
--	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

DEMO: WRECKING LABORER LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
2	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
3	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
4	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
5	50	\$30.93	\$13.00	\$17.17	\$0.00	\$61.10
6	55	\$34.02	\$13.00	\$17.67	\$0.00	\$64.69
7	60	\$37.12	\$13.00	\$18.17	\$0.00	\$68.29
8	65	\$40.21	\$13.00	\$18.68	\$0.00	\$71.89
9	70	\$43.30	\$13.00	\$19.18	\$0.00	\$75.48
10	75	\$46.40	\$13.00	\$19.69	\$0.00	\$79.09

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
2	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
3	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
4	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
5	50	\$31.89	\$13.00	\$17.20	\$0.00	\$62.09
6	55	\$35.08	\$13.00	\$17.70	\$0.00	\$65.78
7	60	\$38.27	\$13.00	\$18.21	\$0.00	\$69.48
8	65	\$41.46	\$13.00	\$18.71	\$0.00	\$73.17
9	70	\$44.65	\$13.00	\$19.22	\$0.00	\$76.87
10	75	\$47.84	\$13.00	\$19.74	\$0.00	\$80.58

Notes :
 App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
ELEVATOR CONSTRUCTORS LOCAL 4						

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
---	------------	---------	---------	---------	--------	---------

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$51.54	\$14.50	\$16.15	\$0.00	\$82.19
	11/01/2024	\$52.83	\$14.50	\$16.15	\$0.00	\$83.48
	05/01/2025	\$54.27	\$14.50	\$16.15	\$0.00	\$84.92
	11/01/2025	\$55.56	\$14.50	\$16.15	\$0.00	\$86.21
	05/01/2026	\$57.00	\$14.50	\$16.15	\$0.00	\$87.65
	11/01/2026	\$58.29	\$14.50	\$16.15	\$0.00	\$88.94
	05/01/2027	\$59.72	\$14.50	\$16.15	\$0.00	\$90.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$53.12	\$14.50	\$16.15	\$0.00	\$83.77
	11/01/2024	\$54.42	\$14.50	\$16.15	\$0.00	\$85.07
	05/01/2025	\$55.87	\$14.50	\$16.15	\$0.00	\$86.52
	11/01/2025	\$57.17	\$14.50	\$16.15	\$0.00	\$87.82
	05/01/2026	\$58.62	\$14.50	\$16.15	\$0.00	\$89.27
	11/01/2026	\$59.92	\$14.50	\$16.15	\$0.00	\$90.57
	05/01/2027	\$61.37	\$14.50	\$16.15	\$0.00	\$92.02

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$25.66	\$14.50	\$16.15	\$0.00	\$56.31
	11/01/2024	\$26.42	\$14.50	\$16.15	\$0.00	\$57.07
	05/01/2025	\$27.27	\$14.50	\$16.15	\$0.00	\$57.92
	11/01/2025	\$28.03	\$14.50	\$16.15	\$0.00	\$58.68
	05/01/2026	\$28.88	\$14.50	\$16.15	\$0.00	\$59.53
	11/01/2026	\$29.64	\$14.50	\$16.15	\$0.00	\$60.29
	05/01/2027	\$30.49	\$14.50	\$16.15	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89	
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE <i>LOCAL 103</i> <i>/ COMMISSIONING ELECTRICIANS</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94	
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$44.47	\$15.00	\$16.40	\$0.00	\$75.87
	06/01/2024	\$45.53	\$15.00	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.71	\$15.00	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.77	\$15.00	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.94	\$15.00	\$16.40	\$0.00	\$80.34
	06/01/2026	\$50.00	\$15.00	\$16.40	\$0.00	\$81.40
	12/01/2026	\$51.18	\$15.00	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$25.48	\$9.65	\$17.14	\$0.00	\$52.27
	06/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	12/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	06/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	12/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	06/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
	12/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLOORCOVERER	03/01/2024	\$54.73	\$8.83	\$20.27	\$0.00	\$83.83
FLOORCOVERERS LOCAL 2168 ZONE I	09/01/2024	\$56.23	\$8.83	\$20.27	\$0.00	\$85.33
	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
2	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
3	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
4	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
5	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
6	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
7	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12
8	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
2	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
3	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
4	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
5	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
6	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
7	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32
8	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
OPERATING ENGINEERS LOCAL 4	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.27	\$15.00	\$0.00	\$0.00	\$45.27
2	60	\$33.02	\$15.00	\$16.40	\$0.00	\$64.42
3	65	\$35.77	\$15.00	\$16.40	\$0.00	\$67.17
4	70	\$38.52	\$15.00	\$16.40	\$0.00	\$69.92
5	75	\$41.27	\$15.00	\$16.40	\$0.00	\$72.67
6	80	\$44.02	\$15.00	\$16.40	\$0.00	\$75.42
7	85	\$46.78	\$15.00	\$16.40	\$0.00	\$78.18
8	90	\$49.53	\$15.00	\$16.40	\$0.00	\$80.93

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.98	\$15.00	\$0.00	\$0.00	\$45.98
2	60	\$33.80	\$15.00	\$16.40	\$0.00	\$65.20
3	65	\$36.61	\$15.00	\$16.40	\$0.00	\$68.01
4	70	\$39.43	\$15.00	\$16.40	\$0.00	\$70.83
5	75	\$42.25	\$15.00	\$16.40	\$0.00	\$73.65
6	80	\$45.06	\$15.00	\$16.40	\$0.00	\$76.46
7	85	\$47.88	\$15.00	\$16.40	\$0.00	\$79.28
8	90	\$50.70	\$15.00	\$16.40	\$0.00	\$82.10

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

For apprentice rates see "Apprentice- ELECTRICIAN"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2023	\$53.50	\$14.75	\$19.61	\$0.00	\$87.86
	09/01/2024	\$56.92	\$14.75	\$19.61	\$0.00	\$91.28
	09/01/2025	\$60.34	\$14.75	\$19.61	\$0.00	\$94.70
	09/01/2026	\$63.76	\$14.75	\$19.61	\$0.00	\$98.12

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.75	\$14.75	\$14.32	\$0.00	\$55.82
2	60	\$32.10	\$14.75	\$15.37	\$0.00	\$62.22
3	70	\$37.45	\$14.75	\$16.43	\$0.00	\$68.63
4	80	\$42.80	\$14.75	\$17.49	\$0.00	\$75.04

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.46	\$14.75	\$14.32	\$0.00	\$57.53
2	60	\$34.15	\$14.75	\$15.37	\$0.00	\$64.27
3	70	\$39.84	\$14.75	\$16.43	\$0.00	\$71.02
4	80	\$45.54	\$14.75	\$17.49	\$0.00	\$77.78

Notes:
Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (WORCESTER AREA)</i>	03/16/2024	\$53.67	\$8.35	\$26.70	\$0.00	\$88.72
---	------------	---------	--------	---------	--------	---------

Apprentice - IRONWORKER - Local 7 Worcester

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.20	\$8.35	\$26.70	\$0.00	\$67.25
2	70	\$37.57	\$8.35	\$26.70	\$0.00	\$72.62
3	75	\$40.25	\$8.35	\$26.70	\$0.00	\$75.30
4	80	\$42.94	\$8.35	\$26.70	\$0.00	\$77.99
5	85	\$45.62	\$8.35	\$26.70	\$0.00	\$80.67
6	90	\$48.30	\$8.35	\$26.70	\$0.00	\$83.35

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
--	------------	---------	--------	---------	--------	---------

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$16.89	\$0.00	\$49.26
2	70	\$26.50	\$9.65	\$16.89	\$0.00	\$53.04
3	80	\$30.29	\$9.65	\$16.89	\$0.00	\$56.83
4	90	\$34.07	\$9.65	\$16.89	\$0.00	\$60.61

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$17.14	\$0.00	\$49.51
2	70	\$26.50	\$9.65	\$17.14	\$0.00	\$53.29
3	80	\$30.29	\$9.65	\$17.14	\$0.00	\$57.08
4	90	\$34.07	\$9.65	\$17.14	\$0.00	\$60.86

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.51	\$9.00	\$16.89	\$0.00	\$49.40
2	70	\$27.43	\$9.00	\$16.89	\$0.00	\$53.32
3	80	\$31.35	\$9.00	\$16.89	\$0.00	\$57.24
4	90	\$35.27	\$9.00	\$16.89	\$0.00	\$61.16

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER	12/01/2023	\$38.36	\$9.40	\$16.89	\$0.00	\$64.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.95	\$9.65	\$17.20	\$0.00	\$64.80
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
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 <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2024	\$47.89	\$11.49	\$21.37	\$0.00	\$80.75
	08/01/2024	\$49.57	\$11.49	\$21.37	\$0.00	\$82.43
	02/01/2025	\$50.61	\$11.49	\$21.37	\$0.00	\$83.47
	08/01/2025	\$52.33	\$11.49	\$21.37	\$0.00	\$85.19
	02/01/2026	\$53.41	\$11.49	\$21.37	\$0.00	\$86.27
	08/01/2026	\$55.17	\$11.49	\$21.37	\$0.00	\$88.03
	02/01/2027	\$56.29	\$11.49	\$21.37	\$0.00	\$89.15

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$21.37	\$0.00	\$56.81
2	60	\$28.73	\$11.49	\$21.37	\$0.00	\$61.59
3	70	\$33.52	\$11.49	\$21.37	\$0.00	\$66.38
4	80	\$38.31	\$11.49	\$21.37	\$0.00	\$71.17
5	90	\$43.10	\$11.49	\$21.37	\$0.00	\$75.96

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.79	\$11.49	\$21.37	\$0.00	\$57.65
2	60	\$29.74	\$11.49	\$21.37	\$0.00	\$62.60
3	70	\$34.70	\$11.49	\$21.37	\$0.00	\$67.56
4	80	\$39.66	\$11.49	\$21.37	\$0.00	\$72.52
5	90	\$44.61	\$11.49	\$21.37	\$0.00	\$77.47

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2024	\$62.42	\$11.49	\$23.56	\$0.00	\$97.47
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$23.56	\$0.00	\$66.26
2	60	\$37.45	\$11.49	\$23.56	\$0.00	\$72.50
3	70	\$43.69	\$11.49	\$23.56	\$0.00	\$78.74
4	80	\$49.94	\$11.49	\$23.56	\$0.00	\$84.99
5	90	\$56.18	\$11.49	\$23.56	\$0.00	\$91.23

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.26	\$11.49	\$23.56	\$0.00	\$67.31
2	60	\$38.71	\$11.49	\$23.56	\$0.00	\$73.76
3	70	\$45.16	\$11.49	\$23.56	\$0.00	\$80.21
4	80	\$51.62	\$11.49	\$23.56	\$0.00	\$86.67
5	90	\$58.07	\$11.49	\$23.56	\$0.00	\$93.12

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) MILLWRIGHTS LOCAL 1121 - Zone 2	01/01/2024	\$42.76	\$10.08	\$21.47	\$0.00	\$74.31
	01/06/2025	\$45.09	\$10.08	\$21.47	\$0.00	\$76.64
	01/05/2026	\$47.42	\$10.08	\$21.47	\$0.00	\$78.97

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.52	\$10.08	\$5.50	\$0.00	\$39.10
2	65	\$27.79	\$10.08	\$6.50	\$0.00	\$44.37
3	75	\$32.07	\$10.08	\$18.97	\$0.00	\$61.12
4	85	\$36.35	\$10.08	\$19.97	\$0.00	\$66.40

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.80	\$10.08	\$5.50	\$0.00	\$40.38
2	65	\$29.31	\$10.08	\$6.50	\$0.00	\$45.89
3	75	\$33.82	\$10.08	\$18.97	\$0.00	\$62.87
4	85	\$38.33	\$10.08	\$19.97	\$0.00	\$68.38

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$24.41	\$15.00	\$16.40	\$0.00	\$55.81
	06/01/2024	\$25.01	\$15.00	\$16.40	\$0.00	\$56.41
	12/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	06/01/2025	\$26.27	\$15.00	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.93	\$15.00	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.52	\$15.00	\$16.40	\$0.00	\$58.92
	12/01/2026	\$28.19	\$15.00	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$29.86	\$15.00	\$16.40	\$0.00	\$61.26
	06/01/2024	\$30.58	\$15.00	\$16.40	\$0.00	\$61.98
	12/01/2024	\$31.38	\$15.00	\$16.40	\$0.00	\$62.78
	06/01/2025	\$32.10	\$15.00	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.90	\$15.00	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.62	\$15.00	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.42	\$15.00	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2024	\$46.96	\$9.95	\$23.95	\$0.00	\$80.86
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.48	\$9.95	\$0.00	\$0.00	\$33.43
2	55	\$25.83	\$9.95	\$6.66	\$0.00	\$42.44
3	60	\$28.18	\$9.95	\$7.26	\$0.00	\$45.39
4	65	\$30.52	\$9.95	\$7.87	\$0.00	\$48.34
5	70	\$32.87	\$9.95	\$20.32	\$0.00	\$63.14
6	75	\$35.22	\$9.95	\$20.93	\$0.00	\$66.10
7	80	\$37.57	\$9.95	\$21.53	\$0.00	\$69.05
8	90	\$42.26	\$9.95	\$22.74	\$0.00	\$74.95

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$9.95	\$0.00	\$0.00	\$34.03
2	55	\$26.49	\$9.95	\$6.66	\$0.00	\$43.10
3	60	\$28.90	\$9.95	\$7.26	\$0.00	\$46.11
4	65	\$31.30	\$9.95	\$7.87	\$0.00	\$49.12
5	70	\$33.71	\$9.95	\$20.32	\$0.00	\$63.98
6	75	\$36.12	\$9.95	\$20.93	\$0.00	\$67.00
7	80	\$38.53	\$9.95	\$21.53	\$0.00	\$70.01
8	90	\$43.34	\$9.95	\$22.74	\$0.00	\$76.03

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2024	\$45.02	\$9.95	\$23.95	\$0.00	\$78.92
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.95	\$0.00	\$0.00	\$32.46
2	55	\$24.76	\$9.95	\$6.66	\$0.00	\$41.37
3	60	\$27.01	\$9.95	\$7.26	\$0.00	\$44.22
4	65	\$29.26	\$9.95	\$7.87	\$0.00	\$47.08
5	70	\$31.51	\$9.95	\$20.32	\$0.00	\$61.78
6	75	\$33.77	\$9.95	\$20.93	\$0.00	\$64.65
7	80	\$36.02	\$9.95	\$21.53	\$0.00	\$67.50
8	90	\$40.52	\$9.95	\$22.74	\$0.00	\$73.21

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.11	\$9.95	\$0.00	\$0.00	\$33.06
2	55	\$25.42	\$9.95	\$6.66	\$0.00	\$42.03
3	60	\$27.73	\$9.95	\$7.26	\$0.00	\$44.94
4	65	\$30.04	\$9.95	\$7.87	\$0.00	\$47.86
5	70	\$32.35	\$9.95	\$20.32	\$0.00	\$62.62
6	75	\$34.67	\$9.95	\$20.93	\$0.00	\$65.55
7	80	\$36.98	\$9.95	\$21.53	\$0.00	\$68.46
8	90	\$41.60	\$9.95	\$22.74	\$0.00	\$74.29

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2024	\$43.62	\$9.95	\$23.95	\$0.00	\$77.52
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.81	\$9.95	\$0.00	\$0.00	\$31.76
2	55	\$23.99	\$9.95	\$6.66	\$0.00	\$40.60
3	60	\$26.17	\$9.95	\$7.26	\$0.00	\$43.38
4	65	\$28.35	\$9.95	\$7.87	\$0.00	\$46.17
5	70	\$30.53	\$9.95	\$20.32	\$0.00	\$60.80
6	75	\$32.72	\$9.95	\$20.93	\$0.00	\$63.60
7	80	\$34.90	\$9.95	\$21.53	\$0.00	\$66.38
8	90	\$39.26	\$9.95	\$22.74	\$0.00	\$71.95

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.41	\$9.95	\$0.00	\$0.00	\$32.36
2	55	\$24.65	\$9.95	\$6.66	\$0.00	\$41.26
3	60	\$26.89	\$9.95	\$7.26	\$0.00	\$44.10
4	65	\$29.13	\$9.95	\$7.87	\$0.00	\$46.95
5	70	\$31.37	\$9.95	\$20.32	\$0.00	\$61.64
6	75	\$33.62	\$9.95	\$20.93	\$0.00	\$64.50
7	80	\$35.86	\$9.95	\$21.53	\$0.00	\$67.34
8	90	\$40.34	\$9.95	\$22.74	\$0.00	\$73.03

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

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

PANEL & PICKUP TRUCKS DRIVER	01/01/2024	\$38.78	\$15.07	\$18.67	\$0.00	\$72.52
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2024	\$39.78	\$15.07	\$18.67	\$0.00	\$73.52
	12/01/2024	\$39.78	\$15.07	\$20.17	\$0.00	\$75.02
	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06
2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96
3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87
4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32
5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68
8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.11	\$12.70	\$9.05	\$0.00	\$47.86
2	45	\$29.38	\$12.70	\$21.80	\$0.00	\$63.88
3	60	\$39.17	\$12.70	\$21.80	\$0.00	\$73.67
4	70	\$45.70	\$12.70	\$21.80	\$0.00	\$80.20
5	80	\$52.22	\$12.70	\$21.80	\$0.00	\$86.72

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.83	\$12.70	\$9.05	\$0.00	\$48.58
2	45	\$30.19	\$12.70	\$21.80	\$0.00	\$64.69
3	60	\$40.25	\$12.70	\$21.80	\$0.00	\$74.75
4	70	\$46.96	\$12.70	\$21.80	\$0.00	\$81.46
5	80	\$53.66	\$12.70	\$21.80	\$0.00	\$88.16

Notes:
 ** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER LABORERS - ZONE 2	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
--------------------------------	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

PLUMBERS & GASFITTERS PLUMBERS & GASFITTERS LOCAL 12	03/03/2024	\$67.74	\$14.32	\$19.11	\$0.00	\$101.17
	09/01/2024	\$69.54	\$14.32	\$19.11	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$19.11	\$0.00	\$104.77

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/03/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.71	\$14.32	\$6.88	\$0.00	\$44.91
2	40	\$27.10	\$14.32	\$7.82	\$0.00	\$49.24
3	55	\$37.26	\$14.32	\$10.65	\$0.00	\$62.23
4	65	\$44.03	\$14.32	\$12.53	\$0.00	\$70.88
5	75	\$50.81	\$14.32	\$14.41	\$0.00	\$79.54

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.34	\$14.32	\$6.88	\$0.00	\$45.54
2	40	\$27.82	\$14.32	\$7.82	\$0.00	\$49.96
3	55	\$38.25	\$14.32	\$10.65	\$0.00	\$63.22
4	65	\$45.20	\$14.32	\$12.53	\$0.00	\$72.05
5	75	\$52.16	\$14.32	\$14.41	\$0.00	\$80.89

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$69.00, Step5 with lic\$76.87

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
PIPEFITTERS LOCAL 537	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

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

PNEUMATIC DRILL/TOOL OPERATOR	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

POWDERMAN & BLASTER	12/01/2023	\$38.86	\$9.65	\$17.14	\$0.00	\$65.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER (HEAVY & HIGHWAY)	12/01/2023	\$39.36	\$9.40	\$16.89	\$0.00	\$65.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$40.69	\$9.40	\$16.89	\$0.00	\$66.98
	12/01/2024	\$42.02	\$9.40	\$16.89	\$0.00	\$68.31
	06/01/2025	\$43.41	\$9.40	\$16.89	\$0.00	\$69.70
	12/01/2025	\$44.79	\$9.40	\$16.89	\$0.00	\$71.08
	06/01/2026	\$46.23	\$9.40	\$16.89	\$0.00	\$72.52
	12/01/2026	\$47.67	\$9.40	\$16.89	\$0.00	\$73.96

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - J.G. MacLellan (Lowell)</i>	05/01/2024	\$30.00	\$11.17	\$6.55	\$0.00	\$47.72
	01/01/2025	\$30.00	\$11.57	\$6.55	\$0.00	\$48.12
	05/01/2025	\$30.50	\$11.57	\$6.65	\$0.00	\$48.72
	01/01/2026	\$30.50	\$11.97	\$6.65	\$0.00	\$49.12
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) ROOFERS LOCAL 33	02/01/2024	\$50.03	\$12.78	\$21.45	\$0.00	\$84.26
	08/01/2024	\$51.53	\$12.78	\$21.45	\$0.00	\$85.76
	02/01/2025	\$52.78	\$12.78	\$21.45	\$0.00	\$87.01
	08/01/2025	\$54.28	\$12.78	\$21.45	\$0.00	\$88.51
	02/01/2026	\$55.53	\$12.78	\$21.45	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$6.21	\$0.00	\$44.01
2	60	\$30.02	\$12.78	\$21.45	\$0.00	\$64.25
3	65	\$32.52	\$12.78	\$21.45	\$0.00	\$66.75
4	75	\$37.52	\$12.78	\$21.45	\$0.00	\$71.75
5	85	\$42.53	\$12.78	\$21.45	\$0.00	\$76.76

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.77	\$12.78	\$6.21	\$0.00	\$44.76
2	60	\$30.92	\$12.78	\$21.45	\$0.00	\$65.15
3	65	\$33.49	\$12.78	\$21.45	\$0.00	\$67.72
4	75	\$38.65	\$12.78	\$21.45	\$0.00	\$72.88
5	85	\$43.80	\$12.78	\$21.45	\$0.00	\$78.03

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33	02/01/2024	\$50.28	\$12.78	\$21.45	\$0.00	\$84.51
	08/01/2024	\$51.78	\$12.78	\$21.45	\$0.00	\$86.01
	02/01/2025	\$53.03	\$12.78	\$21.45	\$0.00	\$87.26
	08/01/2025	\$54.53	\$12.78	\$21.45	\$0.00	\$88.76
	02/01/2026	\$55.78	\$12.78	\$21.45	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
2	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
3	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
4	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
5	52	\$29.75	\$14.59	\$13.09	\$1.72	\$59.15
6	52	\$29.75	\$14.59	\$13.34	\$1.73	\$59.41
7	60	\$34.33	\$14.59	\$14.75	\$1.91	\$65.58
8	65	\$37.19	\$14.59	\$15.73	\$2.03	\$69.54
9	75	\$42.92	\$14.59	\$17.69	\$2.26	\$77.46
10	85	\$48.64	\$14.59	\$19.15	\$2.47	\$84.85

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
2	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
3	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
4	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
5	52	\$30.66	\$14.59	\$13.09	\$1.75	\$60.09
6	52	\$30.66	\$14.59	\$13.34	\$1.76	\$60.35
7	60	\$35.38	\$14.59	\$14.75	\$1.94	\$66.66
8	65	\$38.33	\$14.59	\$15.73	\$2.06	\$70.71
9	75	\$44.23	\$14.59	\$17.69	\$2.30	\$78.81
10	85	\$50.12	\$14.59	\$19.15	\$2.52	\$86.38

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.53	\$15.07	\$18.67	\$0.00	\$73.27
	06/01/2024	\$40.53	\$15.07	\$18.67	\$0.00	\$74.27
	12/01/2024	\$40.53	\$15.07	\$20.17	\$0.00	\$75.77
	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2024	\$69.04	\$11.51	\$23.30	\$0.00	\$103.85
	10/01/2024	\$70.84	\$11.51	\$23.30	\$0.00	\$105.65
	03/01/2025	\$72.64	\$11.51	\$23.30	\$0.00	\$107.45

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.16	\$11.51	\$12.90	\$0.00	\$48.57
2	40	\$27.62	\$11.51	\$13.70	\$0.00	\$52.83
3	45	\$31.07	\$11.51	\$14.50	\$0.00	\$57.08
4	50	\$34.52	\$11.51	\$15.30	\$0.00	\$61.33
5	55	\$37.97	\$11.51	\$16.10	\$0.00	\$65.58
6	60	\$41.42	\$11.51	\$16.90	\$0.00	\$69.83
7	65	\$44.88	\$11.51	\$17.70	\$0.00	\$74.09
8	70	\$48.33	\$11.51	\$18.50	\$0.00	\$78.34
9	75	\$51.78	\$11.51	\$19.30	\$0.00	\$82.59
10	80	\$55.23	\$11.51	\$20.10	\$0.00	\$86.84

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.79	\$11.51	\$12.90	\$0.00	\$49.20
2	40	\$28.34	\$11.51	\$13.70	\$0.00	\$53.55
3	45	\$31.88	\$11.51	\$14.50	\$0.00	\$57.89
4	50	\$35.42	\$11.51	\$15.30	\$0.00	\$62.23
5	55	\$38.96	\$11.51	\$16.10	\$0.00	\$66.57
6	60	\$42.50	\$11.51	\$16.90	\$0.00	\$70.91
7	65	\$46.05	\$11.51	\$17.70	\$0.00	\$75.26
8	70	\$49.59	\$11.51	\$18.50	\$0.00	\$79.60
9	75	\$53.13	\$11.51	\$19.30	\$0.00	\$83.94
10	80	\$56.67	\$11.51	\$20.10	\$0.00	\$88.28

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
	03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94

Last Modified: 05/22/2024 at 12:20PM EDT

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2024

Table with 7 columns: Step, percent, Apprentice Base Wage, Health, Pension, Supplemental Unemployment, Total Rate. Rows 1-10 showing wage progression from \$22.27 to \$39.59.

Effective Date - 09/01/2024

Table with 7 columns: Step, percent, Apprentice Base Wage, Health, Pension, Supplemental Unemployment, Total Rate. Rows 1-10 showing wage progression from \$22.96 to \$40.82.

Notes:

Apprentice to Journeyworker Ratio:1:1

Summary table for TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE with columns for Effective Date, Base Wage, Health, Pension, Supplemental Unemployment, and Total Rate for dates from 02/01/2024 to 02/01/2027.

Last Modified: 05/22/2024 at 12:20PM EDT

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$23.59	\$0.00	\$65.75
2	60	\$36.80	\$11.49	\$23.59	\$0.00	\$71.88
3	70	\$42.94	\$11.49	\$23.59	\$0.00	\$78.02
4	80	\$49.07	\$11.49	\$23.59	\$0.00	\$84.15
5	90	\$55.21	\$11.49	\$23.59	\$0.00	\$90.29

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.72	\$11.49	\$23.59	\$0.00	\$66.80
2	60	\$38.06	\$11.49	\$23.59	\$0.00	\$73.14
3	70	\$44.41	\$11.49	\$23.59	\$0.00	\$79.49
4	80	\$50.75	\$11.49	\$23.59	\$0.00	\$85.83
5	90	\$57.10	\$11.49	\$23.59	\$0.00	\$92.18

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER	12/01/2023	\$48.33	\$9.65	\$18.22	\$0.00	\$76.20
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$49.81	\$9.65	\$18.22	\$0.00	\$77.68
	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER	12/01/2023	\$44.45	\$9.65	\$18.22	\$0.00	\$72.32
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.93	\$9.65	\$18.22	\$0.00	\$73.80
	12/01/2024	\$47.40	\$9.65	\$18.22	\$0.00	\$75.27
	06/01/2025	\$48.90	\$9.65	\$18.22	\$0.00	\$76.77
	12/01/2025	\$50.40	\$9.65	\$18.22	\$0.00	\$78.27
	06/01/2026	\$51.95	\$9.65	\$18.22	\$0.00	\$79.82
	12/01/2026	\$53.45	\$9.65	\$18.22	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.82	\$15.07	\$18.67	\$0.00	\$73.56
	06/01/2024	\$40.82	\$15.07	\$18.67	\$0.00	\$74.56
	12/01/2024	\$40.82	\$15.07	\$20.17	\$0.00	\$76.06
	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$56.56	\$9.65	\$18.67	\$0.00	\$84.88
	06/01/2024	\$58.04	\$9.65	\$18.67	\$0.00	\$86.36
	12/01/2024	\$59.51	\$9.65	\$18.67	\$0.00	\$87.83
	06/01/2025	\$61.01	\$9.65	\$18.67	\$0.00	\$89.33
	12/01/2025	\$62.51	\$9.65	\$18.67	\$0.00	\$90.83
	06/01/2026	\$64.06	\$9.65	\$18.67	\$0.00	\$92.38
	12/01/2026	\$65.56	\$9.65	\$18.67	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$58.56	\$9.65	\$18.67	\$0.00	\$86.88
	06/01/2024	\$60.04	\$9.65	\$18.67	\$0.00	\$88.36
	12/01/2024	\$61.51	\$9.65	\$18.67	\$0.00	\$89.83
	06/01/2025	\$63.01	\$9.65	\$18.67	\$0.00	\$91.33
	12/01/2025	\$64.51	\$9.65	\$18.67	\$0.00	\$92.83
	06/01/2026	\$66.06	\$9.65	\$18.67	\$0.00	\$94.38
	12/01/2026	\$67.56	\$9.65	\$18.67	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$48.63	\$9.65	\$18.67	\$0.00	\$76.95
	06/01/2024	\$50.11	\$9.65	\$18.67	\$0.00	\$78.43
	12/01/2024	\$51.58	\$9.65	\$18.67	\$0.00	\$79.90
	06/01/2025	\$53.08	\$9.65	\$18.67	\$0.00	\$81.40
	12/01/2025	\$54.58	\$9.65	\$18.67	\$0.00	\$82.90
	06/01/2026	\$56.13	\$9.65	\$18.67	\$0.00	\$84.45
	12/01/2026	\$57.63	\$9.65	\$18.67	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						

Last Modified: 05/22/2024 at 12:20PM EDT

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$50.63	\$9.65	\$18.67	\$0.00	\$78.95
	06/01/2024	\$52.11	\$9.65	\$18.67	\$0.00	\$80.43
	12/01/2024	\$53.58	\$9.65	\$18.67	\$0.00	\$81.90
	06/01/2025	\$55.08	\$9.65	\$18.67	\$0.00	\$83.40
	12/01/2025	\$56.58	\$9.65	\$18.67	\$0.00	\$84.90
	06/01/2026	\$58.13	\$9.65	\$18.67	\$0.00	\$86.45
	12/01/2026	\$59.63	\$9.65	\$18.67	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	For apprentice rates see "Apprentice- LABORER"					
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/03/2024	\$67.74	\$14.32	\$19.11	\$0.00	\$101.17
	09/01/2024	\$69.54	\$14.32	\$19.11	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$19.11	\$0.00	\$104.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Last Modified: 05/22/2024 at 12:20PM EDT

Additional Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentices ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 00 73 46

PREVAILING WAGE RATE SCHEDULE

The Town of Maynard will be filing for tax credits through the Federal IRA program for the work associated with the HVAC system. As such, all contractors performing work associated with the HVAC system, including but not limited to tree clearing in the area of the ground-source heat pump wells, earth clearing in the area of the ground-source heat pump wells, ledge clearing in the area of the ground-source heat pump wells, installation of the ground-source heat pump wells, mechanical contractors, pipe fitters, ductwork sheet metal installers, controls, electrical, etc. are required to comply with both the MA prevailing wage rates and the Federal Davis-Bacon wage rates.

Per the Federal IRA program, all apprentices must come from a registered apprenticeship program.

Per the Federal IRA program, 15% of total labor hours must be via apprentices.

Per the Federal IRA program, for every contractor or subcontractor with 4 or more laborers on the project, at least 1 must be an apprentice.

Per the Federal IRA program, contractors must be below the apprentice/journey worker ratio governed by the state of MA, see the MA prevailing wage rate schedule for the project.

We would also add, for further details on the requirements please refer to [Proposed Regulation REG-100908-23](#) as well as any future guidance that enhances or supersedes REG-100908-23.

END OF DOCUMENT

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 00 00

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General and Supplementary General Conditions and Division 01-General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section applies to all Work performed under the Contract.
- B. Any discrepancies found in the Contract Documents after signing of the Owner-Contractor agreement must be brought to the attention of the Architect for resolution. The Architect will determine which document entry governs and his decision will be final. The General Contractor shall not be signing a change to the Contract Time or Contract Sum based on discrepancies found after signing of the Owner-Contractor agreement.
- C. Should conflict be evident between Contract Documents or within any Contract Document, the General Contractor is deemed to have estimated the expensive method of doing the Work unless he shall have asked for, and obtained, a written decision prior to submittal of bid or price quote, as to which method or materials shall be required. Should the Work proceed after the discovery of errors, conflict, or omission by the General Contractor and clarification has not been received from the Architect, the General Contractor shall be held fully responsible for replacement or correction, directed by the Architect, at the General Contractor's expense.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 32 – UTILITIES; including all Sections contained therein.

1.04 PROJECT IDENTIFICATION AND BASIS OF DESIGN

- A. Project Identification: Green Meadow Elementary School – Early Site Package
- B. Project Location: 5 Tiger Drive, Maynard, MA 01754
- C. Owner: Town of Maynard
195 Main Street,
Maynard, MA 01754
- D. Architect: Mount Vernon Group Architects, Inc.
264 Exchange St., Suite G7
Chicopee, MA 01013
- E. Basis of Design:
 - 1. The Green Meadow Elementary School – Early Site Package shall include Work, but not limited to; site demolition including walks, stairs and paved areas, removal of trees and stumps, cutting and capping of utility pipes that will remain on-site, removal and disposal of utility services, excavation and removal of fill, installation, and compaction of fill, grading to subgrade, slope stabilization, sediment, and erosion control.

1.05 SPECIFICATION INFORMATION

- A. These specifications are a special form of technical writing edited from master specifications and contain deviations from traditional writing formats. Capitalization, underlining, and bold print is only used to assist the reader in finding information and no other meaning shall be implied.
- B. Except where specifically indicated otherwise, the subject of all imperative statements is the General Contractor.
- C. Sections are generally numbered in conformance with Construction Specifications Institute Master Format System. Numbering sequence is not consecutive. Refer to Index of Specification Sections for names and numbers of Sections included in this Project.
- D. Pages are numbered separately for each Section. Each Section is noted with "END OF SECTION" to indicate when Section is complete, except Appendices that may be made part thereof.

1.06 DEFINITIONS

- A. Provide: means furnish and install, complete with all necessary components and accessories, ready for intended use.
- B. Indicated: is a reference to other portions of the Contract Documents.
- C. Approved: Except where specifically stated otherwise, the words "approved", "directed", "requested", "selected", "accepted" mean "approved by the Architect", "directed by the Architect" and so on. The words "approved" and "accepted" shall be held to the limitations stated in the General Conditions. In no case shall "approval" or "acceptance" by the Architect be interpreted as a release of General Contractor of his responsibilities to fulfill all the requirements of the Contract Documents. Where the Contract Documents require General Contractor approval, approval must be submitted in writing using the word "approved" General Contractor "review" only is not an acceptable substitute for General Contractor approval.
- D. Observe/Observation: Except as otherwise defined in greater detail, the Architect's observation of the Work shall be held to the limitations stated in the General Conditions and the Owner/Architect agreement. In no case shall observation by the Architect be interpreted as a release of General Contractor of his responsibilities to fulfill all the requirements of the Contract Documents. Observe shall be defined in accordance with the General Conditions of the Contract to include only visiting the site periodically, observing the condition and progress of the Work, and reporting to the Owner.
- E. Furnish: Except as otherwise defined in greater detail, furnish means supply, including shop fabrication if applicable, and deliver to project site, ready for unloading, unpacking, assembly, installation, and the like as applicable in each instance. For example:
 - 1. The Work of Section 04 20 00 – Unit Masonry shall include the furnishing of certain masonry reinforcing and anchor components for installation under the Work of Section 05 12 00 – Structural Steel Framing.
- F. Install: Except as otherwise defined in greater detail, install means operations at project site including, but not limited to, unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, placing in service and similar operations as applicable in each instance. For example:
 - 1. The Work of Section 05 12 00 – Structural Steel Framing shall include the installation of certain masonry reinforcing and anchor components as furnished under the Work of Section 04 20 00 – Unit Masonry
- G. Installer: The person or firm engaged by General Contractor or Subcontractor for performance of a specific unit of installation Work at the project site. It is a general requirement that Installers be expert and experienced in the Work they are engaged to perform.
- H. Day: Except as otherwise defined in Owner-Contractor Agreement, day means calendar day.
- I. Public Areas: All areas other than rooms dedicated solely to central mechanical, electrical, and plumbing equipment.
- J. Back-of-House Areas: Rooms not designated as part of a public area.

1.07 INDUSTRY STANDARDS

- A. Referenced standards are part of the Contract Documents and have the same force and effect as if bound with these specifications.
- B. Except where specifically indicated otherwise, comply with the current standard in effect as of the date of the Owner/Contractor Agreement.
- C. Obtain copies of industry standards directly from the publisher.
- D. The titles of industry standard organizations are commonly abbreviated; full titles may be found in *Encyclopedia of Associations* or consult Architect.
- E. Where Workmanship is governed by a referenced standard, submit one copy to Architect and additional copies to fabricators, installers, and others involved in the performance of the Work.

1.08 CONTRACTOR USE OF PREMISES

- A. The General Contractor shall not be allowed to use any portion of the existing elementary school for field offices and/or storage areas. Temporary office and storage space shall be provided by the General Contractor in accordance with the requirements of Section 01 50 00 - Temporary Facilities and Controls. Owner approval shall be required for all temporary office facilities and storage areas, including their size and location.
- B. The General Contractor shall submit a Site Utilization Plan within 10 days of the issuance of the Notice to Proceed for approval. The plan shall include, but not be limited to, proposed locations for General Contractor and Subcontractor laydown and/or material storage areas, field offices, and site access.
 - 1. All General Contractor and Subcontractors are required to use the Main Street to the Construction Site, no exceptions.
 - 2. The General Contractor shall provide street sweeping on a routine basis.

1.09 PERMITS, INSPECTION AND TESTING REQUIRED BY GOVERNING AUTHORITIES

- A. If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested, or approved, the General Contractor shall give the Architect and such Authority timely notice of its readiness so that the Architect may observe such inspection and testing.
- B. Submit copies of all permits, licenses, certifications, inspection reports, releases, notices, judgements, and communications from authorities having jurisdiction.

1.10 CONSTRUCTION SCHEDULES

- A. Provide a minimum 50 activity bar chart project schedule within 10 calendar days after award of contract. Update schedule on a weekly basis. Develop schedule in MS Project, MS Excel, or equal.
- B. Provide all schedules in accordance with the requirements of Section 01 51 11 – Progress Schedule.

1.11 SCHEDULE OF VALUES

- A. Prepare Schedule of Values to coordinate with application for payment breakdown. The Schedule of Values shall be broken down into labor and materials for each Work activity with increments no greater than \$50,000.00. Submit at least 10 days before the first payment application. Update and reissue regularly. The CPM shall be tied into and reflect the Schedule of Values.

1.12 PAYMENT REQUESTS

- A. Provide three copies of each request on completely filled-out copies of AIA G702 and continuation sheet G703. Substantiate requests with complete documentation; include change orders to date. Provide partial lien waivers for Work in progress and full lien waivers for completed Work. General Contractor shall be required by Law to submit payroll records substantiating payment of wage rates to employees on a weekly basis.

- B. Before first payment application, the General Contractor shall provide the following:
 - 1. List of Subcontractors, suppliers, and fabricators
 - 2. Schedule of Values
 - 3. Progress Schedule and Submittal Schedule keyed to Progress Schedule
 - 4. List of General Contractor's key project personnel
 - 5. Copies of permits and other communications from authorities
 - 6. Contractor's Certificate of Insurance
 - 7. Performance and Payment Bonds
 - 8. Unit Price Schedule
 - 9. Contractor's complete submittal log
 - 10. Contractor's complete submittal schedule
 - 11. Submit all necessary documentation for construction waste management and disposal.

- C. Before final payment application, provide and complete the following:
 - 1. Complete closeout requirements
 - 2. Complete punch list items
 - 3. Settle all claims.
 - 4. Transmit Record Documents to Architect
 - 5. Prove that all taxes, fees, and similar obligations have been paid.
 - 6. Remove of temporary facilities and surplus materials
 - 7. Change lock cylinders or cores.
 - 8. Clean the Work
 - 9. Submit Consent of Surety for final payment.

1.13 PROCEDURES & CONTROLS

- A. Preconstruction Conference: Require representatives of all major Subcontractors and suppliers to attend; notify Owner and Architect at least 72 hours in advance.

- B. Progress Meetings: Hold regular weekly meetings with Owner and Architect, and meetings before preparation of payment requests. The General Contractor shall be represented by a principal, project manager, general superintendent, or other authorized main office representative, as well as by his own superintendent. An authorized representative of any General Contractor or Subcontractors shall attend such meetings if his presence is requested by the Architect. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, change orders, time schedules and manpower. Any notices required under the Contract may be served on such representatives.
 - 1. As a prerequisite for monthly payments, ordering schedules, shop drawing schedule, and coordination meeting schedules shall be prepared and maintained by the General Contractor and shall be reviewed and updated on monthly basis, and a copy shall be submitted to the Owner's Representative and Architect.
 - 2. To expedite construction progress on this project, the General Contractor shall order all materials immediately after the approval of shop drawings and shall obtain a fixed date of delivery to the project site for all materials ordered which shall not impede or otherwise interfere with construction progress.
 - 3. Scheduling shall be discussed with all concerned parties, and methods shall be presented by the General Contractor which shall reflect construction completion not being deferred, at no additional expense to the Owner.
 - 4. Project meetings shall be chaired by the Architect.
 - 5. Project Meeting Notes: The Architect shall be responsible for recording meeting minutes at each project meeting. The minutes shall incorporate the substance of all issues discussed, noting date of entry of each issue, the resolution, the party responsible for issue resolution, and the date of resolution. The meeting minutes shall be distributed to all attendees and responsible parties at the next scheduled project meeting.

- C. Daily Reports: Prepare daily reports recording all important information concerning events at the site for each project site. Submit to Architect weekly. Minimum required information contained in the daily report shall be:
 - 1. Manpower by trade

- 2. Work activity by trade.
 - 3. Equipment by trade
 - 4. Material deliveries by trade
 - 5. Weather conditions
 - 6. All safety violations and accidents
 - 7. Inspections if any
- D. Layout: Layout Work and be responsible for all lines, elevations, and measurements of the grading, utilities, and other Work executed under the Contract.
- E. Project Limit Line: The boundaries of the site do not limit the responsibility of the General Contractor to perform the Work in its entirety. Make utility connections as indicated. The General Contractor's superintendent must be present whenever any Work is being performed.
- F. Matching: Where matching is indicated, the Architect shall be the sole and final judge of what is an acceptable match.
- G. Observation: Notify the Architect and authorities having jurisdiction at least thirty-six hours in advance of concealing any Work.
- H. Utilities: Prior to interrupting utilities, services, or facilities, notify the utility owners and obtain their written approval.
- I. Clean-Up: Clean-up all waste at least once a week, remove from site regularly, and legally dispose of off-site.
- J. Installer's Acceptance of Conditions: All installers shall inspect substrates and conditions under which Work is to be executed and shall report in writing to the General Contractor all conditions detrimental to the proper execution and completion of the Work. Do not proceed with Work until unsatisfactory conditions are corrected. Beginning Work means the installer accepts previous Work and conditions.
- K. Documentation: The General Contractor shall be responsible for providing and maintaining filing, reporting, Submittals, RFI's, Payment Requisitions, Schedules, Change Proposals, Change Orders, and the like for the project.
- L. Management and Financial Records: Management and financial records shall be maintained by the General Contractor pursuant to M.G.L. c 30 § 39 R.
- M. Provide noise and dust control procedures in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.
- 1.14 SPECIAL PROJECT CONDITIONS
- A. The General Contractor shall undertake every possible measure to prevent damage of any kind to any portion of existing surrounding properties or areas.
- B. The General Contractor is required to exercise all possible care in the conduct of any Work which would affect surrounding properties and occupied areas and to be aware of the potential for damage. The General Contractor shall be prepared to stop any Work immediately which is deemed to cause deleterious effects to adjacent areas.
- 1. The General Contractor shall be held responsible for any damage to surrounding properties and occupied areas resulting from his failure to exercise care during construction.
 - 2. The General Contractor shall coordinate completion of all Work of this Contract with the Work of Section 31 20 00 – Earth Moving, as it relates to pre and post blasting surveys, preparation of a blast design plan and analysis, and provision of all services in accordance with requirements of 527 CMR 13.00 Explosives and the Contract Documents, for all existing structures and utilities located within 500 feet of the Limit of Work Line (LOW) as indicated on the Drawings.
- 1.15 PROTECTION OF EXISTING UTILITIES AND STRUCTURES
- A. The General Contractor shall schedule, execute, and pay all costs associated with implementation of all requirements related to disconnection or interruption of existing public or private utility services in accordance with requirements of local authorities having jurisdiction, including but not limited to the following:
- 1. Town of Maynard Police Department

2. Town of Maynard Fire Department
 3. Town of Maynard Department of Public Works
 4. Town of Maynard Water Department
 5. Local Telephone Provider
 6. Local Cable TV Provider
 7. Dig Safe
- B. Protect existing utilities which remain from damage due to construction operations. Identify locations of utilities with temporary markers.
- C. Excavation around and under existing utilities shall be performed in accordance with requirements of Section 31 20 00 - Earth Moving.
- D. Underground water piping temporarily exposed during construction shall be protected from freezing until buried in accordance with the requirements of the Contract Documents.
- E. The General Contractor shall be responsible for determining locations of existing underground structures and utilities, including but not limited to water, sewer, gas, electric, telephone, and cable TV. Utility services to adjacent buildings shall be maintained without interruption, unless otherwise authorized in writing by the Architect. Utilities located in public ways surrounding the Project site shall be protected from damage related to the Work of this Section. All costs related to repair or replacement of damage to existing utilities not called for to be altered under the Work of this Contract shall be paid by the General Contractor. No excavation in a public street or way, or in any public or private place, shall take place prior to verification of the location of all underground utilities by DIG SAFE.
1. The Work of this Section shall include performance of pre and post blasting surveys in accordance with requirements of 527 CMR and the Contract Documents for all existing structures within.
- F. Place markers to indicate locations of disconnected services and identify service lines and capping locations on Project Record Documents.
- G. Erect field samples and mock-ups at the project site at locations acceptable to the Architect. Size and area of mock-ups are specified in individual specification Sections or on drawings. Fabricate each mock-up complete and finished as specified. Remove mock-ups at the conclusion of the Work, or when acceptable to the Architect. When directed demolish mock-ups in their entirety and remove them from project site. Acceptable mock-ups shall be maintained as a standard of quality and may be used in the completed Work when specified in the individual specification Sections, or when approved by the Architect.
- H. Schedule provision of mock-ups early in the Project to allow for potential changes in colors, finishes or materials without delaying job progress.

1.16 WARRANTIES

- A. The Work of this Contract, including Substantial Completion, shall be completed in one Phase. The General Contractor shall be responsible for providing full manufacturer warranties in accordance with the requirements of individual trade Sections for specific product warranty requirements. The General Contractor shall be responsible for providing manufacturer warranties, the Effective Starting Date of which, shall commence upon Substantial Completion of the Work of the Contract, as described in the Contract Documents, and shall run for the warranty period indicated in the respective trade Section.
- B. Procurement: Where a warranty is required, do not purchase or subcontract for materials or Work until it has been determined that parties required to countersign warranties as required to do so.
- C. Warranty Forms: Submit written warranty to Owner through Architect for approval prior to execution. Furnish 2 copies of executed warranty to Owner for his records; furnish 2 additional conformed copies where required for maintenance manual.

- D. Work Covered: General Contractor shall remove and replace other Work of project which has been damaged as result of failure of warranted Work or equipment, or which must be removed and replaced to provide access to Work under warranty. Unless otherwise specified, the warranty shall cover the full cost of replacement or repair and shall not be pro-rated based on useful service life.
- E. Warranty Extensions: Work repaired or replaced under warranty shall be warranted before the original warranty expiration date or for ninety days, whichever is later in time.

1.17 DELIVERY, STORAGE, HANDLING, & INSTALLATION CONDITIONS

- A. Manufacturer's Instructions: Strictly comply with manufacturer's instructions and recommendations and prevent damage, deterioration, and loss, including theft.
- B. Minimize long-term storage of products at the site. Maintain environmental conditions, temperature, ventilation, and humidity within range permitted by manufacturers of materials and products used.

1.18 LABELS

- A. Labels, Trademarks, & Trade Names: Locate required labels on inconspicuous surfaces (not typically visible to the public). No manufacturer labels, nameplates, trademarks, or other identifying markings shall be located on surfaces visible to the public. Any such markings shall be removed, and damage repaired, or item replaced, at the discretion of the Architect. Provide permanent data plate on each item of mechanical equipment stating manufacturer, model, serial number, capacity, ratings, and all other essential data.

1.19 MUNICIPAL POLICE SERVICES

- A. The General Contractor shall make all necessary arrangements with the Town of Maynard Police Department in advance of times when regular off-duty, or reserve, police officers shall be needed for traffic control protection, due to operations performed under this Contract. Officers shall be compensated by the General Contractor, in accordance with Town of Maynard wage rates for such services. Extend the Workman's compensation Insurance and Employer's Liability Insurance, required under the General Contract, to cover police used on the project.

1.20 WELDING, CUTTING, AND BURNING PROCEDURES

A. PURPOSE

- 1. The purpose of this procedure is to provide minimum standards to prevent loss of life and property from fire during welding, cutting, or burning processes involving the use of oxygen-fuel gas and electric arc cutting and welding equipment.

B. GENERAL REQUIREMENTS

- 1. In the performance of welding, cutting, and burning operations, only approved equipment shall be used, and the equipment shall be installed and operated in accordance with OSHA standards, the manufacturer's instructions, and nationally recognized good practice.
- 2. A "Hot Work" permit for welding, cutting, burning or spark producing operations shall not be issued unless the individual in charge of performing such operations is deemed to be capable of doing such work in a safe manner by the General Contractor's Safety Representative. Demonstration of knowledge of fire safety requirements and this welding and cutting procedure in addition to the equipment manufacturer's operational instructions shall constitute acceptable evidence of compliance.
- 3. A fire watch shall be provided by the General Contractor or the Subcontractor's for their respective work to safeguard against the ignition of any material by the welding, cutting, or burning operation, to make use of portable fire extinguishers or fire hose and to perform similar fire prevention and fire protection duties. The fire watch shall remain on the job at least 30 minutes after the "hot work" including but not limited to welding or cutting operations have been completed to ensure that no fire exists. A signed inspection report attesting to that fact shall be filed and available for inspection by the local Fire Department.

4. A record shall be maintained by the responsible General Contractor and Subcontractor Safety Representative of all locations where welding or cutting operations are performed. The record shall state the name of the assigned fire watch or watches and the length of time for which the fire watch standby was continued after work was completed (a minimum of 30 minutes). It shall include the date, time, and specific location at which work was done and describe the work, fire protection provided, and special precautions taken. Individual job authorizations shall be kept available all the time for inspection by the local Fire Department or the Owner's Representative. The assigned fire watch or fire watches shall sign the work authorization attesting to the fact that no fire existed after the work ceased and the standby period had passed.
5. Where welding, cutting, or burning is done near walls, partitions, ceiling or roof of combustible construction, fire resistant shields or guards shall be provided to prevent ignition. When welding, cutting, or burning is to be done on a metal wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side due to conduction of radiation. A fire watch shall be required on the other side of the exposed wall, partition, ceiling, or roof if there is any danger of the welding, cutting, or burning on one side to result in ignition of materials or structure on the unexposed side. Welding, cutting, or burning shall not be attempted on a metal partition wall or on partitions of combustible sandwich-type panel construction.
6. The General Contractor shall cut and core floors, walls, and roofs with dimensions not indicated by the Filed Sub-Bid Sections.

1.21 FIRE SAFETY REQUIREMENTS

- A. Cutting or welding operations shall be performed only in areas that have been protected against the ignition and spread of fire.
- B. Within the confines of a General Contractor and Subcontractor's work area welding, cutting, or burning shall be done in specific areas designed and approved for such work as a maintenance shop, an outside location or a detached structure which shall be of noncombustible or fire resistive construction.
- C. When work cannot be moved as in most construction or structural modification activity, the area shall be made fire safe by removing all combustible material within distance of 35 feet and all combustible material from beneath the location where welding, cutting, or burning is to be performed.
- D. When work cannot be relocated and combustible material cannot be feasibly relocated, all combustible material exposed within 35 feet horizontally or beneath the welding, cutting, or burning operation or within 35 feet of exposed floor, ceiling or wall openings shall meet the following requirements:
 1. Such combustible construction or material shall be protected from possible sparks or hot metal by fire resistive shields or noncombustible covers in accordance with Town of Maynard Fire Department requirements.
 2. Such floor, ceiling or wall openings shall be protected by fire resistive shields and openings or cracks in walls, floors or ducts shall be tightly covered to prevent the passage of sparks or slag to adjacent areas.
- E. At least one portable fire extinguisher having a rating of not less than 4-A:60-B:C shall be kept at the location where welding, cutting, or burning is done and at least one portable fire extinguisher having a rating of not less than 2-A:10-B:C shall be attached to all portable welding carts.
- F. Welding, cutting, or burning shall not be done in or near rooms or locations where flammable gases, liquids or vapors, lint dust or loose combustible stocks are present when sparks or hot metal from the welding, cutting, or burning operations may cause ignition or explosion of such materials.
- G. Welding, cutting, or burning shall not be performed in the presence of explosive atmospheres or on containers, equipment or in hollow spaces or cavities which contain or have contained flammable fluids, gases or solids until these containers or equipment have been thoroughly cleaned, inverted, or purged.
- H. Sprinkler protection shall not be shut off while welding, cutting, or burning work is being performed. When welding, cutting, or burning work is being done close to automatic sprinkler heads, noncombustible board products or damp cloth guards shall be used to shield the individual heads, but shall be removed when the work is completed.

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE

MAY 22, 2024

5 TIGER DRIVE, MAYNARD, MA 01754

Mount Vernon Group Architects, Inc., Project No. 02021.10

- I. Where a sprinkler system shall be impaired or rendered inoperative for any reason, this shall be noted in the application for permit so that all necessary precautions may be taken in accordance with Town of Maynard Fire Department requirements.
- J. Hot tapping of other welding, cutting, or burning on a flammable gas or liquid transmission or distribution utility pipeline shall be qualified to perform such work.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General and Supplementary General Conditions and Division 01-General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section shall include, but not be limited to, the following:
 - 1. Schedule of values
 - 2. Projected applications for payment report
 - 3. Applications for payment

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of General Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets
 - b. Submittal schedule
 - c. Items required to be indicated as separate activities in General Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect within 15 calendar days after receipt of a Notice to Proceed but no later than 20 days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location
 - b. Name of Architect
 - c. Architect's project number
 - d. General Contractor's name and address
 - e. Date of submittal
 - 2. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of Subcontractor.
 - d. Name of manufacturer or fabricator.

- e. Name of supplier.
- f. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor
 - 2) Materials
 - 3) Equipment.
- 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents.
 - a. No single line item shall exceed \$50,000.
 - b. Provide multiple line items for principal subcontract amounts.
 - c. Include separate line items under General Contractor and principal subcontracts for NE-CHPSv4.0 documentation, commissioning, and other project closeout requirements.
 - d. Include separate line items for site work and each major area, floor, or wing of building.
- 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. When requesting payment for stored materials, include evidence of insurance, bill of sale, and photographs.
- 6. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items. Include the following:
 - 1) Bonds
 - 2) Insurance premiums
 - 3) Testing and performance reports
 - 4) Project mobilization
 - 5) Project demobilization
 - 6) Construction fence erection and maintenance
 - 7) Temporary utilities
 - 8) Site dust control
 - 9) Street sweeping
 - 10) Hoisting
 - 11) Scaffolding
 - 12) Waste removal
 - 13) Temporary heat and enclosure
 - 14) Construction Indoor Air Quality (IAQ) management
 - 15) Temporary signage
 - 16) General Contractor's project
 - 17) Staff
 - 18) Field offices, initial construction, and installation
 - 19) Field offices, rental, and maintenance
 - 20) Temporary toilets
 - 21) General Contractor's Construction Schedule and monthly construction schedule updates
 - 22) Superintendent's daily reports
 - 23) Coordination drawings
 - 24) Progress photographs
 - 25) Record Drawings, monthly progress
 - 26) Record Drawings, submittal, and approval at time of project closeout
 - 27) Daily clean-up
 - 28) Cleaning at the time of Substantial Completion

- 29) General Contractor's list of incomplete work at the time of Substantial Completion by portion of the Work.
 - 30) Submission and approval of operation and maintenance manuals
 - 31) Submission and approval of bond warranties
 - 32) Final Cleaning
 - 33) Completion of work on the list of exceptions to Substantial Completion ("punch list" work), by portion of the Work.
 - 34) Training of Owner's personnel
7. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 PROJECTED APPLICATIONS FOR PAYMENT REPORT

- A. Submit a report indicating projected Applications for Payment to the Architect concurrent with submittal of the General Contractor's initial construction schedule and prior to submitting the initial Application for Payment. Refer to Division 01 Section "Construction Progress Documentation" for requirements for preparation cost-loaded construction schedule.
 - 1. Update the Application for Payment projection each month, concurrent with updates to the General Contractor's construction schedule.
- B. Indicate anticipated amount of Application for Payment for each month, and the cumulative total, through entire construction period. Base the projection on the approved General Contractor's construction schedule; indicate early start and early finish activity values and late start and late finish schedule activity values for each month.
- C. Applications for Payment shall correlate with overall schedule performance. Where amounts of Applications for Payment and amounts on projection of Applications for Payment and cost-loaded construction schedule do not agree, provide written explanation of the reason for disagreement, and revise the construction schedule and Application for Payment projection so amounts correlate.

1.06 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and General Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. At least 14 calendar days before submitting the Application for Payment, prepare and submit to Architect a draft Application for Payment reflecting anticipated percentages completed for each activity. The Architect and Project Manager will review and transmit comments to the General Contractor. Make changes or adjustments to the percentages of completion reported in the Application for Payment to reconcile with the assessment of the actual progress of the Work as determined by the Architect sign the Application and submit it for payment.
 - a. Make changes or adjustments required by the Architect and Project Manager and submit the Application for Payment in a form that will be approved by the Architect to receive Payment for the amount not in dispute. If the General Contractor disagrees with the percentages accepted by Architect, General Contractor may, in a separate letter or accounting, identify disparities and explain reasons for disagreement and transmit to Architect.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

- E. Application Preparation: Complete every entry on the form. Notarize and executed by a person authorized to sign legal documents on behalf of General Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and General Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment whether, or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Amounts of Change Orders executed (signed by all parties) before the last day of construction period covered by the Application may be included, to the extent work under that Change Order was performed during the period covered by the Application for Payment. Do not include amounts of Construction Change Directives until they have been included in an executed Change Order; do not include amounts for Change Orders which have been issued but not executed.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 - 2. Provide supporting documentation that verifies the amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Materials previously stored and included in previous Applications for Payment.
 - b. Work completed for this Application utilizing previously stored materials.
 - c. Additional materials stored with this Application.
 - d. Total materials remaining stored, including materials with this Application.
 - 4. Materials Stored Off Project Site:
 - a. Provide transportation and housing costs for Architect or Owner to storage location to verify stored materials.
 - b. Payment shall not be made for materials stored outside of the continental United States.
- G. Transmittal: Submit six signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Attachments: With each Application for Payment, submit the following documentation.
 - 1. Certification of receipt of payment from Subcontractors, Sub-subcontractors and suppliers for the construction period covered by the previous Application for Payment, in accordance with the General Conditions. Submit these certifications in a form acceptable to the Owner.
 - 2. Updated General Contractor's Construction Schedule.
 - 3. Wage rate report for previous Application for Payment period, correct, and in statutory form approved by the Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of Subcontractors.
 - 2. List of General Contractor's staff assignments.
 - 3. Schedule of values.
 - 4. General Contractor's construction schedule (preliminary) according to Section 01 11 00 – General Requirements.
 - 5. Submittal schedule (preliminary).
 - 6. Copies of building permits.
 - 7. Site utilization plan, in accordance with Section 01 50 00 - Temporary Facilities and Controls.

- 8. General Contractor's construction traffic and site utilization plan in accordance with Section 01 50 00 -Temporary Facilities and Controls.
- 9. General Contractors site dust control plan in accordance with Section 01 50 00 - Temporary Facilities and Controls.
- 10. General Contractor's waste management plan, required by Section 01 50 00 - Temporary Facilities and Controls.
- J. Second Application for Payment: Provide the following additional start-up information.
 - 1. General Contractor's weather protection plan, in accordance with Section 01 50 00 - Temporary Facilities and Controls.
 - 2. General Contractor's plan for temporary heating during the months of November through March, in accordance with Section 01 50 00 - Temporary Facilities and Controls.
 - 3. Gantt Chart schedule as accepted by the Architect and Owner's Project Manager.
- K. Application for Payment at Substantial Completion: After the Architect issues the Certificate of Substantial Completion, submit Application for Payment showing 100 percent completion for each Phase of the Work claimed as substantially complete.
 - 1. Include documentation supporting the claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - 2. This application shall include Certificates of Substantial Completion for each phase of the Work.
- L. Final Payment Application: After completing project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. General Contractor's certifications and releases required by the General Conditions.
 - 2. Evidence of completion of Project closeout requirements.
 - 3. Insurance certificates for products and completed operations were required and proof that taxes, fees, and similar obligations were paid.
 - 4. Updated final statement, accounting for final changes to the Contract Sum.
 - 5. AIA Document G706, "General Contractor's Affidavit of Payment of Debts and Claims."
 - 6. AIA Document G707, "Consent of Surety to Final Payment."
 - 7. Evidence that claims have been settled.
 - 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 - 9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754
Mount Vernon Group Architects, Inc., Project No. 02021.10

MAY 22, 2024

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 22 00

UNIT PRICES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General and Supplementary Conditions and Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, the following:
 - 1. Administrative and procedural requirements for inclusion or deletion of certain units of Work into or from the Contract Documents.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements that effect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 32 – UTILITIES; including all Sections contained therein.

1.04 UNIT PRICES

- A. General Provisions:
 - 1. Unit prices shall be used to determine adjustments to the Contract Sum for changes in work where the actual quantities of Work defined in the Contract Documents are increased or decreased.
 - 2. Base conditions or quantities to be carried are identified in the Specifications. No additional compensation shall be considered for the number of occurrences, locations, timeliness, or scheduling of the excavations or other adjustments.
 - 3. The General Contractor is fully responsible for reviewing the test pit data and borings and becoming familiar with site conditions.
 - 4. Materials, methods of installation and definitions of terms set forth under the various unit price items are indicated in the Schedule of Unit Prices and indicated in the Contract Documents.
 - 5. Performance of work which is not required under the Contract Documents, or which is not authorized by Change Order, whether such work item is set forth hereunder as a Unit Price Item, shall not be considered cause for any extra payment. The General Contractor shall be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Architect.
 - 6. For all site-related unit price work, quantities for adjustment shall be calculated by a registered Professional Engineer or Surveyor retained by the General Contractor, as agreed to by the Architect. In the case of ledge, boulders, forest mat, and subsoil, the General Contractor's surveyor shall submit profiles of ledge, work sheets, plans and method of calculation shall be submitted to Architect for approval prior to commencement of removal.
 - 7. Unit prices for excavation shall include the cost of sheeting, bracing, pumping, and dewatering, and all other costs in connection therewith, including labor, equipment, setup, and mobilization, and overhead and profit.

B. Methods of Measurement

1. Quantity of site related materials removed from the site and replaced with compacted structural fill, including but not limited to ledge, boulders, and unsuitable fill, shall be measured in place, before and after excavation by use of electronic GPS calculation, to determine the actual cubic yard volume.

C. Schedule of Unit Prices: As authorized by the Owner, should the quantities of certain classes of Work be increased or decreased, as described below, the Unit Prices shall be the basis of payment to the General Contractor, or credit to the Owner, for such increase or decrease in the Work. The Unit Prices shall represent the exact net amount, per unit, to be paid the General Contractor, in the case of additions, and the exact net amount to be refunded to the Owner, in the case of decreases. No additional adjustment shall be allowed for overhead, profit, insurance, or other direct or indirect expenses, over excavation, or other related work, without prior written approval of the Owner. Unit prices to be included within the General Contractor base bid.

Unit Price No. 1: Excavation, stockpiling, and removal of petroleum contaminated soil materials and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards specified in accordance with requirements of Section 31 20 00 - Earth Moving.

Unit Price No. 2: Excavation, stockpiling, and removal of ledge and boulders measured at 2 cubic yards and larger for the open site excavation and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards specified in accordance with requirements of Section 31 20 00 - Earth Moving.

Unit Price No. 3: Excavation, stockpiling, and removal of ledge and boulders measured at 2 cubic yards and larger to provide trenches for utility pipes, conduits, and structures and replace with imported suitable backfill materials compacted in place that is more than or less than 100 cubic yards specified in accordance with requirements of Section 31 20 00 - Earth Moving.

D. Unit prices shall include all equipment, labor, materials, removal, replacement, installation, overhead, profit, insurance, to complete the required Work, in accordance with requirements of the Contract Documents.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART I - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section shall include, but not be limited to, the following:
 - 1. Administrative and procedural requirements for handling and processing Contract modifications.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 MINOR CHANGES IN THE WORK

- A. Supplemental instructions authorizing minor changes to the Work, not involving an adjustment to the Contract Sum or Contract Time, shall be issued by the Architect on AIA form G710, Architects Supplemental Instructions.

1.05 CHANGE ORDER PROPOSAL REQUESTS

- A. Prior to issuing instructions for changes in the Work which the Architect judges will require adjustment to the Contract Sum or Contract Time, the Architect may, at its discretion, request the General Contractor to prepare an estimate of the amount of the adjustment.
- B. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of the proposed change and supplemental or revised Drawings and Specifications.
 - 1. Respond to the request by submitting a proposal to the Architect and Owner's Project Manager for the Owner's review within 21 calendar days of receipt of the proposal request unless a shorter time for response is indicated in the proposal request.
 - 2. Include in the proposal, an estimate of cost necessary to execute the proposed change and a statement indicating the effect the proposed change, in the Work shall have on the Contract time. Include the supporting data listed in paragraph F, below.
 - 3. Proposal requests are not an instruction either to stop Work in progress, or to execute the proposed change. Continue with Work in progress that is not affected by the proposed change.
- C. General Contractor-Initiated Change Order Requests: When latent or other unforeseen conditions require modifications to the Contract, the General Contractor may propose changes by submitting a request for a change to the Architect.
 - 1. Notify the Architect in writing of proposed changes within 21 calendar days after the occurrence of the event of observance of the condition giving rise to the change proposal request.

2. Submit the change-order proposal request to the Architect and Owner's Project Manager within 21 calendar days after delivering such notification to the Architect.
 3. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time. Include the supporting data listed in paragraph F, below.
 4. Comply with requirements in Section "Product Substitutions" if the proposed change in the Work requires the substitution of one product or system for a product or system specified.
- D. No extensions of Contract Time nor increase in the Contract Sum shall be considered if the additional time or additional cost is a consequence of the General Contractor's failure to submit a proposal within the time stipulated, regardless of whether the proposal request or change order request was initiated by the Owner or the General Contractor.
- E. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests.
- F. The following requirements will apply to both Owner-initiated proposal requests and General Contractor-initiated Change Order request.
1. Submit a complete and accurate Price to the Architect and the General Contractor for review. Incomplete proposals will be returned to the General Contractor without review and shall be completed by the General Contractor and returned to the Architect and the General Contractor within the same time: period specified above for submittal of proposals; there shall be no extension of time for such re-submittals.
 2. The Architect and the Owner's Project Manager shall review and act on the General Contractor's Proposal within a reasonable time. The Architect's review, at the Architect's discretion, may include consideration of Costs listed in Means "Construction Cost Data" or a similar database, and/or on conversations with local manufacturers and suppliers.
 3. Include applicable taxes, delivery charges, equipment rental, and amounts of trade, discounts.
 4. Itemize Work which is to be performed by employees of the General Contractor.
 5. For Work which is not to be performed by employees of the General Contractor, submit pricing on the letterhead of the proposed Subcontractor, fabricator, or supplier.
 6. Itemize General Conditions Work included in the proposed cost of the change; a lump sum or percentage of the cost shall not be accepted.
 7. Prices shall remain valid for a minimum of 90 days from the date of the initial pricing approval to execution of the Change Order by the Owner.
- G. Consideration and Acceptance of Price Proposal: The following procedures will apply to both Owner-Initiated proposal requests and General Contractor-initiated Change Order requests:
1. Submit a complete and accurate Price to the Architect for review. Incomplete proposals shall be returned to the General Contractor without review and shall be completed by the General Contractor and returned to the Architect within the same time: period specified above for submittal of proposals; there shall be no extension of time for such resubmittals.
 2. The Architect will review and act on the General Contractor's Proposal within a reasonable time. The Architect's review, at the Architect's discretion, may include consideration of Costs listed in Means "Construction Cost Data" or a similar database, and/or on conversations with local manufacturers and suppliers.
 3. Within 10 calendar days after receipt of the Architect's comments, make changes to the cost proposal in response to the Architect's comments and resubmit for approval.
 4. The Architect will promptly notify the General Contractor whether the pricing is accepted or will direct the General Contractor to make additional changes.
 5. When the General Contractor's proposal is approved by the Architect. The Architect will prepare a Change Order for execution by the Owner, the Architect, and the General Contractor.

1.06 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and General Contractor are not in total agreement on the terms of a Change Order Proposal, the Architect may issue a Construction Change Directive on AIA Form G714, instructing the General Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. The Construction Change Directive shall contain a description of the change in the Work and designate the method to be followed to determine change in the Contract Sum or Contract Time, in accordance with Article 7.3 of the General Conditions.
- B. Documentation: If the Construction Change Directive is for Work which is to be compensated on time and materials, the General Contractor shall maintain detailed daily records, verified, and agreed upon daily with the Architect and Owner's Project Manager, on a time and material basis of Work required by the Construction Change Directive.
 - 1. After completion of the change, the General Contractor shall submit an itemized account, including supporting data, as may be required by the Architect and General Contractor, to substantiate cost and time adjustments to the Contract.
 - 2. Payment for Time & Material Work performed shall only be made once the itemized accounts is approved by the Architect and incorporated within a Change Order and such Change Order is fully executed in accordance with requirements of the Contract Documents.

1.07 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Change Order Proposal Request, the Architect will issue a Change Order for signatures of the Owner and General Contractor on AIA Form G701, as provided in the Conditions of the Contract.
- B. The General Contractor shall promptly execute the Change Order.
- C. The Architect will present the Change Order to the Owner's Project Manager for review and approval. Upon OPM approval, the Change Order shall then be forwarded by the Architect to the Town of Maynard for approval during its next regularly scheduled meeting to the date of the Change Order. A copy of the fully approved and executed Change Order shall then be forwarded to all parties for the record.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 51 11

PROGRESS SCHEDULE

PART I - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section shall include, but not be limited to, the following:
 - 1. Administrative and procedural requirements for the General Contractor's Progress Schedule, which is required to be in a Gantt Chart format.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 PRELIMINARY SCHEDULE

- A. Preliminary Submittal: Submit, within 10 calendar days following receipt of the Notice to Proceed, a detailed Project Schedule, in Gantt Chart format.

1.05 PROGRESS SCHEDULE, SUBMITTALS

- A. Prepare the Progress Schedule required by the General Conditions in the form of a Gantt Chart, to control the work of this Contract and to provide a definitive basis for determining job progress. Require each principal subcontractor to provide detailed information about their own portion of the Work; include this information in the Gantt Chart.
- B. Use commercially available Gantt Chart software to develop and maintain the schedule and to prepare and print spreadsheets, schedules, and reports for the Project. The General Contractor shall coordinate the required scheduling software with the Owner's designated representative. Prepare a spreadsheet of network schedule showing the connections between activities, and in accordance with requirements of this Section.
- C. Within 10 business days following receipt of the Notice to Proceed, submit the following to the Architect and the Owner's Project Manager for review:
 - 1. An illustration of a feasible Gantt Chart schedule for completion of the Work of the Contract within the time limits specified.
 - 2. Sample format to be utilized for the detailed Gantt Chart in accordance with requirements of the Contract Documents.
 - 3. Milestone dates
- D. Upon approval of the draft submittal, prepare and submit the Gantt Chart; prepare the schedule with spreadsheet information.
 - 1. Correlate the Progress Schedule with the Schedule of Values required under Section 01 00 00 – General Requirements, so that the value of the Work in place at any time can be definitively determined.

2. Submit the full detailed schedule to the Architect and Owner for review and approval within 10 days following receipt of the Notice to Proceed, and at least 25 working days before the first Application for Payment is submitted. The Architect will not review any Application for Payment until the Gantt Chart has been submitted and approved.
 - E. Submit 3 color copies, and electronic file, of the schedule for review by Architect and Owner. Make changes directed by the Architect and resubmit within 10 calendar days.
 1. Acceptance of the Construction Schedule by the Owner and Architect is a prerequisite to certification of each Application for Payment.
 2. The Architect's acceptance of the Construction Schedule shall not relieve the General Contractor of responsibility for timing, planning, and scheduling of the Work, nor impose any duty on the Architect or Owner with respect to the timing, planning, or scheduling of the Work.
 - F. After the initial schedule has been accepted, print, and distribute colored copies of the approved schedule to the Architect, Owner, Subcontractors, and other parties required to comply with scheduled dates. Place one copy in the job site file and post copies in the Project meeting room and temporary field office.
 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities,
- 1.06 PROGRESS SCHEDULE, CONTENT AND FORMAT
- A. The start date for the Gantt Chart shall be the date of the Notice to Proceed. The date for Final Completion shall be 10 days after the date scheduled for Substantial Completion.
 - B. Classes of Work: List as separate classes of work on the spreadsheet and schedules:
 1. Each category of work listed in the Schedule of Values
 2. Activities to be coordinated with General Contractor's work, such as:
 - a. Inspections by the General Contractor's testing and inspection Agency.
 - b. Work by separate General Contractors.
 - c. Architect's inspection at the time of Partial Completions and at the time of Substantial Completion.
 - d. Additional subdivisions of work as the General Contractor deems necessary to control the progress of the Work, or as requested by the Owner or Architect.
 - e. Commissioning activities
 - C. Input from Subcontractors: Require each Subcontractor to provide detailed information about their own Portion of the Work; include this information in the Progress Schedule.
 - D. Spreadsheet: On the spreadsheet for the Project, for each activity included in the spreadsheet, as a minimum the following information:
 1. A code number for the activity.
 2. Description of the activity
 3. Early and late start dates. These dates may not be changed after the activity has commenced and the actual start date has been inserted.
 4. Duration
 5. Early and late finish dates. These dates may not be changed after the activity has bow
 6. Completed, and the actual finish date has been inserted.
 7. Activity float
 8. Percentage completion
 9. Remaining duration
 10. Predecessor activities and successor activities, including start constraints for activities with no predecessor.

11. Blank columns for Actual Start and Actual Finish dates, to be filled in with each monthly submission.
 12. Dollar amount for the activity.
 13. Number of tradesmen and laborers required for each activity ("manpower loading")
- E. On the Gantt Chart schedule for the Project, show the order and interdependence of activities and the sequence in which work is to be accomplished, as planned by the General Contractor. Show predecessor and successor activities; show the start of a given activity is dependent on completion of preceding activities and how its completion is necessary for the start of following activities.
1. Provide a path for each trade or significant type of work. Use the same breakdown of units of the Work as indicated for the spreadsheet.
 2. Arrange schedule to show graphically major sequences for Coordinating work; lead times required; float time allowed; all major categories of work and critical minor work units affecting overall work sequences. Show phased completion dates. Show dates when the Owner will be moving in equipment, furniture, and fixtures.
 3. Break each trade or class of Work into specific activities, each of duration no longer than 20 calendar days, and structured by Work area, i.e., floors, wings. Selection and number of activities shall be subject to the Architect's approval. Non-construction activities (such as procurement and delivery) and such other activities which the Architect may approve, may be of longer duration. At a minimum, break out the following as separate activities, where they apply to a type of Work.
 - a. Construction activities
 - b. Fabrication
 - c. Delivery
 - d. Installation
 - e. Testing
 - f. Start-up.
 - g. Instruction of Owner's Personnel
- F. Utilization of Float Time: It is intended by the Awarding Authority that the Work should progress as expeditiously as possible. To this end, the General Contractor shall proceed with the start of each activity promptly upon the completion of the previous activity or activities on which it depends. If the General Contractor completes an activity on the scheduled "early finish date" or sooner, the General Contractor shall not expend the "float time" for that activity (if any) but rather reserve it as a safeguard against possible impediments or delays which may occur later in the progress of the Work. Float time is to be expended judiciously, for the benefit of the Project as a whole, and not for the convenience of the General Contractor or the Owner. Neither the General Contractor nor the Owner "owns" the project float time: the float time belongs to the Project.
- 1.07 MONTHLY REPORTS
- A. Report on progress for the Project on a bi-weekly basis. Evaluate the status of the work as of the 25th of each month to show actual progress and identify problem areas. With each General Contractor Application for Payment, submit one (1) electronic copy, and three (3) colored copies of the complete update schedule, accompanied by a written narrative.
- 1.08 SUBMITTALS
- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

THIS PAGE IS INTENTIONALLY LEFT BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General and Supplementary General Conditions and Division 01-General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, the following:
 - 1. Administrative and procedural requirements for submittal of Shop Drawings, Product Data, Samples, and other required submittals as called for in the Contract Documents.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 GENERAL REQUIREMENTS

- A. Electronic Submittal Procedures
 - 1. General Requirements
 - a. Shop Drawings and Product Data submittals shall be transmitted to the Architect in electronic (PDF) format using Procore or equal, a website service designed specifically for transmitting submittals between construction team members.
 - b. The intent of electronic submittals is to expedite the construction process by reducing paperwork, improving information flow, and decreasing turnaround time.
 - c. The electronic submittal process is not intended for submittal of color samples, color charts, or physical material samples.
 - 2. Submittal Procedures
 - a. The General Contractor shall use any or all the following options for submittal preparation:
 - 1) Subcontractors and suppliers provide PDF submittals to the General Contractor via the Procore website or equal.
 - 2) Subcontractors and suppliers provide paper submittals to the General Contractor who electronically scans and converts to PDF format.
 - 3) Subcontractors and suppliers provide paper submittals to the Procore website or equal which electronically scans and converts to PDF format.
 - b. The General Contractor shall review and apply electronic stamp certifying that the submittal complies with requirements of the Contract Documents, including verification of manufacturer and product, dimensions, and coordination of information required for integration into all related components of the Work.
 - c. The General Contractor shall transmit each submittal to the Architect using Procore website or equal.

- d. The Architect/Engineer will notify the General Contractor by e-mail of completed review and shall make review comments available on the Procore website or equal.
 - e. The General Contractor is responsible for distribution of reviewed submittals to all Subcontractors and suppliers.
 - f. The General Contractor shall submit paper copies of reviewed submittals at Project closeout in accordance with requirements of Section 01 77 00 – Contract Closeout Procedures, Section 01 78 39 – Project Record Documents.
 - g. The General Contractor shall provide one copy of each commissioning-related submittal / shop drawings to the Commissioning Authority.
 - h. The General Contractor shall return a stamped copy of the commissioning-related submittal.
3. Service Cost
- a. The General Contractor shall include the full cost of Procore or equal subscription in their submitted General Bid.
 - b. The Contractor's cost shall include costs for all personnel training, including Owner's Project Manager, and Architect.
 - c. The General Contractor shall provide the following Internet Service and Equipment Requirements:
 - 1) E-mail address and Internet access through all Project Site trailers and the General Contractor's main office.
 - 2) Adobe Acrobat, Bluebeam PDF Revu, or other similar PDF review software for applying electronic stamps and review comments shall be provided on all computers provided for Project use in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.
- B. Prior to submittal of any shop drawings, product data or samples the General Contractor shall submit to the Architect for approval, within 15 business days after being awarded the Contract, a complete submittal log and a schedule of submissions of shop drawings and miscellaneous Work-related submittals which corresponds to the requirements of the Gantt Chart schedule and the General Contract. No Submittals shall be processed prior to the receipt of such schedule for the school. The schedules shall indicate, by trade, the date by which final approval of each item must be obtained and shall be revised to reflect actual conditions of the Work, subject to approval by the Architect. The Architects review period, including those of his consultants, shall not exceed 30 days from the established date of each submission of shop drawings, product data, and samples, plus the additional time, if any, for distribution by the General Contractor and receipt of submissions by the Architect. The General Contractor shall be required to strictly adhere to the dates established in the schedule. The information in this submittal schedule shall also be included in the General Contractor's Gantt Chart schedule for the project submitted in accordance with Section 01 51 11 - Progress Schedule.
- C. Following approval of submittal log and schedule, submit to the Architect and Owner's Project Manager, shop drawings, product data and samples required by each specification Section.
- D. The General Contractor shall provide one copy of the Final Submittal Schedule to the Commissioning Authority. The Commissioning Authority will identify which submittals are commissioning related.
- E. When the phrase "By Others" (or similar expression) appears on a submittal and refers to any of the Contract Work, it shall be interpreted to mean "by the General Contractor or another Subcontractor". The Architect's and the Owner's Project Manager's review of any submittal containing such phrase shall not be considered permission to delete any Work from the Contract.
- F. Review and approval of shop drawings by the Architect and Owner's Project Manager does not indicate approval of changes in the Contract, Time, or Cost.
- G. The General Contractor and Filed Sub-Bid Contractor shall transmit a complete submittal package. All incomplete submittal packages will be rejected by the reviewer. If an incomplete submittal package is transmitted more than three (3) times, the General Contractor and Filed Sub-Bid Contractor shall pay the Owner for additional reviewer services. The submittal package shall include, but are not limited to, the following:
1. Product Data

2. Samples
3. Shop Drawings
4. Calculations
5. Test Reports
6. Certifications
7. Inspection Reports
8. Qualifications
9. Record Documents
10. Operation and Maintenance Manuals
11. Warranties and Guarantees
12. Sustainability Submittals

- H. The General Contractor shall close the timeline of the original submittal after receiving back that reviewed submittal with comments from the Architect and his consultant. If there are additional questions generated by the General Contractor or his Sub-Contractor after reviewing the returned Submittal by the Architects and his consultants, the General Contractor and subcontractors shall begin a new timeline for the additional questions for that submittal requiring further clarification.

1.05 SHOP DRAWINGS

- A. Original drawings, prepared by The General Contractor, Subcontractor, Supplier, or distributor which illustrate some portion of the Work, showing fabrication, layout, setting or erection details.
1. Prepare drawings in a clear and thorough manner.
 2. Identify details by reference to sheet and detail numbers shown on Contract Drawings
- B. Provide layout verification plans for ceramic tile, resilient floor tile, and carpet. Plans shall indicate changes in material color and pattern in accordance with requirements of the Contract Documents.

1.06 PRODUCT DATA

- A. Manufacturer's standard schematic drawings:
1. Modify drawings to delete information which is not applicable to project.
 2. Supplement standard information to provide additional information applicable to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
1. Clearly mark each copy to identify pertinent materials, products, or models.
 2. Show dimensions and clearances required.
 3. Show performance characteristics and capacities.
 4. Show wiring diagrams and controls.
- C. Submittal of color samples, color charts, or physical material samples requiring color selection and approval by the Architect and Owner's Project Manager, respectively, shall be submitted no later than six (6) months after the Owner's Notice to Proceed. The Architects review period for samples requiring color selection and approval will not exceed sixty (60) days from the established date of the last sample or material submitted, as listed in this Section. Failure by the General Contractor to comply with the requirements of this Section shall not be cause for delay of the Project or additional cost to the Owner.

1.07 SAMPLES

- A. Physical examples to illustrate materials, products, units of Work, equipment, or Workmanship, and to establish standards by which completed Work is to be judged.
1. Office samples: Of sufficient size and quality to clearly illustrate:
 - a. Functional characteristics of product or material, with integrally related parts and attachment devices.
 - b. Full range of color, texture, and pattern.

1.08 GENERAL CONTRACTOR'S RESPONSIBILITIES

- A. Review Shop Drawings, Project Data and Samples prior to submission.
- B. Verify:
 - 1. Field measurements
 - 2. Field construction criteria
 - 3. Catalog numbers and similar data
- C. Coordinate each submittal with requirements of Work and of Contract Documents.
- D. General Contractor's responsibility for errors and omissions in submittals is not relieved by Architect or Owner's Project Manager review of submittals.
- E. General Contractor's responsibility for deviation in submittals is not relieved by Architect or Owner's Project Manager review of submittals unless the Architect gives written acceptance of specific deviations.
- F. Notify Architect/Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
- G. Furnish miscellaneous submittals (non-administrative) including, but not limited to warranties, maintenance agreements, Workmanship bonds, project photographs, survey data and reports, physical Work records, quality testing and certifying reports, copies of industry standards, record Documents, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices, and materials applicable to the Work.

1.09 SUBMISSION REQUIREMENTS

- A. Schedule submissions to permit time for review and re-submission.
- B. Submit number of Samples specified in each of specification Sections.
- C. Accompany submittals with transmittal letter, in duplicate, containing:
 - 1. Date
 - 2. Project title and number
 - 3. General Contractor's name and address
 - 4. Specification Section number, paragraph, and item number
 - 5. The number of each shop drawing, product datum, and sample submitted.
 - 6. Notification of deviations from Contract Documents
 - 7. Manufacturer's name or source of supply
 - 8. Trade name
 - 9. Catalog number
 - 10. General Contractor's certification that he has checked all samples for compliance with Contract requirements and availability of material.
 - 11. Name and address of Architect, Subcontractor, and supplier
 - 12. Other pertinent data
- D. Submittals shall include:
 - 1. Date and revision dates
 - 2. Project title and number
 - 3. The names of:
 - a. Architect
 - b. General Contractor
 - c. Subcontractor
 - d. Supplier
 - e. Manufacturer
 - f. Separate detailer when permitted.
 - 4. Identification of product or material.

5. Relation to adjacent structure or materials.
 6. Field dimensions clearly identified as such.
 7. Specification Section number, paragraph, and item number.
 8. Applicable standards, such as ASTM number or Federal Specification.
 9. A blank space, 3 in. x 6 in., for Architect/Engineer's stamp.
 10. Identification of deviations from Contract Documents.
 11. General Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract Documents.
- E. The Architect will complete the review and return the record sepias and product data to the General Contractor.
- F. The General Contractor shall be fully responsible for delay in the delivery of materials or progress of Work caused by late review of shop drawings due to failure of the General Contractor to submit, revise, or resubmit shop drawings in adequate time to allow the Architect reasonable time (up to 30 calendar days) for normal checking and processing of each submission or resubmission.
- G. The General Contractor shall assume full liability for delay attributed to insufficient time for delivery and/or installation of material or performance of the Work when approval of pertinent shop drawings and product data is withheld due to failure of the General Contractor to submit, revise, or resubmit items in adequate time to allow the Architect reasonable time, not to exceed thirty (30) calendar days, for normal checking and processing of each submission or resubmission.
- 1.10 COORDINATION DRAWINGS - ALL MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION
- A. Mechanical coordination drawings of the building shall be collated, checked, and coordinated by the General Contractor, who shall send them to the Architect. The General Contractor shall be fully responsible for coordinating all trades, coordinating construction sequences and schedules, and coordinating the actual installed location and interface of all Work. Areas of conflict shall be clearly noted and clearly encircled on the drawings for review of the conflicts and as an aid to inspection. All heating, ventilating, air conditioning, plumbing, fire protection and electrical Work shall be shown on a single set of drawings. Items of conflict, impossibility, or request for variance shall be called to the Architect's attention for resolution. Existing conditions that effect Work must be indicated to the extent that any conflicts can be resolved. Coordination Drawings are intended to assist the General Contractor during construction and shall not be used for "shop drawings", "record drawings", or any other required submittal.
- B. The submission procedure shall be as follows:
1. Other Subcontractors: The General Contractor shall circulate the Coordination Drawings to other Subcontractors whose Work might conflict with other Work and require these Subcontractors to show the actual size and location of all their equipment and Work accurately and neatly. These Subcontractors shall note any apparent conflicts, suggest alternate solutions, and return the Coordination Drawings to the General Contractor.
 2. General Contractor Review and Submission: The General Contractor shall carefully review, modify, and approve the Coordination Drawings in cooperation with the Subcontractors to assure that conflicts, if any, are resolved before Work in the field is begun and to ensure that the location of Work exposed to view is as indicated or approved by Architect. The General Contractor shall stamp, sign, and submit the coordination drawing originals to the Architect for review following the specified procedures and policies for "Submittals". No Work in these areas shall be commenced until Coordination Drawings have been received and reviewed by the Architect. The Architect's review is only for conformance of the design concept of the Work and with information given in the Construction Documents.
 3. Work commenced prior to submittal, review, and approval of the Coordination Drawings by the General Contractor and Architect, which requires removal, replacement, relocation, modification, or alteration, resulting from conflict with other Work provided and installed under the Work of this Contract, shall be removed, replaced, relocated, modified, or altered, at no additional cost to the Owner.
- 1.11 ARCHITECTS REVIEW ACTIONS
- A. Submittals Marked "Reviewed as Required by Construction Contract Documents and Approved":

1. Submittals which require no corrections by the Architect will be marked "Reviewed as Required by Contract Documents and Approved". Reviewed as required by Contract Documents and approved, but only for conformance to the design concept of the Work, and subject to further limitations and requirements contained in the Construction Documents.

B. Submittals Marked "Furnish as Corrected":

1. Submittals which require only a minor number of corrections shall be marked "Furnish as Corrected". This mark means that checking is complete, and all corrections are obvious without ambiguity. Fabrication shall be allowed on Work "Furnish as Corrected", provided such action shall expedite construction and noted corrections are adhered to. If fabrication is not made strictly in accordance with corrections noted, the item shall be rejected in the field and the General Contractor shall be required to replace such Work and that of other General Contractor's, in accordance with corrected submittals, at his own expense.

C. Submittals Marked "Revise and Resubmit":

1. When submittals are marked "Revise and Resubmit" details of items noted by Architect will be further clarified before full approval can be given and noted items must not be fabricated until corrected and approved.

D. Submittals Marked "Rejected":

1. When submittals are contrary to Contract requirements or too many corrections are required, they shall be marked "Rejected". No Work shall be fabricated under this mark. The Architect will list his reasons for non-approval on the submittal or in a transmittal letter accompanying their return. The submittals must be corrected and resubmitted for approval.

E. Submittals Marked "Review":

1. Submittals sent for information only shall be marked "Reviewed". No approval or disapproval is given unless requested by the General Contractor.

F. Return of Submittals to General Contractor Unchecked:

1. The Architect may return submittals to the General Contractor unchecked for any of the following reasons, in which case the submission shall not be considered official:
 - a. Submittal in violation of specified procedure or product
 - b. Inadequately checked by General Contractor
 - c. Inaccurate and in substantial error

1.12 RESUBMISSION REQUIREMENTS

A. Shop Drawings:

1. Revise initial drawings to accurately reflect all comments and markups and resubmit as specified for initial submittal.
2. Indicate on drawings any changes which have been made other than those requested by Architect/Engineer.

B. Product Data and Samples: Submit new data and samples to fully respond to all comments and mark-ups for initial submittal.

1.13 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

A. Distribute "hard" copies of Shop Drawings and Product Data which carry Architect/Engineer's stamp, to:

1. General Contractor's Job site file
2. Record Documents file
3. Subcontractors and/or suppliers
4. Owner
5. Testing Agency (where applicable)
6. Owner's Project Manager (OPM)/Clerk of Works

- B. The General Contractor shall distribute hard copies of all approved Shop Drawings and Samples within three (3) working days following receipt of same from the Architect in accordance with requirements of the Contract Documents.

1.14 ARCHITECT / ENGINEER'S DUTIES

- A. Review submittals with reasonable promptness.
- B. Review for:
 - 1. Design concept of project
 - 2. Information given in Contract Documents
- C. Review of separate items does not constitute review of an assembly in which item functions.
- D. Affix stamp and initials or signature certifying to review of submittal.
- E. Return submittals to General Contractor for distribution.

1.15 DAILY CONSTRUCTION REPORTS

- A. Prepare daily construction reports, recording the following information concerning events at the site and submit copies to the Architect at weekly intervals.
 - 1. List of Subcontractors at the site
 - 2. Approximate count of personnel at the site
 - 3. High/low temperatures, general weather conditions
 - 4. Accidents and unusual events
 - 5. Meeting and significant events
 - 6. Stoppages and delays, shortages, losses
 - 7. Meter readings and similar recordings
 - 8. Emergency procedures
 - 9. Orders and requests of governing authorities
 - 10. Job modifications received and implemented.
 - 11. Services connected, disconnected.
 - 12. Equipment or system tests and start-ups
 - 13. Partial completion, occupancies
 - 14. Substantial completion authorization

1.16 EMERGENCY ADDRESSES

- A. Within 15 days of Notice to Proceed, submit to the Owner's Project Manager and the Architect, in writing, the name, addresses and telephone numbers of key members of their organization including Superintendent and personnel at the site, to be contacted in the event of emergencies at the building site, which may occur during non-Working hours.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, the following:
 - 1. Administrative and procedural requirements for quality assurance and quality control.
 - 2. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve the General Contractor of responsibility for compliance with the requirements of the Contract Document.
 - a. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - b. Specified tests, inspections, and related actions do not limit General Contractor's other quality-assurance and -control procedures that facilitate compliance with requirements of the Contract Documents.
 - c. Requirements for General Contractor to provide quality assurance and control services required by the Owner, the Owner's Project Manager, Architect, or authorities having jurisdiction are not limited by provisions of this Section.
 - d. Specific test and inspection requirements are not specified in this Section.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction shall comply with requirements.
- B. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- C. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

- F. Installer/Applicator/Erector: General Contractor or another entity engaged by General Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a construction operation, including installation, erection, application, and similar operations.
- G. The use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trades.

1.05 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.06 REPORTS AND DOCUMENTS

- A. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation shall affect warranty.
 - 7. Other required items indicated in individual Specification Sections.
- B. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.07 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce the required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce the required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.08 QUALITY CONTROL

- A. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 - Submittal Procedures.
- B. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in pre-installation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- C. Retesting/Re-inspecting: Regardless of whether original tests or inspections were General Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
 - 1. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - a. Access to the Work.
 - b. Incidental labor and facilities necessary to facilitate tests and inspections.
 - c. Adequate quantities of representative samples of materials that require testing and inspecting.
 - d. Assist agency in obtaining samples.
 - e. Facilities for storage and field curing of test samples.
 - f. Delivery of samples to testing agencies.
 - g. Preliminary design mix proposed for use for material mixes that require control by testing agency. Security and protection for samples and for testing and inspecting equipment at the Project site.
 - h. Security and protection for samples and for testing and inspecting equipment at the Project site.
 - 2. Coordination: Coordinate sequence of activities to accommodate required quality assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - a. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.09 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures and in accordance with requirements of the Contract Documents.

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

PART 2 - PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART I - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Provide, maintain, remove, and pay all costs related thereto, all temporary facilities included under the Work of this Section, or as otherwise required for progress and completion of the Work in accordance with requirements of the Contract Documents.
- B. Coordinating and scheduling among all trades and subcontractors, the furnishing and use of all temporary facilities for the Work in accordance with all Federal, State, and local governing rules and regulations.
- C. Provide temporary fencing with one 20 ft. wide double gates around the limits of work at the existing site. Repair any damage to the construction fencing and gates at the completion of the contract work. Fencing shall become the property of the Owner at completion. Removal of construction fencing shall be done by others.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 32 – UTILITIES; including all Sections contained therein.
- C. Nothing in this Section is intended to limit types and amounts of temporary Work required, and no omission from this Section shall be recognized as an indication by the Architect that such temporary activity is not required for successful completion of the Work or compliance with requirements of the Contract Documents.

1.04 REQUIREMENTS OF REGULATORY AGENCIES

- A. Provide and maintain all temporary facilities in compliance with governing rules, regulations, codes, ordinances and laws of agencies and utility companies having jurisdiction over Work involved in the project.
- B. Be responsible for all temporary Work provided and obtain any necessary permits and inspections for such Work.
- C. Do not interfere with normal use of streets in vicinity of project site accept as indicated on drawings and/or as necessary to execute required Work, and then only after proper arrangement has been made with applicable authorities, including traffic control.

1.05 JOB CONDITIONS

- A. Establish and initiate use of each temporary facility at the time first reasonably required for proper performance of the Work. Terminate use and remove facilities at the earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
- B. Install, operate, maintain, and protect temporary facilities in a manner and at locations which shall be safe, non-hazardous, sanitary, and protective of persons and property, and free of deleterious effects.

- C. Notify the Owner, Architect, and other affected parties no less than 10 days in advance of shutting down, starting up, interrupting utilities or service of facilities which may affect the neighboring homes or businesses. Allow sufficient time for protective measures to be taken.

1.06 FIELD OFFICES AND STORAGE SHEDS

- A. Provide and maintain field offices on site throughout construction period. The type and placement of temporary office facilities shall require Owner approval.
1. General Contractor's Office: Provide size required for general use and to provide space for project meetings, including heat, ventilation, power, and light. Provide and maintain throughout duration of project, local telephone service for the legitimate use of those connected with Work. Pay all permits and charges related to temporary telephone service. Maintain complete set of current Project drawings and specifications all the time. Maintain a file with all approved shop drawings, permits and other data pertinent to the Work.
 2. Owners Site Office: Within 7 calendar days of Notice to Proceed the General Contractor shall provide and maintain for the duration of the Project a suitable mobile office as provided by Willscot or equal by Vanguard Modular Building Systems or Satellite. The mobile office as specified below will be solely for the use of the Owner, the Architect, and the Clerk of the Works, which shall be referred to as the "Owner's site office". Provide power to the site office within 7 calendar days of Notice to Proceed, if necessary, power office via temporary generator connection until permanent power is made available.
 - a. Location: The Owner's site office shall be strategically positioned with the prior approval of the Architect and the Owner.
 - b. Construction: The Owner's site office shall be constructed of suitable materials, which shall provide adequate thermal, sound and weather protection to the occupants with an enclosed bottom. Equip the building/trailer with weatherproof operable windows, in an area equal to at least 15 percent of the Working floor area; equip each window with insect screen and blinds. If the office space provided is a trailer, it shall be new.
 - c. Support: Trailer shall be supported and secured in accordance with manufacturer's recommendations and best practice as well as complying with all codes related to such temporary facilities.
 - d. Size and services: Provide at least 700 square feet of Working area (excluding corridors, toilets, closet, and storage areas), finished, furnished, equipped, heated, air conditioned, naturally ventilated, lighted and wired with electrical power.
 - e. Offices: Provide two offices as described:
 - 1) Owner's Project Manager Office: 12 ft. x 12 ft. minimum
 - 2) Architect Office: 12 ft. x 16 ft. minimum
 - 3) Conference Room/Meeting Space:
 - f. Locks and keys: Equip the Owner's site office and toilet room with keyed locks and furnish five sets of keys to the Project Manager.
 - g. Maintenance: The General Contractor shall maintain the offices, equipment, and furnishings in a clean and orderly condition, including but not limited to washing the floors, bathrooms and trash removal once per week, performed by a professional bonded and insured cleaning service. The Owner's Site Office shall be removed or relocated upon receipt of written direction by the Architect or OPM. In the event that the Owner's Site Office is not cleaned by a professional cleaning service during any given week, provide a credit in the amount of \$250 for each scheduled weekly cleaning omitted.
 - h. Furnishings, Equipment, Services and Consumables: Furnish the Owner's site office with the following furniture, fittings, equipment, and consumables for the duration of the Project. All furniture, fittings, and equipment shall be new and unused and shall be removed by the General Contractor following the date of Substantial Completion.
 - 1) Desks: Provide four desks Model No. 8614-393/8650 as manufactured by All Steel Equipment.
 - 2) Desk Lights: Provide four spring mounted desk lights.
 - 3) Plan Tables: Provide one sloped surface plan table at least 3 ft. x 12 ft. with raised lip at lower edge. Provide 48 in. parallel rule and accessories.

- 4) Shelving: Provide and install forty linear feet of 12 in. deep shelving.
 - 5) Conference Table: Provide one 4 ft. x 12 ft. conference table with plastic laminated oak finish with oak edging and double tee chrome leg base as manufactured by Kruger. Provide 16 straight back folding chairs with cushioned seats.
 - 6) Chairs: Provide four desk chairs with arms, swivel base and casters.
 - 7) Visitors' Chairs: Provide two padded visitors chairs with arms.
 - 8) File Cabinets: Provide two four-drawer metal file cabinets with locks and keys.
 - 9) Drawing Racks: Provide two drawing racks, capable of handling all bids, shop, and other drawings.
 - 10) Bulletin Boards: Provide and install 4 bulletin (tack) boards measuring at least 5'x3' and 4 white boards measuring at least 6'x4'.
 - 11) Thermometer: Provide one indoor/outdoor thermometer mounted at project office window.
 - 12) Water: Provide drinkable bottled spring water in a dispenser, which furnishes instant hot water, as well as cold water. Provide water service for the duration of the project delivered as necessary to avoid running out, coffee for machine, and continuous stock of flat bottom cups.
 - 13) Coffee Maker: Provide one Keurig K140 Series Commercial Brewer, cups, coffee, cream, and sugar for the duration of the project.
 - 14) Refrigerator: Provide one under-counter refrigerator with freezer compartment, 6 CF size.
 - 15) Microwave Oven: Provide one Microwave oven.
 - 16) Construction Hard Hats: Provide 12 construction hard hats with adjustable dials.
 - 17) Wastepaper Baskets: Provide four 32-gallon trash barrels and trash bags for the duration of the project.
 - 18) First Aid Kits: Provide one industrial quality wall mounted first aid kit sized and supplied for 10 people.
 - 19) Office Supplies: Provide office supplies for Architect and Owner's Project Manager for life of project, which includes but not limited to (paper, pens, folders, staplers, heavy duty stapler, heavy duty hole punch, scissors, paper clips, 3 in. three ring binders, whiteboard markers and erasers, paper towels, cleaning materials, disposable plates, disposable utensils, and other similar type supplies).
- i. Technology, Equipment and Services: Provide the Owner's site office with the following technology equipment, services, fittings, and related accessories for the duration of the Project. All technology equipment, services, fittings, and related accessories shall be new and unused and shall be turned over to the Owner at the completion of the Project. Provide all technical support required to keep operational all hardware and software in this Section for the duration of the project.
- 1) Telephone Lines: Provide one separate telephone line for the sole use of the Owner and Architect:
 - a) One linked line for telephones with Verizon local and long-distance service
 - b) Provide three cordless telephones with speakerphone feature and integral answering machine. Connect to wall mounted jacks with cords not less than 10 feet long.
 - 2) High Speed Internet Connection: Provide the following High-Speed Internet Connection and related equipment:
 - a) Comcast Small Business Service or Broadband Business Service at 200 mb/sec, upstream and downstream with modem and router compatible with and approved by the approved local Service Provider), ISP choice coordinated and approved by the Architect and OPM.
 - b) Determine the available Internet Service Providers (ISP) for the jobsite location and report the options to the Architect for review and approval.
 - c) Internet connection shall be dedicated for the use of the occupants of this trailer only, and shall not be shared with other trailers, or outside users without permission of the Architect.
 - d) High Speed Internet Connection to be fully configured and operational on all computer workstations specified in section j. Owner's Site Office Technology.
 - e) Dynamic IP is acceptable, static IP is not required.

- f) Confirm that the ISP permits the use of Cisco VPN Client using port 10000 (Virtual Private Network) connections through their network/internet access service.
 - g) Provide multi-port 10/100 switch in trailer for networking equipment and internet access.
 - h) Routers with built-in wireless must have web encryption configured and turned on. WEP key information shall be provided to the Architect and the OPM.
 - i) The high-speed data connection shall terminate in the trailer in a locked room or closet. If no such room is available, coordinate the location with the Owner's Representative Project Manager. Network equipment and high-speed modem shall be located so that it is hidden from immediate sight and preferably located in a corner (not on a desk where it can be easily tampered with) of a room or mounted on a shelf high on a wall.
 - j) Provide surge protector for all Internet access/network equipment.
 - k) Provide Architect and OPM with all account numbers, username, and passwords applicable to the ISP agreement, as well as support contact information such as Toll-Free and 24/7 support phone numbers for said ISP for use in contacting the ISP during times of apparent lack of connectivity.
 - l) High Speed internet access service shall commence within one week of trailer occupancy or one week following activation of electrical service to the Owner's Field Office; whichever comes first. Service shall remain activated and financial account status in good standing with ISP until such time that the Architect and Owner's Representative agree to terminate service. General Contractor shall plan to keep internet service active for at least one month following current project completion date or one month after scheduled removal of field trailer, whichever is the later of the two.
 - m) General Contractor shall advise subcontractors of the location of any wires or cables associated with high-speed internet and power connections to the Owner's Field Office to avoid disruption of service during construction or site work.
- 3) Printers, Copiers, and consumables: Provide the following printers, copiers, fax machines and consumables. Provide necessary maintenance and support for the following equipment for the duration of the project.
- a) Copy Machine: Provide one NEW color copy machine, complete with wheeled stand, as manufactured by Canon Corporation, with 50 pages top mounted automatic document feeder, and separate feeder trays for 8-1/2 in. x 11 in., 8-1/2 in. x 14 in. and 11 in. x 17 in. paper. Machine shall be capable of copying, scanning, printing reducing, enlarging, double sided copying, stack loading, sorting, and stapling, and be supported by a three-year on-site Service Plan with 24-hour response. Include toner or inks and supplies required for the duration of the Contract.
 - b) Printers:
 - 1. Provide one Inkjet printer, Model EPSON WF 7620, including all necessary cables connected to USB port, toner or inks and supplies required for the duration of the Contract. Service Program: 2 years parts and labor Limited Warranty with three years on-site service with response time within 24 hours.
- 4) Miscellaneous Technology
- a) Provide four new 27 in. desktop computer monitors with HDMI cables.
 - b) Provide four power strips with surge protectors.
 - c) Provide one wi-fi enabled digital camera 20 megapixel or greater with 64GB or greater memory card.
 - d) Provide one 60 in. LED HDTV with HDMI input and HDMI cable, to be wall-mounted in conference area by Contractor's technician.
- 5) Data Cabling: Provide data cabling as follows:
- a) Provide adequate data cabling within the Owner's site office so that there is a minimum of one data connection (Cat 5e or Cat 6) in each office at each planned workstation/desk.
 - b) Provide cabling from the ISP entry point of the trailer to each wall jack.

- c) The exact location and quantity of data drops shall be coordinated and approved by the Architect prior to implementation.
 - d) The use of a wireless network within the trailer is NOT an acceptable alternative (wireless capability is acceptable but is NOT to be used in lieu of data cabling).
- B. The General Contractor shall provide such storage sheds, temporary buildings, or trailers as may be required for the performance of the Contract. Storage of construction materials in the new school building shall be permitted, depending on the type of materials and the duration of expected storage, as determined by the Architect and Owner. All temporary structures shall be removed at Substantial Completion.
 - 1. Materials shall be handled, stored, and protected in accordance with best industry practice, and except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions. Protect all construction materials from damage due to moisture, wind, cold, vandalism, or any other source in accordance with requirements of Section 01 81 21 - Protection of Building Materials from Water Damage, and other applicable Sections of the Contract Documents. Any damage to construction materials shall be at the expense of the General Contractor.
- C. All temporary structures shall be removed at Substantial Completion.
- D. Materials shall be handled, stored, and protected in accordance with the best practice in the industry, and except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.

1.07 WEATHER PROTECTION

- A. The General Contractor shall provide temporary enclosures and heat to permit Work to be carried on during the months of November through March in compliance with M.G.L. c 149 sec. 44G9(d) and include temporary enclosures and heat for exterior masonry wall back-up and masonry veneer construction of the building envelope. These specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible in the opinion of the Owner.
- B. "Weather Protection" shall mean the temporary protection of the Work adversely affected by moisture, wind, and cold by covering, enclosing, and/or heating. This protection shall provide adequate Work areas during the months of November through March as determined by the Owner and consistent with the construction schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The General Contractor shall furnish and install "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum of 40 degrees Fahrenheit at the Work surface and include temporary enclosures and heat for exterior masonry wall back-up and masonry veneer construction of the building envelope. This provision does not supersede any specified requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Articles with added regard to performance obligations of the General Contractor.
- C. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices.
- D. Unit heaters, if used, shall be of the smokeless type and be installed and operated in such a way that they shall not damage finished Work or endanger the health and welfare of the occupants. Salamanders shall not be used.
- E. The General Contractor shall be responsible for weather protection during construction, until Substantial Completion, and shall be liable for any damage to any Work caused by failure to supply weather protection and proper ventilation.
- F. The General Contractor shall remove and replace all Work damaged by frost, directed by the Architect, at no additional cost to the Owner.
- G. It is to be specifically understood that the General Contractor shall do no Work under any conditions deemed unsuitable by the General Contractor for the perfect execution of the Work. This provision shall not constitute any waiver, release, or lessening of the General Contractor's obligation to bring the Work to Substantial Completion within the period set forth in the Contract Documents.

1.08 TEMPORARY SERVICES

A. Temporary Electricity and Lighting:

1. The General Contractor shall install, maintain, and remove entirely, light and power systems for the entire project, including temporary offices and security lighting. Initial hook-up, meter, and/or connection for temporary electric service and final service connections.
2. The General Contractor shall provide sufficient temporary lighting to ensure proper Workmanship everywhere by combined use of daylight, general lighting, and portable plug-in task lighting. Provide general lighting with local switching which shall enable energy conservation during periods of varying activity (Work-in-progress, traffic only, security checks, lock-up). Pay for all permits, charges and fees related to temporary electric service.
 - a. All Temporary Light and Power is the Work of the General Contractor unless specifically noted to be performed elsewhere in the specifications.
3. The General Contractor shall provide and maintain temporary wiring required for power and lighting.
4. The General Contractor shall pay for the cost of energy consumed by all trades. Temporary wiring of a special nature, for lights and power required to complete the Work in accordance with requirements of the Contract Documents.

B. Temporary Heat and Ventilation:

1. Within 30 calendar days after the commencement of Work under this Contract, the General Contractor shall submit in writing to the Architect approved material or approval, three copies of his method and time schedule for heating during construction which shall concur with his general progress schedule.
2. The General Contractor shall provide temporary heat and ventilation required and necessary to maintain adequate environmental conditions and schedule to facilitate progress of the Work, to provide heat of not less than 40 degrees F, and not more than 85 degrees F which shall be continuously maintained in the enclosed area until the project is accepted.
3. The installation and operation of heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection. Heating devices which may cause damage to finish surfaces shall not be used.
4. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulation of dust, fumes, vapors, or gasses.
5. Portable heaters shall be standard UL approved units complete with controls. Pay all costs of installation, maintenance, operation, and removal and for fuel. All precautions shall be taken against possible origin or spread of fire and damage to the building and/or equipment from smoke or soot.
6. The new HVAC system installed under the Work of this Contract shall not be used for temporary heat, unless authorized in advance, in writing, by the Architect.

C. Provide temporary water service, including required piping and hoses of sizes and pressure adequate for construction. Municipal water service exists within the building, and all connections for temporary water service to receive a backflow preventer and the General Contractor is to apply for all permits in accordance with Town of Maynard Water Department requirements.

D. Provide temporary sanitary facilities, including temporary toilets, wash facilities, and drinking water facilities. Comply with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities. The toilets and wash facilities shall be installed in a location approved by the Owner. Include toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.

1. Provide self-contained chemical type toilet units, including periodic maintenance. Shield toilets to ensure privacy, and do not lift while occupied.
2. Provide facilities supplied with potable water for personnel involved in handling materials that require wash-up. Dispose of drainage properly.

E. The General Contractor shall remove all snow and ice which may impair the progress of the Work, be detrimental to Workmen, or impair trucking, delivery or moving of materials, or prevent adequate drainage at site or adjoining areas.

F. Removal:

1. Completely remove temporary materials and equipment when their use is no longer required.
2. Clean and repair damage caused by temporary installations or used for temporary facilities.
3. Restore permanent facilities used for temporary services to specify condition.
 - a. 14 days prior to Substantial Completion, remove temporary lamps and install new lamps in all permanent light fixtures.
 - b. Replace filters in HVAC system used for temporary service. At the time of Substantial Completion, all filters are to be new and clean.

1.09 TEMPORARY FENCE & GATES

- A. The Manufacturer of all chain link fence material for the fence and gates shall be subject to the Architect's approval.
- B. Fabric shall be steel wire, hot-dipped galvanized, two in. mesh. The zinc coating shall weight two ounces per square foot of surface. Fabric gauge: No. nine; height: 72 inches.
- C. Posts and gate frames shall be A.S.A. Schedule 40 galvanized steel conforming to A.S.T.M. 120. The pipe shall be galvanized to withstand 12, one-minute immersions in the Preece Test and shall be the following size and weight:

	Outside Diameter (In inches)	Weight in Pounds (Per Linear Foot)
Corner Braces	1.660	2.27
Line posts	1.9	2.72
Corner & Terminal Posts	2.375	3.65
Gate posts	3.0	5.79
Internal gate bracing	1.660	2.27

- D. Truss rods shall be 3/8 in. diameter galvanized steel.
- E. Fittings and other appurtenances shall be pressed steel, malleable or cast steel, galvanized to withstand six, one-minute immersions in the Preece Test.
- F. Tension bars shall be 3/16 in. by 5/8 in. steel, galvanized to withstand six, one-minute immersions in the Preece Test.
- G. Tie wires shall be No. 9 gauge wires, galvanized to withstand six, one-minute immersions in the Preece Test.
- H. Post caps shall be heavy malleable iron or pressed steel and galvanized to withstand six, one-minute immersions in the Preece Test.
- I. Gates shall have all latches, stops, keepers and hinges necessary for proper functioning.
- J. Submit complete shop drawings of gates, hinges, drop bar locking devices, for the Architect's review prior to fabrication.

1.10 VEHICLE AND CONTRACTOR ACCESS AND TRAFFIC CONTROL

- A. The General Contractor shall be responsible for all traffic control, including municipal police services, on streets adjacent to the Project site, as may be required to provide safe access and egress for Owner and construction related vehicles. Provide and maintain a suitable means of access to the Contract Work areas as necessary for vehicles and equipment of all trades requiring such access.
- B. The arrival and departure of all General Contractor and subcontractor deliveries shall be scheduled to occur between the hours of 7:00 AM and 3:00 PM only. No deliveries should be allowed to occur between 3:00 PM and 7:00 PM.
- C. The General Contractor shall cooperate with the Owner and be responsible for all measures necessary to always maintain public access to existing School Department property, and not impede normal operating procedures of the Town of Maynard.

- D. The General Contractor shall provide and maintain permanent signage for the duration of the Contract as necessary to inform and direct all General Contractor and subcontractor deliveries.

1.11 TEMPORARY PARKING

- A. Parking for vehicles belonging to the General Contractor, subcontractors, or other personnel providing services included under the Work of this Contract shall be limited to within the Limit of Work line of this Project. Vehicle parking for all personnel providing services included under the Work of this Contract shall not be allowed elsewhere in the Town of Maynard, including but not limited to, School District property and public streets or parking areas, without prior written authorization of the Owner.

1.12 SCAFFOLDING, LADDERS, AND HOISTING FACILITIES

- A. The General Contractor shall provide and maintain all temporary stairs, ramps, runways, chutes, ladders, staging, and hoists required and necessary for proper execution of the Work in accordance with applicable requirements of Federal, State and Local Codes, except for Filed Sub-Bid Sections.
 - 1. All staging, ladders, scaffolding, hoists, and all related equipment required for proper execution of the Work of the Filed-Sub Bidders shall be provided under the Work of each bidder's respective Section, in accordance with requirements of the Contract Documents, and applicable requirements of Federal, State and Local Codes.
- B. If temporary hoisting equipment is to be anchored to, or supported by, building structure and/or related building construction, submit layout of equipment, loads involved, anchorage proposed and other pertinent data for review by the Structural Engineering Consultant prior to installation.
- C. Provide and maintain suitable means of travel between floor levels of building and to all roof levels for use by all General Contractors, workmen, Architect, and Owner's Project Manager until permanent stair systems are installed and for proper execution of Work.

1.13 TEMPORARY BARRICADES AND ENCLOSURES

- A. Provide temporary enclosure indicated and where reasonably required to ensure adequate Workmanship and protection from weather and unsatisfactory ambient conditions for the Work, including enclosure where temporary heat is used. Provide fire-retardant treated lumber and plywood. Provide tarpaulins with UL label and flame spread of 15 or less; provide translucent type (nylon reinforced polyethylene) where daylighting of enclosed workspace would be beneficial for Workmanship and reduce use of temporary lighting. Enclosures visible to the building exterior shall be painted with the color designated by the Owner.
 - 1. Provide protection all times, against rain, snow, wind, storms, and at the end of each day's Work cover all new Work subject to damage. Work damaged by failure to provide such protection shall be removed and replaced at no additional cost to the Owner.
 - 2. Provide barricades for traffic control at streets adjacent to the Project site, as may be required or necessary to provide safe access and egress for Owner and construction related vehicles.
 - 3. Provide protection to prevent flooding of existing sites and buildings.

1.14 SECURITY AND PROTECTION PROVISIONS

- A. Temporary security and protection provisions required shall include, but not be limited to, guard rails, fire protection, barricades, warning signs/lights, enclosed fence, sidewalk bridges, building enclosure/lockup, theft protection, environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project site. Provide security and protection services and systems in coordination with activities and in such a manner to achieve 24 hour, 7-day-per week effectiveness.
 - 1. Provide types, sizes, numbers, and locations of fire extinguishers, as would be reasonably effective in extinguishing fires during early stages, by personnel at project site (minimum 2 per floor of each building). Provide type A extinguishers at locations of low-potential for either electrical or grease-oil-flammable liquids fires; provide Type ABC dry chemical extinguishers at other locations; comply with recommendations of NFPA No. 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations and

Demolition Operations. Post warning and quick instructions at each extinguisher location, and instruct all personnel at project site, at time of their first arrival, on proper use of extinguishers and other available facilities at project site. Post local fire department call number on each telephone instrument at project site.

- a. Complete each new permanent fire protection system and facility at the earliest reasonable date, and make ready for emergency use, and instruct personnel at site on availability and proper use.
- b. Perform torch cutting and welding operations only when approved by the General Contractor. Provide chemical extinguishers at all locations where such Work is in progress.
- c. Maintain a fire watch of the interior and exterior of the facility for at least one hour after the Project's daily quitting time when the following activities have been done: torching, welding, or other activities capable of starting combustion.

1.15 HAZARDOUS MATERIALS

- A. The General Contractor is solely responsible for all matters relating to hazardous or toxic materials and lawful removal of same from the site. If hazardous or toxic materials are indicated or discovered, properly inform governing authorities, and abide by their requirements.

1.16 DUST AND NOISE CONTROL

- A. Provide and maintain throughout the conduct of the Work of this Project, the following measures necessary to control and reduce emission of airborne dust and prevent contamination of exterior surfaces at the existing Green Meadow Elementary School and at adjacent public and private properties, or otherwise creating a nuisance to the Owner or adjacent properties.

1. Periodic dosing with water or other approved dust control materials of site access roads during periods of extended heat or dry weather, as determined by the Architect.
 - a. Sufficiently wet construction materials with a fine spray or sprinkling of water during removal, cutting or other handling to reduce the emission of airborne dust. On Workdays this is to be done a minimum of four times per day. On Sundays and Saturdays, it is to be one time per day, 24 hours maximum after the last Workday watering and 24 hours between each weekend watering.
2. Covering with heavy duty tarps, or other approved protection, of all on-site stockpiles of loam and fill
3. Installation of crushed rock dust traps at all transition points from dirt to asphalt
4. Street sweeping of existing access drives and parking lots within distance of 500 feet from the Limit of Work line, as may be required to keep all areas clean and free of dirt, mud, and debris all times.
5. The General Contractor shall include the cost to comply with the above requirements in a separate line item included in the Schedule of Values provided in accordance with the Contract Documents.

- B. The General Contractor shall use every effort and every means possible to minimize noise caused by his operations, which the Architect, the Owner's Representative, Owner, or governing authorities may consider objectionable. The noise levels on the construction site shall be controlled so that at no time shall the noise level measured at the Limit of Work line exceed 70dB. The General Contractor shall provide Working machinery and equipment equipped with suitable mufflers and sound-deadening panels in accordance with the latest edition of the OSHA regulations. Compressors shall be equipped with silencers or mufflers on intake and exhaust lines. Wherever practical electricity shall be used for power to reduce noise. Dumping bins, hoppers and trucks used for disposal shall be lined with wood or other sound deadening material if required. Where required agencies have jurisdiction, certain noise-producing Work may have to be performed during specified periods only, further; the General Contractor and Subcontractors are required to comply with all applicable regulations.

1. Prior to the start of construction, the General Contractor shall submit to the Owner, the Owner's Representative and the Architect, a Noise Control Program for review where Work with high level of noise is anticipated to Work out plans to mitigate the noise impact, especially for Work anticipated to be done during normal school hours.

1.17 PROJECT SIGNAGE

- A. Maintain existing project identification signs at visible location from the primary roadway adjoining the site.

- B. Provide other signs required or necessary to provide directional information to construction personnel, visitors, and school personnel. Construct signs in an attractive manner utilizing rigid materials and crisp graphic lettering and pictorials acceptable to Architect. Install signs at appropriate locations.

1.18 SAFETY AND COOPERATION

- A. This project is subject to compliance with Public Law 91-596, "Occupied Safety and Health Act of 1970" (OSHA) and all amendments thereto, with respect to all rules and regulations pertinent to construction.
 - 1. The Work of this Contract shall be performed between the hours of 7:00 AM and 5:00 PM, Monday through Friday, and 9:00 AM and 4:00 PM on Saturday. Performance of the Work of this Contract shall not be allowed on Sunday or Holidays. Exceptions to the specified hours of Work shall be allowed in the event of an emergency, in coordination with the Owner.
- B. The General Contractor shall coordinate all Work and extend full cooperation to School District personnel and the Work of other trades.
- C. The following rules and regulations shall be required of General Contractor, Subcontractor, or other personnel providing services included under the Work of this Contract. No deviation or exception shall be permitted without the express written approval of the Owner. The General Contractor shall take responsibility for ensuring all construction personnel adhere to and cooperate with the Owner in enforcing these responsibilities.
 - 1. All Workers must be properly, permanently, and visually identified. The identification systems shall be set up by the Owner and administered by the General Contractor. Maintain an updated list of authorized Workers with Owner and notify the Owner of any change. All workers shall be required to always wear shirts.
 - 2. All Workers shall maintain their actions in a professional and workmanlike manner while at the Project site. Failure to comply with the following restrictions shall be grounds for permanent removal from the list of authorized workers, as described above. Worker restrictions include, but are not limited to, the following:
 - a. No abusive language
 - b. No littering
 - c. No lewd behavior
 - d. No conduct otherwise deemed unacceptable by the Owner or Architect
 - e. No smoking on School District property, in accordance with State of Massachusetts law
 - f. Consumption of alcoholic beverages on the job or coming to Work in an intoxicated condition.
 - g. Possessing or consuming illegal drugs or any other illegal substance while working on the Project.
 - h. Using or removing Owner's or Subcontractors' possessions from the property without prior written authorization.
 - i. Violating any state, federal or city statues, rules, regulations, and the like while working on the Project
 - j. Possessing firearms or explosives while Working on the Project
 - k. Using Project facilities for jobs other than specific assignments directly related to the Work of this Project.
 - l. Physically abusing or harming an individual who Works at or visits the Project.
 - m. Duplication of any keys used in the existing or new building without prior written authorization by the Owner.
 - n. Providing building access at any time to anyone not directly working for the General Contractor
 - o. Abusing, defacing, or destroying existing or new property of the Owner
 - p. Preventing access to all areas of the Project by the Owner, Architect, and the Owner's Consultants.
- D. The General Contractor shall provide to the Owner, prior to commencing the Work of this Contract, evidence of current CORI background checks for all General Contractor and Subcontractor personnel. Background checks shall be performed in accordance with 105 CMR 950.00 and Town of Maynard requirements.
- E. The Owner reserves the right to reject such personnel that the required CORI indicate may present reasonable assumption of risk to the staff and/or students at Green Meadow Elementary School. The General Contractor shall replace such personnel at no additional cost to the Owner.

1.19 TEMPORARY HUMIDITY CONTROL

- A. Humidity Control of Enclosed Building: The General Contractor shall install the following equipment to monitor and regulate relative humidity for the installation of all interior products. Humidity control equipment shall include, but not limited to, the following:
 - 1. Hygrometer: Provide one device to measure temperature and relative humidity in each construction area.
 - 2. Dehumidifier: Maintain humidity of enclosed areas below 70 percent.
 - 3. Fans: Eliminate significant variation in humidity levels within enclosed spaces.
- B. Schedule of Humidity Control: Relative humidity shall be maintained within the limits set by manufacturers of all interior materials and equipment. Refer to individual specification sections in Division 06, 09, 10, 11, and 12 for additional environmental requirements. No interior construction product shall be installed or applied prior to enclosure of building and installation of temporary humidity control measures.
 - 1. Humidity must be maintained at below 70 percent for a period of 30 days prior to installation of interior finishes subject to humidity restrictions to allow items to dry out before installation (example: slab RH at areas to receive epoxy paint).
- C. Within 30 calendar days after award of Contract, the General Contractor shall submit in writing to the Architect for approval, three copies of his proposed methods for humidity control.

1.20 PRE-INSTALLATION MEETING

- A. The General Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, determine acceptable mock-ups, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the General Contractor, Owner's Project Manager, and Architect.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Products, which include materials, equipment, and systems of assemblies of materials and equipment, shall conform to the requirements listed in each Section of the Specifications. Provide connections, fasteners, accessory materials, trim, finish, and other accessories needed for proper use, function, and appearance.
 - 1. Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
 - 2. Where additional amounts of a product, by nature of its application, are likely to be needed by Owner later date for maintenance and repair or replacement Work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.
- B. Nameplates: Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which shall be exposed in occupied spaces or on exterior of the Work.
 - 1. Labels: Locate required labels and stamps on a concealed surface, or where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
 - 2. Equipment Nameplates: Provide permanent nameplate on each item of service-connected or power operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings, and similar essential operating data. Locate nameplates on an easily accessed surface which in occupied spaces, is not conspicuous.
- C. Products are specified by:
 - 1. The descriptive method: Listing qualities that they must possess
 - 2. The reference standard method: Listing published product standards.
 - 3. The proprietary method: Listing one or more source names, which may include such information as name of manufacturer or fabricator, trade name, or catalog number.
 - 4. A combination of the above three.
- D. Where a reference standard is specified, the edition of the standard in the current governing building code shall be followed. Where the standard is not listed in the building code, follow the edition current with the issue date of these Specifications.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 32 – EXTERIOR IMPROVEMENTS; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 PRECEDENCE: QUALITY, REFERENCE STANDARD, AND SOURCE

A. Qualities

1. For the products specified by stated qualities or by the description, as well as by the reference standard or by the source, the specified qualities or description shall take precedence.
2. For a product specified only by stated qualities or by the description, provide materials, equipment or fabrications conforming to those qualities and description, suitable for the uses shown on the Drawings.

B. Reference Standards:

1. For product specified by reference to a published standard, as well as by the source, the reference standard shall take precedence over the source.
2. For a product described only by reference standard, provide material, equipment or fabrications conforming to that reference standard, suitable for the use shown on the Drawings.

C. Procedures for Selecting Products: General Contractor's options for selecting products are limited to Contract document requirements and governing regulations and are not controlled by industry traditions or procedures experienced by General Contractor on previous construction projects. Required procedures include, but are not limited to, the following for various methods of specifying:

1. For a product described by the manufacturer, the manufacturer's brand name, or origin, with or without catalog number or model number, provides a product that conforms to the specified qualities and reference standards.
2. For a product specified by source and "no substitution", provide only that product specified. No request for substitution shall be considered.
3. For a product specified by one or more names, provide any one of the products specified. Where two or more sources are named, the choice is the General Contractor's. Any other product shall be considered only if requested as a substitution.
4. For a product specified by one or more source names and "or approved substitute", provide one of the specified products, or submit a request for substitution for a product not named which the General Contractor can demonstrate to be of equal or higher quality.
5. Provide materials mined or manufactured in Massachusetts first and the United States of America second whenever possible.
6. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer for overall application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.
7. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.
8. Visual Matching: Where matching with an existing product or established sample is required, final judgement of whether a product proposed by the General Contractor matches sample satisfactorily is the Architect's judgement. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with Contract document provisions concerning, "Substitutions" and "Change Orders" for selection of a matching product outside established cost category or a product not complying with requirements.

1.05 GENERAL CONTRACTOR'S OPTION

- A. Where an option (or choice) is specified, provide one or the other of the options. The choice of option is the General Contractor's. Where submittals are required, GC shall state which option has been chosen by GC.
- B. For economy of drawing, only one option is usually shown on the Drawings. If another option is elected by the General Contractor, he shall adjust details, dimensions, and physical settings to conform. The General Contractor shall review adjustments and details with the Architect before implementation.

1.06 SPECIAL WARRANTIES AND SERVICE

- A. In addition to the warranty and correction Work provisions of the General Conditions, provide the following as specified:
 - 1. Special Warranties: A warranty or guarantee provided by the manufacturer, fabricator, supplier or installer and the General Contractor providing a specific representation of quality and fitness for a specific time. When also specified, a special warranty lists the actions the General Contractor, his installer, supplier, or manufacturer shall take to correct defective Work.
 - 2. Service: Specific programs of service that a manufacturer, fabricator, supplier or installer and the General Contractor shall provide for a specific time. Service programs shall, as, specified, provide such Work as inspections, reports, parts, materials, and other products or Work needed to render the services.
- B. The Architect and Owner reserve the right not to accept unrequested warranties and guarantees offered by the General Contractor, his installers, or suppliers.
- C. Special warranties shall not be required to cover failure from:
 - 1. Hurricane, floods or acts of God.
 - 2. Misuse or improper maintenance by the Owner.
 - 3. Vandalism or misuse by the public after the time of Substantial Completion.
- D. When defective Work is corrected under the special warranty provisions, the warranty period shall be extended by the time between Substantial Completion and the correction of the Work.

1.07 CERTIFICATION BY MANUFACTURERS OR INSTALLERS

- A. Provide where specified, as a submittal, certification by the manufacturer or installer that the product and its method of installation are suitable for:
 - 1. The type of construction and use of this product
 - 2. For the New England climate
 - 3. For the design intent expressed in the Contract Documents

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver handle and store products in accordance with manufacturer's recommendations and by methods which prevent damage, deterioration, and loss, including theft.
- B. Control delivery schedule to minimize long term storage of products at site and overcrowding of construction spaces. Provide delivery/installation coordination to ensure minimum holding or storage times for products that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.

1.09 SUBSTITUTION REQUEST PROCEDURE

- A. For a period of 60 days after the start of Contract Time, the Architect will review written requests from the General Contractor for changes in products, materials and methods of construction required by Contract Documents. These changes are considered request for "substitutions" and are subject to requirements hereof. Substitutions received after the 60-day commencement of Work may be considered rejected at the discretion of the Architect.
 - 1. Work not defined as Substitutions: The requirements for substitutions do not apply to the following:
 - a. Specified General Contractor options on products and construction methods.
 - b. Revisions to Contract Documents requested by Owner or Architect are "changes" not "substitutions".
 - c. Requested substitutions during bidding period, which have been accepted prior to Contract Date and included in Contract Documents.
 - d. General Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders, except as provided for in Contract Documents.

- B. Requests for Substitutions: Submit 3 copies of substitution request form provided herein, fully identified for product or method being replaced by substitution, including related specification Section, and drawing number(s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, General Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected Work, cost information or, proposal, fabrication and installation procedures and General Contractor's statement to the overall Work as a substitute to or -better-than Work originally indicated.
- C. Conditions: General Contractor's request for substitution shall be received and considered when extensive revisions to Contract Documents are not required and changes are in keeping with the general intent of Contract Documents; when timely, fully documented, and properly submitted; and when one or more of the following conditions is satisfied, all as judged by the Architect. The review of substitution requests is an extra service of the Architect and the Owner's Project Manager to the Owner, limited by the Owner's authorization of the Architect and the Owner's Project Manager to perform such services. The Owner will charge the General Contractor for the Architect's and the Owner's Project Manager's processing of substitution requests, except when the General Contractor can demonstrate that one of the following cases applies. Otherwise, requests shall be returned without action except to record non-compliance with these requirements.
 - 1. When the indicated product or method cannot be provided within the approved progress schedule, but not as the result of the General Contractor's failure to Contract, order, purchase, fabricate, prepare other Work, or coordinate the Work well in advance of need.
 - 2. When the indicated product or method is not compatible with other products or Work, cannot be coordinated or fit into Work, or shall demonstrably have adverse effect on permanence, function, or use of the Work.
 - 3. When the indicated product or method is not approved by public authorities.
 - 4. When the substitute request is made in response to a source specified as "Architect approved substitute".

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

SUBSTITUTION REQUEST FORM

Project: Green Meadow Elementary School – Early Site Package Project No.: 02021.10
5 Tiger Drive,
Maynard, MA 01754

Owner: Town of Maynard
195 Main Street,
Maynard, MA 01754

To: From:

Architects: Mount Vernon Group Architects, Inc.
264 Exchange St., Suite G7
Chicopee, MA 01013

GENERAL CONTRACTOR'S REQUEST, WITH SUPPORTING DATA

1. Section of Specifications to which this request applies: _____
Section number
 Product data for proposed substitution is attached (description of product, reference standards, performance, and test data).
 Sample is attached Sample shall be sent if requested by Architect.
2. Itemized comparison of proposed substitution with product specified.

ORIGINAL PRODUCT

SUBSTITUTION

Name, brand:

Catalog No.:

Manufacturer:

Significant
Variation:

3. Unit cost of original product and proposed substitution. State whether cost is for _____ material only, or _____ material installed.

Original Product: \$ _____ per _____ Substitution: \$ _____ per _____

4. Proposed change in Contract Sum:

Credit to Owner: _____ Additional cost to Owner: _____

5. Proposed change in Contract Time:

Reduce/Increase Contract time by: _____ days.

6. Effect of the proposed substitute on other parts of the Work, or on other Contracts:

7. Reason for requesting substitution:

GENERAL CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENTS:

I/we have investigated the proposed substitution. I/we

1. believe that it is equal or superior in all respects to the originally specified product, except as stated in 2. Above.
2. shall provide the same warranty in accordance with the General Conditions.
3. shall provide the same special warranty or guaranty as specified.
4. have included all cost data and cost implications of the proposed substitution.
5. shall pay redesign and special inspection costs caused using this product.
6. shall pay additional costs to other General Contractors caused by substitution.
7. shall coordinate the incorporation of the proposed substitution in the Work.
8. shall modify other parts of the Work as needed, to make all parts of the Work complete and functioning.
9. waive further claims for added cost to General Contractor caused by the proposed substitution.

General Contractor: _____ Date: _____

ARCHITECT REVIEW AND ACTION

- A. Provide more information in the following categories. Resubmit.
- B. Sign General Contractor's Statement of Conformance. Resubmit.
- C. The proposed substitution is approved, with the following conditions:

D. The following changes shall be made by change order:

1. Addition/Deduction from the Contract Sum:
2. Addition/Deduction from Contract Time:

Mount Vernon Group Architects, Inc.: _____

Date: _____

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 01 77 00

CONTRACT CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, the following:
 - 1. Supplementary instructions regarding preparation for Contract closeout, including Punch-List, prerequisites to Substantial Completion and Final Inspection, Substantial Completion, Affidavit regards to liens, submittals of guarantees and other Documents and instruction to Owner's personnel.
 - 2. Specific requirements for individual units of Work are specified in Sections of Division 2 through 32. Time of closeout is directly related to "Substantial Completion" for all phases of the Work and therefore shall be a series of time periods for the individual phases of the Work which have been certified as substantially complete at different dates.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 PUNCH-LIST AND FINAL INSPECTION

- A. In accordance with requirements of the General Conditions, when the General Contractor considers the Work to be substantially complete, for either entire Work or specified phases thereof, he shall notify the Owner and the Architect in writing that the Work shall be ready for final inspection on a definite date which shall be stated in the notice. Such notice shall be given at least 10 days prior to the date stated for final inspection.
 - 1. Written notice shall also be given to Owner and Architect by the General Contractor upon completion of any Work which was determined during the above referenced final inspection to be incomplete, incorrect, or unsatisfactory.
 - 2. On receipt of such notice from the General Contractor, additional inspection(s) shall be made until completion of all Contract requirements is complete, as determined by the Architect.
- B. The Architect will review the General Contractor's punchlist and verify Substantial Completion for individual specified phases of the Work and the entire Work. Verification of Substantial Completion by the Architect is intended to be a final inspection of the Work to determine that the Work has been executed in accordance with requirements of the Contract Documents. Requests to the Architect by the General Contractor for verification of Substantial Completion of incomplete Work, or prior to receipt by the Architect of the General Contractor's punchlist, shall not be honored.

1.05 SUBSTANTIAL COMPLETION

- A. Upon determination of Substantial Completion for individual specified phases of the Work and the entire Work, the Architect will prepare a Certification of Substantial Completion in accordance with requirements of the Contract Documents. Unless specifically provided otherwise by the Architect in the Certificate of Substantial Completion, the General Contractor shall be responsible for providing full manufacturer warranties in accordance with requirements of

individual trade Sections for specific product warranty requirements. As a result of the overlapping nature of Substantial Completion for the specified individual phases of the Work, the General Contractor shall be responsible for providing manufacturer warranties, the Effective Starting Date of which, shall commence upon Substantial Completion of Phase 1D of the Work, as described in the Contract Documents. Warranties shall run for the warranty period indicated in the respective trade Section.

1. Upon written declaration of Substantial Completion by the General Contractor, the General Contractor shall show 100 percent completion for the specified individual phase of the Work claimed as substantially complete. The General Contractor shall include supporting documentation of Substantial Completion in accordance with requirements of the Contract Documents, and a statement showing an accounting of changes to the Contract Sum.
 - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

1.06 SUBMITTAL OF DOCUMENTS AND PROCEDURAL REQUIREMENTS

- A. At the "Substantial Completion Stage" of the Contract, the General Contractor shall submit the following items to the Architect for transmission to the Owner:
 1. Application for reduction in retainage, and consent of surety.
 2. List of incomplete Work, which is to be attached to the Architects Certificate of Substantial Completion as a clarification.
- B. Remove construction facilities and temporary controls, except those that are required to complete punch-list Work.
- C. At "Final Completion" the General Contractor shall prepare closeout submittals and submit them to the Architect prior to "Final Completion", allowing at least 15 Working days' time for review.
 1. Project record Documents marked with changes made during construction.
 2. Copy of approved shop drawings or installed drawings for all phases of the Work.
 3. Final construction photographs.
 4. Certified building location survey.
 5. Certificate of insurance for products and completed operations.
 6. Consent of Surety to Final Payment.
 7. An affidavit that all bills and indebtedness connected with the Work has been paid.
 8. Typed list of Subcontractors and major Material Suppliers. (Shall include address, telephone number and name of individual to Contract regarding this project.
 9. Waivers of lien from all Subcontractors and suppliers, or bond satisfactory to the Owner indemnifying Owner against all liens or other claims.
 10. Proof that all taxes, fees, and similar obligations have been paid.
 11. Additional change over information which may be required by Owner's lender and Owner's property insurer.
 12. Deliver tools, spare parts, extra stock, and similar items.
 13. Operation and maintenance manuals.
- D. Complete punch list items or, if acceptable to the Owner, furnish proposed schedule for completion and assurances that Work not completed and accepted shall be completed without undue delay. The Architect will re-inspect the Work to determine whether it is complete.
- E. The General Contractor shall complete all the items stated in the Closeout Procedures within 45 days of the date of the Certificate of Substantial Completion. Failure to complete the closeout requirements within the allowed time frame will require the Owner to charge back all costs of the Architect, Project Manager, and other Consultants which the Owner requires for the completion of the project closeout. The Architect will process this by preparing a Final Change Order, reflecting adjustments to the Contract Sum not previously made by other Change Orders.

1.07 AFFIDAVIT IN REGARD TO LIENS

- A. A valid "Contractor's Affidavit in regard to Liens", which certifies the following, must be submitted with "Request for Final Payment".
1. The undersigned hereby certifies that all Work required under the above Contract has been performed in accordance with the terms thereof, that all material, men, Subcontractors, mechanics, and laborers have been paid and satisfied in full and that there are no outstanding claims of any character arising out of the performance of the Contract which have been paid and satisfied in full.
 2. The undersigned further certifies that to the best of his knowledge or belief, there are no unsatisfied claims for damages resulting from injury or death to any employees, Subcontractors or the public at large arising out of the performance of the Contract, or any suits or claims for any other damage of any kind, nature or description which might constitute a lien upon the property of the Owner.
 3. General Contractor shall provide a written guarantee in a form acceptable to the Owner and Architect at Substantial Completion.

1.08 FINAL INSPECTION

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following: List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and complete operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Architects final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for correcting elements of the Work.
 5. Submit consent of surety to final payment.
 6. Submit final liquidated damages settlement statement.
 7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General and Supplementary General Conditions and Division 01-General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section shall include, but not be limited to, maintaining at the site for the Building Superintendent one record copy of the following:
 - 1. Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other Modifications to the Contract
 - 5. Architect's Field Orders or written instructions
 - 6. Approved Shop Drawings, Product Data and Samples
 - 7. Field Test Records

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 33 – UTILITIES; including all Sections contained therein.

1.04 GENERAL REQUIREMENTS

- A. Provide all necessary equipment, including but not limited to, lockable files, racks, and secure storage required to maintain storage of documents and samples in a clean, dry, legible condition and in good order.
- B. Documents and samples shall be filed in accordance with the data Filing Format of the Uniform Construction Index.
- C. Record Documents shall not be used for construction purposes.
- D. Make Documents and samples available all the time for inspection by Architect/Engineer.
- E. Provide felt tip marking pens for recording information in the color code designated by the Architect.

1.05 RECORDING

- A. Label each document "PROJECT RECORD" in neat large letters located in the bottom righthand corner.
- B. Record information concurrently with construction progress.
 - 1. Do not conceal any Work until required information is recorded.
- C. Drawings shall be legibly mark daily to record actual construction, as follows:
 - 1. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

2. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the structure.
3. Field changes of dimensions and detail.
4. Changes made by Field Order or by Change Order.
5. Details not on original Contract drawings.
6. Record Drawings shall be updated each working day. Monthly pay requisitions shall not be processed if record drawings are not up to date.
7. The Architect and his consultants will provide a copy of the Revit drawings, approved submittals, and RFI responses upon request by the General Contractor at the beginning of construction phase. The General Contractor shall regularly update the Revit drawings to "As-Built" drawings based on actual construction and installation.

- D. Individual Specification Sections and Contract Document Addenda shall be legibly marked to record the following:
1. Manufacturer, trade name, catalogue number, and supplier of each product and item of equipment installed.
 2. Changes made by Field Order or by Change Order.

1.06 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures and in accordance with requirements of the Contract Documents.
- B. Prior to General Contractor claim of Substantial Completion for specified phases of the Work and the entire Work, the General Contractor shall deliver Record Documents to the Architect for review and approval.
- C. Upon receipt of approval of Record Documents from the Architect, the General Contractor and Subcontractors shall transfer the as-built information shown on the Record Drawings onto compact disc, in a format compatible with equipment and programs provided under the Work of Section 01 50 00 – Temporary Facilities and Controls, or as otherwise required by the Owner.
- D. Submission of accurate record drawings and their approval shall be a condition precedent to final payment.
- E. Submittals of Record Documents shall be accompanied with transmittal letter in duplicate, containing the following information:
 1. Date
 2. Title and number of each Record Document
 3. Signature of the General Contractor or his authorized representative

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

SECTION 31 09 00

SUBSURFACE INVESTIGATION

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including Drawings, General Conditions and Supplementary Conditions and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, furnishing and installation of the following:
 - 1. All materials, equipment, labor, and services required for all Subsurface Investigation work, including all items incidental thereto, as specified herein and as shown on the Drawings.

1.03 SOIL REPORT

- A. The soil and environmental site assessment reports prepared for the Green Meadow Elementary School – Early Site Package are hereby made a part of the Contract Documents:
 - 1. Preliminary Geotechnical Report dated February 24, 2022, prepared by Lahlaf Geotechnical Consulting, Inc., 100 Chelmsford Rd., Suite 2, Billerica, MA 01862.
 - 2. Phase 1 – Environmental Site Assessment dated January 18, 2022, prepared by Lord Environmental, Inc., 1506 Providence Highway, Suite 30, Norwood, MA 02062.
- B. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation and makes no representation other than the soils reports regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work. The Contractor shall refer to attached Geotechnical Engineering Recommendations. Failure by the Contractor to be aware of existing site conditions shall not be cause for additional cost to the Owner.
- C. Information on subsurface conditions is made available for the convenience of the Bidders. The Owner does not represent to the Contractor that the information is either an accurate or a comprehensive indication of subsurface conditions. Bidders are invited to review the information to apprise themselves of the information available, and to make additional investigations at their own expense.
- D. No claim for extra cost or extension of time resulting from reliance by the Contractor on information presented herein shall be allowed, except as provided in the Contract Documents.
- E. Information on subsurface conditions is made available for the convenience of the Bidders. The Owner does not represent to the Contractor that the information is either an accurate or a comprehensive indication of subsurface conditions. Bidders are invited to review the information to apprise themselves of the information available, and also to make additional investigations at their own expense.
- F. No claim for extra cost or extension of time resulting from reliance by the Contractor on information presented herein shall be allowed, except as provided in the Contract Documents.

1.04 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.

- B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following Divisions:
 - 1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein.
 - 2. DIVISION 31 – EARTHWORK; including all Sections contained therein.
 - 3. DIVISION 32 – UTILITIES; including all Sections contained therein.

1.05 QUALITY ASSURANCE

- A. A soil engineer will be retained by the Owner to observe performance of work in connection with excavating, trenching, filling, backfilling, and grading, and to perform compaction tests.
- B. Re-adjust work performed that does not meet technical or design requirements but makes no deviation from the Contract Documents without specific and written approval from the Architect.

1.06 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures and in accordance with requirements of the Contract Documents.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT



LGCI

Lahlaf Geotechnical Consulting, Inc.

February 24, 2022

Mr. Chris LeBlanc, MCPPO
Mount Vernon Group Architects, Inc.
200 Harvard Mill Square
Suite 140
Wakefield, MA 01880
Tel: (413) 377-2866
Mobile: (413) 530-0817
E-mail: cleblanc@mvgarchitects.com

Re: **Preliminary Geotechnical Report**
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201

Dear Mr. LeBlanc:

Lahlaf Geotechnical Consulting, Inc. (LGCI) has completed a preliminary geotechnical study for the proposed Green Meadow Elementary School at the existing Green Meadow Elementary School site in Maynard, Massachusetts. We are submitting our preliminary geotechnical report electronically.

The soil samples from our explorations are currently stored at LGCI for further analysis, if requested. Unless notified otherwise, we will dispose of the soil samples after three (3) months.

Thank you for choosing LGCI as your geotechnical engineer.

Very truly yours,

Lahlaf Geotechnical Consulting, Inc.

Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer



LGC

Lahlaf Geotechnical Consulting, Inc.

**PRELIMINARY GEOTECHNICAL REPORT
PROPOSED GREEN MEADOW ELEMENTARY SCHOOL
MAYNARD, MASSACHUSETTS**

LGCI Project No. 2201

February 24, 2022

Prepared for:

MOUNT VERNON GROUP ARCHITECTS, INC.

200 Harvard Mill Square

Suite 140

Wakefield, MA 01880

Tel: (413) 377-2866

**PRELIMINARY GEOTECHNICAL REPORT
PROPOSED GREEN MEADOW ELEMENTARY SCHOOL
MAYNARD, MASSACHUSETTS**

LGCI Project No. 2201

February 24, 2022

Prepared for:

MOUNT VERNON GROUP ARCHITECTS, INC.

200 Harvard Mill Square

Suite 140

Wakefield, MA 01880

Tel: (413) 377-2866

Prepared by:

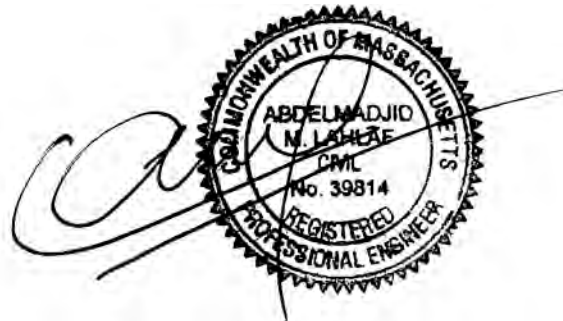
LAHLAF GEOTECHNICAL CONSULTING, INC.

100 Chelmsford Road, Suite 2

Billerica, Massachusetts 01862

Phone: (978) 330-5912

Fax: (978) 330-5056



Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

TABLE OF CONTENTS

1.	PROJECT INFORMATION	2
1.1	PROJECT AUTHORIZATION	2
1.2	PURPOSE AND SCOPE OF SERVICES	2
1.3	REVIEWED DOCUMENTS	2
1.4	SITE LOCATION AND DESCRIPTION	2
1.5	PROJECT DESCRIPTION	3
1.6	ELEVATION DATUM	3
2.	SITE AND SUBSURFACE CONDITIONS	4
2.1	SURFICIAL GEOLOGY	4
2.2	LGCI'S EXPLORATIONS	4
2.2.1	<i>General</i>	4
2.2.2	<i>LGCI's Soil Borings</i>	4
2.2.3	<i>Exploration Logs and Locations</i>	5
2.3	SUBSURFACE CONDITIONS	5
2.4	GROUNDWATER	6
2.5	LABORATORY TEST DATA	7
3.	EVALUATION AND RECOMMENDATIONS	8
3.1	GENERAL	8
3.1.1	<i>Surficial Organic Soil and Existing Fill</i>	8
3.1.2	<i>Shallow Bedrock</i>	8
3.1.3	<i>Shallow Footings</i>	9
3.1.4	<i>Silt Content</i>	9
3.2	FOUNDATION RECOMMENDATIONS	9
3.2.1	<i>General</i>	9
3.2.2	<i>Footing Design</i>	9
3.2.3	<i>Settlement Estimates</i>	10
3.3	CONCRETE SLAB CONSIDERATIONS	10
3.3.1	<i>Slabs-on-Grade</i>	10
3.3.2	<i>Under-slab Drains and Waterproofing</i>	11
3.4	SEISMIC DESIGN	11
3.5	LATERAL PRESSURES FOR WALL DESIGN	12
3.5.1	<i>Lateral Earth Pressures</i>	12
3.5.2	<i>Seismic Pressures</i>	12
3.5.3	<i>Perimeter Drains</i>	13
3.6	PARKING LOTS, DRIVEWAYS, AND SIDEWALKS	13
3.6.1	<i>General</i>	13
3.6.2	<i>Sidewalks</i>	14
4.	CONSTRUCTION CONSIDERATIONS	15
4.1	SUBGRADE PREPARATION	15
4.2	SUBGRADE PROTECTION	16
4.3	FILL MATERIALS	17
4.3.1	<i>Structural Fill</i>	17
4.3.2	<i>Ordinary Fill</i>	17
4.4	REUSE OF ONSITE MATERIALS	18
4.5	GROUNDWATER CONTROL PROCEDURES	18
4.6	TEMPORARY EXCAVATIONS	19
5.	REPORT LIMITATIONS	20
6.	REFERENCES	21

List of Tables and Figures

Table 1 Summary of LGCI's Borings

Figure 1 Site Location Map

Figure 2 Surficial Geologic Map

Figure 3 Boring Location Plan

List of Appendices

Appendix A LGCI's Boring Logs

Appendix B Laboratory Test Results

**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

1. PROJECT INFORMATION

1.1 Project Authorization

This preliminary geotechnical report presents the results of the preliminary subsurface explorations and a preliminary geotechnical evaluation performed by Lahlaf Geotechnical Consulting, Inc. (LGCI) for the proposed Green Meadow Elementary School in Maynard, Massachusetts. We performed our services in general accordance with the scope described in our proposal No. 21115-Rev. 1 dated December 22, 2021. Our services were authorized by Mr. Chris LeBlanc of Mount Vernon Group Architects, Inc. (MVG) by signing our proposal on December 22, 2021.

1.2 Purpose and Scope of Services

The purpose of this study was to perform preliminary subsurface explorations at the site for the proposed Green Meadow Elementary School and to provide preliminary foundation and construction recommendations. LGCI performed the following services:

- Coordinated our exploration locations with MVG and with the Green Meadow Elementary School facilities staff, marked the exploration locations at the site, and contacted Dig Safe Systems, Inc. (Dig Safe) and the Town of Maynard for utility clearance.
- Engaged a drilling subcontractor to advance nine (9) soil borings at the site.
- Provided an LGCI geotechnical engineer, full time, at the site to coordinate and observe the explorations, describe the soil samples, and prepare field logs.
- Submitted four (4) soil samples for laboratory testing.
- Prepared this preliminary geotechnical report containing the results of our preliminary subsurface explorations and our preliminary foundation design and construction recommendations.

Our current scope does not include attending meetings, reviewing drawings, or performing field services during construction. LGCI will be glad to provide a proposal for these services when requested. Recommendations for unsupported slopes, stormwater management, erosion control, pavement design, slope stability analyses, site specific liquefaction analyses, pile analysis and design, and detailed cost or quantity estimates are not included in our scope of work.

LGCI did not perform environmental services for this project. LGCI did not perform an assessment to evaluate the presence or absence of hazardous or toxic materials above or below the ground surface at or around the site. Any statement about the color, odor, or the presence of suspicious materials included in our exploration logs or report were made by LGCI for



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

information only and to support our geotechnical services. No environmental recommendations and/or opinions are included in this report.

1.3 Reviewed Documents

LGCI reviewed the following documents:

- Drawing L.2 titled: “Site Plan, Green Meadow Elementary School Addition and Renovation, Maynard, MA,” (1987 Site Plan) prepared by DiNisco Kretsch & Associates, Inc., dated February 5, 1987, and provided to LGCI by MVG via e-mail on December 20, 2021.
- Sketch titled: “Maynard Arial View,” (Existing Conditions Sketch) undated, and provided to LGCI by MVG via e-mail on December 9, 2021.
- Sketch titled: “Maynard Add-Reno Plan,” (Addition & Renovation Sketch) undated, and provided to LGCI by MVG via e-mail on December 9, 2021.
- Sketch titled: “Maynard New Plan,” (New Building Sketch) undated, and provided to LGCI by MVG via e-mail on December 9, 2021.

1.4 Site Location and Description

Our understanding of the site is based on our field observations, our conversations with MVG, and on the drawings listed in Section 1.3.

The site of the proposed construction is at the site of the existing Green Meadow Elementary School located at 5 Tiger Drive in Maynard, Massachusetts as shown in Figure 1. The site is bordered by Tiger Drive on the eastern side, by Great Road on the northern side, and by wooded land on the western and southern sides. The site is occupied by the existing Green Meadow Elementary School building and associated parking lots, driveways, landscaped areas, and athletic fields. The athletic fields include a baseball field north of the existing school and an open practice field on the southern side of the existing school. The existing school building has an irregular fan shape. Based on the 1987 Site Plan, additions were added to the original Green Meadow Elementary School and the existing building was also renovated.

Based on the 1987 Site Plan and the Existing Conditions Sketch, the grades around the existing school building rise from approximately El. 208 feet on the eastern side of the existing building to about El. 225 feet near the western side of the existing building. The grades within the parking lots, driveways, and landscaped areas located east of the existing school rise from approximately El. 196 feet to El. 208 feet in a westerly direction. Based on the Existing Conditions Sketch, the grades within the open practice field on the southern side of the existing building are generally level at approximately El. 212 feet.



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

1.5 Project Description

Our understanding of the proposed construction is based on our field observations, our discussions with MVG, and on the Addition & Renovation Sketch and the New Building Sketch listed in Section 1.3.

We understand that at this time two (2) options for the proposed Green Meadow Elementary School are being considered as follows:

1. Additions on the eastern and southern sides of the existing school in an area covered by landscaped areas, grass, and asphalt; and
2. A new school in the open field south of the existing school.

Details about the size, layout, and exact locations of the two options are not available at this time.

1.6 Elevation Datum

We understand that the elevations shown in the 1987 Site Plan and the Existing Conditions Sketch do not reference an elevation datum.



2. SITE AND SUBSURFACE CONDITIONS

2.1 Surficial Geology

LGCI reviewed a surficial geologic map titled: “Surficial Materials Map of the Maynard Quadrangle, Massachusetts,” (Surficial Geological Map) prepared by Stone, J.R. and Stone, B.D. for U.S. Geological Survey, 2018, Scientific Investigation Map 3402, Quadrangle 97 – Maynard.

The Surficial Geological Map indicates that the natural soils on the western side of the site mainly consist of thin till. The thin till is described as non-sorted, non-stratified matrix of sand, some silt, and little clay containing scattered pebbles, cobbles, and boulder clasts. The thin till is generally less than 10 to 15 feet thick.

The Surficial Geological Map also indicates that the natural soils on the eastern side of the site consist of coarse deposits, including gravel deposits, sand and gravel deposits, and sand deposits. The gravel deposits are composed mainly of gravel, cobbles, and boulders. The sand and gravel layers generally range from 25 to 50 percent gravel particles and from 50 to 75 percent sand particles. The sand deposits are composed mainly of very coarse to fine sand. Coarser layers may contain up to 25 percent gravel, and finer layers may contain fine sand, silt, and clay.

The Surficial Geological Map also indicates that bedrock outcrops or shallow bedrock may be present on the western side of the site.

The Surficial Geologic Map of the site is shown in Figure 2.

2.2 LGCI’s Explorations

2.2.1 General

LGCI coordinated our exploration locations with MVG and with the Green Meadow Elementary School staff, and marked the exploration locations in the field. LGCI notified Dig Safe and the Town of Maynard for utility clearance prior to starting our explorations at the site. An LGCI geotechnical engineer observed and logged the explorations in the field.

Unless notified otherwise, we will dispose of the soil samples obtained during our explorations after three months.

2.2.2 LGCI’s Soil Borings

LGCI engaged Northern Drilling Service, Inc. (NDS) of Northborough, Massachusetts to advance nine (9) borings (B-1, B-2, B-4, & B-6 to B-11) at the site between January 28 and February 1, 2022. Borings B-3 and B-5 were not performed due to time constraints. The borings were advanced with a track-mounted B-53 ATV drill rig using drive and wash boring techniques with a 4-inch casing. The borings extended to depths ranging between 13



and 21 feet beneath the ground surface. Upon completion, the boreholes were backfilled with the soil cuttings and gravel.

NDS performed Standard Penetration Tests (SPT) during drilling and obtained split spoon samples in the borings with an automatic hammer at typical depth intervals of 2-feet or 5-feet as noted on the boring logs in general accordance with ASTM D-1586.

An LGCI geotechnical engineer observed and logged the borings in the field.

2.2.3 Exploration Logs and Locations

The exploration locations are shown in Figure 3. Appendix A contains LGCI's boring logs. Table 1 shows a summary of LGCI's borings.

2.3 Subsurface Conditions

The subsurface description in this report is based on a limited number of explorations and is intended to highlight the major soil strata encountered during our explorations. The subsurface conditions are known only at the actual exploration locations. Variations may occur and should be expected between exploration locations. The boring logs represent conditions that we observed at the time of our explorations and were edited, as appropriate, based on the results of the laboratory test data and inspection of the soil samples in the laboratory. The strata boundaries shown in our exploration logs are based on our interpretations and the actual transitions may be gradual. Graphic soil symbols are for illustration only.

The soil strata encountered in the explorations were as follows, starting at the ground surface.

Topsoil – A layer of surficial organic topsoil was encountered in all borings. The surficial organic topsoil extended to depths ranging between 0.5 and 1.3 feet beneath the ground surface.

Subsoil – A layer of subsoil was encountered beneath the surficial organic topsoil in borings B-2, B-6, B-7, and B-10. The subsoil extended to depths ranging between 2 and 4 feet beneath the ground surface. The samples in the subsoil were described as silty sand. The fines content in the subsoil ranged between 15 and 35 percent and the gravel content ranged between 0 and 25 percent. The subsoil contained traces of organic soil and roots. The fines in a few samples were described as slightly plastic.

The standard penetration test (SPT) N-values in the subsoil ranged between 5 blows per foot (bpf) and 84 bpf, with most values ranging between 5 and 21 bpf, indicating mostly very loose to medium dense soil. The high SPT N-values may be caused by obstructions such as cobbles and boulders in the subsoil.

Fill – A layer of fill was encountered beneath the surficial organic topsoil in borings B-1, B-4, B-8, B-9, and B-11. The fill extended to depths ranging between 4 and 6.6 feet beneath the ground



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

surface. The samples in the fill were mostly described as silty sand or poorly graded sand. One (1) sample was described as well graded gravel. One (1) sample was described as well graded sand. The fines content in the fill ranged between 5 and 25 percent and the gravel content ranged between 5 and 45 percent. When described as gravel, the sand content in the fill ranged between 20 and 25 percent. The fill contained traces of organic soil, and roots.

The SPT N-values in the fill ranged between 11 bpf and refusal, with most values ranging between 11 and 38 bpf. The high SPT N-values may be caused by frozen soil or by obstructions such as cobbles and boulders in the fill.

Buried Organic Soil – A layer of buried organic soil was encountered beneath the fill layer in boring B-9. The buried organic soil extended to a depth of 9 feet beneath the ground surface. The sample in this layer was described as silty sand. The fines content in the buried organic soil ranged between 30 and 35 percent.

The SPT N-value in the buried organic soil was 9 bpf, indicating loose soil.

Sand and Gravel – A layer of sand and gravel was encountered beneath the subsoil, fill, or buried organic soil in all borings. The sand and gravel layer extended to depths of 17.5 feet, 12 feet, 11 feet, and 14.3 feet beneath the ground surface in borings B-1, B-7, B-8, and B-11, respectively, and to the termination depths of borings B-2, B-4, B-6, B-9, and B-10. The samples in this layer were mostly described as silty sand, poorly graded sand, or well graded gravel. Three (3) samples were described as silty gravel. The fines content in this layer ranged between 0 and 25 percent, and the gravel content ranged between 0 and 45 percent. When described as gravel, the sand content ranged between 15 and 45 percent. The sand and gravel contained traces of weathered rock. One (1) sample from this layer contained traces of roots.

The SPT N-values within the sand and gravel layer ranged between 3 bpf and refusal, with most values ranging higher than 10 bpf, indicating mostly medium dense to dense soil. The high SPT N-values may be caused by obstructions such as cobbles and boulders in this layer.

A layer of silt was encountered within the sand and gravel layer in boring B-2 at a depth of 14 feet beneath the ground surface. The silt extended to a depth of 19 feet beneath the ground surface. The sand content in the silt layer ranged between 10 and 15 percent. The silt was described as slightly plastic.

Rock – Apparent rock was encountered in borings B-1, B-7, B-8, and B-11 at depths ranging between 11 and 17.5 feet beneath the ground surface. The drillers advanced the roller bit about 1.5 feet to 3.7 feet into the rock to confirm the presence of rock in the borings.

2.4 Groundwater

Groundwater was encountered in all borings except in boring B-8 at depths ranging between 4 and 15.7 feet beneath the ground surface.



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

The groundwater levels measured are based on observations made during drilling or shortly after the completion of the explorations. Please note that water was introduced into the boreholes to maintain a stable borehole and the groundwater levels noted on the boring logs may not represent the actual groundwater level, as additional time may be required for the groundwater levels to stabilize. The groundwater levels presented in this report only represent the conditions encountered at the time and location of the explorations. Seasonal fluctuation should be anticipated.

2.5 Laboratory Test Data

LGCI submitted four (4) soil samples collected from the borings for grain-size analysis. The results of the grain-size analyses are provided in the test data sheets included in Appendix B and are summarized in the table below.

Grain-Size Analysis Test Results

Boring No.	Sample No.	Stratum	Sample depth (ft.)	Percent Gravel	Percent Sand	Percent Fines
B-1	S2	Fill	2 – 4	23.0	53.0	24.0
B-6	S2	Sand	2 – 4	0.1	93.8	6.1
B-7	S2 – Top 13”	Subsoil	2 – 4	3.4	62.5	34.1
B-11	S2	Fill	2 – 4	22.8	68.0	9.2



3. EVALUATION AND RECOMMENDATIONS

3.1 General

Based on our understanding of the proposed construction, our observation of our borings, and the results of our laboratory testing, there are a few issues that we would like to highlight for consideration and discussion.

3.1.1 Surficial Organic Soil and Existing Fill

Surficial organic soil and existing fill were observed in the borings.

- The surficial organic soil should be entirely removed from within the proposed construction area.
- The fill contained traces of organic soil and roots. Existing fill that was not placed with strict moisture, density, and gradation control, and buried organic soil present risk of unpredictable settlement that may result in poor performance of floor slabs and foundations. Buried, compressive, organic soil was observed beneath the fill. Due to the risk of excessive settlement, the existing fill and the buried organic soil should be entirely removed from within the footprint of the proposed building/additions and should be replaced with Structural Fill.
- Based on our borings, we anticipate that the removal will extend to depths of up to 9 feet. The removal may extend to greater depths at locations not explored by LGCI.
- The removal of the existing fill should extend beyond the limits of the proposed building a minimum distance equal to 5 feet or the distance between the bottom of the proposed footings and the bottom of the fill or buried organic soil, whichever is greater.
- The existing fill should be improved within the proposed paved areas and athletic fields as described in Section 4.1.
- The subsoil should be removed within the paved areas to a depth of 12 inches beneath the existing grade or 18 inches beneath the bottom of the pavement and the exposed subgrade in the subsoil should be proofrolled as described in Section 4.1.

3.1.2 Shallow Bedrock

Apparent rock was encountered in the borings at depths ranging between 11 and 17.5 feet beneath the ground surface.

We recommend that future explorations include rock cores to confirm and characterize the rock.



Based on the depths to top of apparent bedrock, we anticipate that rock removal will likely not be required to reach the bottom of the proposed building foundations and for utilities.

3.1.3 Shallow Footings

Based on the results of the borings, the subsurface conditions are suitable to support shallow spread and continuous footings bearing on Structural Fill placed directly on top of the natural sand and gravel after removing the surficial organic soil and the existing fill.

We anticipate that the major considerations during construction will be associated with the removal of the fill (unsuitable materials) and groundwater control during excavations.

3.1.4 Silt Content

The existing fill and the natural soil are generally silty. Silty soils are very susceptible to disturbance when exposed to moisture. Care should be exercised during construction to maintain a dry working subgrade and to provide working mats, e.g., crushed stone or concrete mud mats, to reduce the potential for disturbance of the foundation subgrade and to improve working conditions.

Our recommendations for preliminary footing design are presented in Section 3.2.1. Our estimates for preliminary settlement are presented in Section 3.2.2. Our concrete slab considerations are presented in Section 3.3. Section 4.1 provides recommendations for preparation of subgrades. Our preliminary recommendations for rock removal are provided in Section 4.5.

3.2 Foundation Recommendations

3.2.1 General

Based on the results of the borings, the subsurface conditions appear suitable for support of new structures with grade-supported floor slabs and shallow foundations. Recommendations for footing design and settlement are presented below.

3.2.2 Footing Design

- We recommend entirely removing the surficial organic soil and the existing fill from within the proposed building footprint as described in Section 3.1.1.
- We recommend supporting the proposed building on spread footings bearing on Structural Fill placed directly on the natural sand and gravel.



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

- We recommend designing the proposed footings using a net allowable bearing pressure of 4 kips per square foot (ksf) for footings bearing directly on a minimum of 6 inches of Structural Fill overlying the natural sand and gravel.
- Footing subgrades should be prepared in accordance with the recommendations in Section 4.1.
- Foundations should be designed in accordance with The Commonwealth of Massachusetts State Building Code 780 CMR, Ninth Edition (MSBC 9th Edition).
- Exterior footings and footings in unheated areas should be placed at a minimum depth of 4 feet below the final exterior grade to provide adequate frost protection. Interior footings in heated areas may be designed and constructed at a minimum depth of 2 feet below finished floor grades.
- Wall footings should be designed and constructed with continuous, longitudinal steel reinforcement for greater bending strength to span across small areas of loose or soft soils that may go undetected during construction.
- A representative of LGCI should be engaged to observe that the subgrade has been prepared in accordance with our recommendations.

3.2.3 Settlement Estimates

Based on our experience with similar soils and designs using a net allowable bearing pressure of 4 ksf, we anticipate that the total settlement will be approximately 1 inch, and that the differential settlement of the footings will be 3/4 inch or less over a distance of 25 feet. We believe that total and differential settlements of this magnitude are tolerable for a similar structure. However, the tolerance of the proposed structure to the predicted total and differential settlements should be assessed by the structural engineer.

3.3 Concrete Slab Considerations

3.3.1 Slabs-on-Grade

- Floor slabs should be constructed as slabs-on-grade bearing on Structural Fill placed directly on top of the natural sand and gravel. We recommend a minimum of 12 inches of Structural Fill beneath the proposed slabs-on-grade. The subgrade of the slabs should be prepared as described in Section 4.1.
- To reduce the potential for dampness in the proposed floor slabs, the project architect may consider placing a vapor barrier beneath the floor slabs. The vapor barrier should be protected from puncture during the placement of the proposed slab reinforcement.



- For the design of the floor slabs bearing on the materials described above, we recommend using a modulus of subgrade reaction, k_{s1} , of 100 tons per cubic foot (pcf). Please note that the values of k_{s1} are for a 1 x 1 square foot area. These values should be adjusted for larger areas using the following expression:

$$\text{Modulus of Subgrade Reaction } (k_s) = k_{s1} * \left(\frac{B + 1}{2B} \right)^2$$

where:

- k_s = Coefficient of vertical subgrade reaction for loaded area;
- k_{s1} = Coefficient of vertical subgrade reaction for a 1 x 1 square foot area; and
- B = Width of area loaded, in feet.

Please note that cracking of slabs-on-grade can occur as a result of heaving or compression of the underlying soil, but also as a result of concrete curing stresses. To reduce the potential for cracking, the precautions listed below should be closely followed during the construction of all slabs-on-grade:

- Construction joints should be provided between the floor slab and the walls and columns in accordance with the American Concrete Institute (ACI) requirements, or other applicable code.
- In order for the movement of exterior slabs not to be transmitted to foundations or superstructures, exterior slabs, such as approach slabs and sidewalks, should be isolated from the superstructure.
- The backfill in interior utility trenches should be properly compacted.

3.3.2 Under-slab Drains and Waterproofing

Based on an FFE of El. 335 feet, we believe that an under-slab drainage system is not required for the proposed building.

3.4 Seismic Design

In accordance with Section 1613 of MSBC 9th Edition, the seismic criteria for the site are as follows:

- Site Class: D
- Spectral Response Acceleration at short period (S_s): 0.206g
- Spectral Response Acceleration at 1 sec. (S_1): 0.069g
- Site Coefficient F_a (Table 1613.5.3(1)): 1.6



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

- Site Coefficient F_v (Table 1613.5.3(2): 2.4
- Adjusted spectral response S_{MS} : 0.330g
- Adjusted spectral response S_{M1} : 0.166g

Based on the SPT data from the borings, the site soils are not susceptible to liquefaction during a seismic event.

3.5 Lateral Pressures for Wall Design

3.5.1 Lateral Earth Pressures

Lateral earth pressures for the design of below-grade walls, if any, are provided below.

Coefficient of Active Earth Pressure, K_A :	0.31
Coefficient of At-Rest Earth Pressure, K_0 :	0.50
Coefficient of Passive Earth Pressure, K_p :	3.3
Total Unit Weight γ :	125 pcf

Note: The values in the table are based on a friction angle for the backfill of 32 degrees and neglecting friction between the backfill and the wall. The design active and passive coefficients are based on horizontal surfaces (non-sloping backfill) on both the active and passive sides, and on a vertical wall face.

- Exterior walls of below-ground spaces and other retaining walls braced at the top to restrain movement/rotation should be designed using the “at-rest” pressure coefficient.
- Site retaining walls should be designed using the active earth pressure coefficient described above.
- Passive earth pressures should only be used at the toe of the wall where special measures or provisions are taken to prevent the disturbance or future removal of the soil on the passive side of the wall, or in areas where the wall design includes a key. In any case, the passive pressures should be neglected in the top 4 feet.
- Where a permanent vertical uniform load will be applied to the active side immediately adjacent to the wall, a horizontal surcharge load equal to half of the uniform vertical load should be applied over the height of the wall. At a minimum, a temporary construction surcharge of 100 psf should be applied uniformly over the height of the wall.
- We recommend using an ultimate friction factor of 0.5 between the natural sand and gravel and the bottom of the wall. Below-grade walls should be designed for minimum factors of safety of 1.5 for sliding and 2.0 for overturning.

3.5.2 Seismic Pressures

In accordance with the Massachusetts State Building Code, 9th Edition (MSBC 9th Edition), Section 1610, a lateral earthquake force equal to $0.100 \cdot (S_s) \cdot (F_a) \cdot \gamma \cdot H^2$ should be included in



the design of the walls (for horizontal backfill), where S_s is the maximum considered earthquake spectral response acceleration (defined in Section 3.4), F_a is the site coefficient (defined in Section 3.4), γ is the total unit weight of the soil backfill, and H is the height of the wall.

The earthquake force should be distributed as an inverted triangle over the height of the wall. In accordance with MSBC 9th Edition, Section 1610.2, a load factor of 1.43 should be applied to the earthquake force for wall strength design.

Temporary surcharges should not be included when designing for earthquake loads. Surcharge loads applied for extended periods of time should be included in the total static lateral soil pressure, and their earthquake lateral force should be computed and added to the force determined above.

3.5.3 Perimeter Drains

- We recommend that free-draining material be placed within 3 feet of the exterior of walls of below-ground spaces, if any.
- To reduce the potential for dampness in below-ground spaces, proposed below-ground walls should be damp-proofed.
- We recommend that drains be provided behind the exterior of walls of below-ground spaces, and behind the walls of the elevator pit and other below ground spaces, if any. The drains should consist of 4-inch perforated PVC pipes installed with the slots facing down. Perimeter drains should be installed at the bottom of the wall in 18 inches of crushed stone wrapped in a geotextile for separation and filtration.
- We recommend providing weep holes at the bottom of site retaining walls to promote drainage where possible. Alternatively, a pipe should be placed at the base of the wall to collect the water. Groundwater collected by the wall drains should be discharged in a lower area if gravity flow is possible. In any case, the groundwater collected by the wall drains should be discharged in accordance with municipal, state, and other applicable standards.

3.6 Parking Lots, Driveways, and Sidewalks

3.6.1 General

The subsurface conditions encountered at the site are generally suitable to support the proposed driveways and parking lots after preparation of the subgrade as described in Section 4.1.



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

The proposed driveways and parking areas should be constructed with minimum asphalt and subbase thicknesses in accordance with the recommendations and details prepared by the project civil engineer. We recommend improving the subgrade of parking lots and driveways beneath the subbase layer as described in Section 4.1.

Areas to receive relatively high concentrated, sustained loads such as dumpsters, loading areas, and storage bins are typically installed over a rigid pavement section to distribute concentrated loads and reduce the possibility of high stress concentrations on the subgrade. Typical rigid pavement sections consist of 6 inches of concrete placed over a minimum of 12 inches of subbase material.

3.6.2 Sidewalks

- Sidewalks should be placed on a minimum of 12 inches of Structural Fill with less than 5 percent fines.
- To reduce the potential for heave caused by surface water penetrating under the sidewalk, the joints between sidewalk concrete sections should be sealed with a waterproof compound. The sidewalks should be sloped away from the building or other vertical surfaces to promote flow of water. To the extent possible, roof leaders should not discharge onto sidewalk surfaces.
- After the proposed grading in the proposed sidewalk areas is completed, it should be submitted to LGCI to assess whether drains should be installed under sidewalks and roadways.



4. CONSTRUCTION CONSIDERATIONS

4.1 Subgrade Preparation

- Existing topsoil/subsoil, asphalt, if any, organic materials, existing fill, abandoned utilities, buried foundations, and other below-ground structures should be entirely removed from within the footprint of the proposed building/additions and site structures before the start of foundation work.
- Abandoned/buried foundations, if any, should be removed at least 2 feet beneath the bottom of the subbase layer of the proposed paved areas, and 2 feet beneath the topsoil in athletic fields.
- Tree stumps, root balls, and roots larger than ½ inch in diameter should be removed and the cavities filled with suitable material and compacted per Section 4.3 of this report.
- Due to the silty nature of the natural sand and gravel, we recommend placing a minimum of 6 inches of Structural Fill or crushed stone below the bottom of the footings to provide a working pad.
- Cobbles and boulders should be removed at least 6 inches from beneath footings, 24 inches beneath the bottom of slabs and paved areas, and 24 inches beneath the base material for the turf in athletic fields. The resulting excavations should be backfilled with compacted Structural Fill under the building/additions, and with Ordinary Fill under the subbase of paved areas and under the base material in athletic fields.
- The base material of athletic fields should conform to the gradation and placement requirements of the landscape architect or the manufacturer/installer of synthetic turf.
- The base of the footing excavations in granular soil should be compacted with a dynamic vibratory compactor weighing at least 200 pounds and imparting a minimum of 4 kips of force to the subgrade.
- The subgrade of the proposed slabs in the natural soil should be compacted with a dynamic vibratory compactor imparting a minimum of 20 kips of force to the subgrade.
- The surficial organic topsoil and subsoil should be removed from within the proposed paved areas.
- After the surficial organic topsoil, subsoil, and asphalt, where applicable, are removed from within the proposed paved areas, the existing fill should be improved by compacting the exposed surface of the existing fill with at least six (6) passes of a vibratory roller compactor imparting a dynamic effort of at least 40 kips. Where soft zones of soil are observed, the soft soil should be removed, and the grade should be restored using Ordinary Fill to the bottom of



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

the proposed subbase layer. If pumping of the existing fill is observed, the compactor should be switched to static mode. Where the fill contains or overlies organic soil, the organic soil should be removed at least 18 inches beneath the bottom of the subbase layer.

- After the surficial organic topsoil is entirely removed and the subsoil is removed from within the proposed paved areas as described in Section 3.1.1, the exposed subsoil should be proofrolled with a loaded rubber tire truck or with a large vibratory roller compactor imparting a minimum dynamic effort of 40 kips. Where soft zones are indicated by the proofrolling, the soft zones should be removed and the grades should be restored using Ordinary Fill to the bottom subbase layer of paved areas.
- Fill placed within the footprint of the proposed building/additions should meet the gradation and compaction requirements of Structural Fill, shown in Section 4.3.1.
- Fill placed under the subbase of paved areas should meet the gradation and compaction requirements of Ordinary Fill, shown in Section 4.3.2.
- Fill placed in the top 12 inches beneath sidewalks should consist of Structural Fill with less than 5 percent fines.
- Loose or soft soils identified during the compaction of the footing or floor slab subgrades should be excavated to a suitable bearing stratum, as determined by the representative of LGCI. Grades should be restored by backfilling with Structural Fill or crushed stone.
- When crushed stone is required in the drawings or is used for the convenience of the contractor, it should be wrapped in a geotextile fabric for separation except where introduction of the geotextile fabric promotes sliding. A geotextile fabric should not be placed between the bottoms of the footings and the crushed stone.
- An LGCI representative should observe the exposed subgrades prior to fill and concrete placement to verify that the exposed bearing materials are suitable for the design soil bearing pressure. If soft or loose pockets are encountered in the footing excavations, the soft or loose materials should be removed and the bottom of the footing should be placed at a lower elevation on firm soil, or the resulting excavation should be backfilled with Structural Fill, or crushed stone wrapped in a filter fabric.

4.2 Subgrade Protection

The onsite fill and natural soils are frost-susceptible. If construction takes place during freezing weather, special measures should be taken to prevent the subgrade from freezing. Such measures should include the use of heat blankets or excavating the final six inches of soil just before pouring the concrete. Footings should be backfilled as soon as possible after footing construction. Soil used as backfill should be free of frozen material, as should the ground on which it is placed. Filling operations should be halted during freezing weather.



Materials with high fines contents are typically difficult to handle when wet, as they are sensitive to moisture content variations. Subgrade support capacities may deteriorate when such soils become wet and/or disturbed. The contractor should keep exposed subgrades properly drained and free of ponded water. Subgrades should be protected from machine and foot traffic to reduce disturbance.

4.3 Fill Materials

Structural Fill and Ordinary Fill should consist of inert, hard, durable sand and gravel free from organic matter, clay, surface coatings, and deleterious materials, and should conform to the gradation requirements shown below.

4.3.1 Structural Fill

The Structural Fill should have a plasticity index of less than 6 and should meet the gradation requirements shown below. Structural Fill should be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within ± 2 percentage points of the optimum moisture content.

Sieve Size Percent	Passing by Weight
3 inches	100
1 ½ inch	80-100
½ inch	50-100
No. 4	30-85
No. 20	15-60
No. 60	5-35
No. 200*	0-10

* 0 – 5 for the top 12 inches under sidewalks, exterior slabs, pads, and walkways

4.3.2 Ordinary Fill

Ordinary Fill should have a plasticity index of less than 6 and should meet the gradation requirements shown below. Ordinary Fill should be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within ± 2 percentage points of the optimum moisture content.

Sieve Size Percent	Passing by Weight
6 inches	100
1 inch	50-100
No. 4	20-100
No. 20	10-70
No. 60	5-45
No. 200	0-20



4.4 Reuse of Onsite Materials

Based on our field observations and the results of the grain-size analyses, the existing fill and natural soil are not suitable for reuse as Structural Fill. Some of the existing fill free of organic soil may be reused as Ordinary Fill.

Should the contractor encounter materials suitable for reuse during earthwork operations, the contractor should avoid mixing the reusable soils with fine-grained and/or organic soils. The soils to be reused should be excavated and stockpiled separately for compliance testing.

Soils with 20 percent or greater fines contents are generally very sensitive to moisture content variations and are susceptible to frost. Such soils are very difficult to compact at moisture contents that are much higher or much lower than the optimum moisture content determined from the laboratory compaction test. Therefore, strict moisture control should be implemented during the compaction of onsite soils with fines contents of 20 percent or greater. The contractor should be prepared to remove and replace such soils if pumping occurs.

Materials to be used as fill should first be tested for compliance with the applicable gradation specifications.

Depending on the quantity of rock blasting needed to achieve the proposed grades, the site contractor may mobilize a crusher to blend the existing fill free of organic matter with blasted rock and crush it to produce material that meets the gradation requirements for Structural Fill and/or Ordinary Fill.

4.5 Groundwater Control Procedures

Based on the groundwater levels measured in our borings, we do anticipate that groundwater control procedures will be needed during the removal of the existing fill and during excavations for deep utilities. We anticipate that filtered sump pumps installed in a series of sump pump pits located at least three feet below the bottom of planned excavations may be sufficient to handle groundwater and surface runoff that may enter the excavation during wet weather. The contractor should be prepared to use multiple sump pumps to maintain a dry excavation during the removal of the existing fill.

The contractor should be permitted to employ whatever commonly accepted means and practices are necessary to maintain the groundwater level below the bottom of the excavation and to maintain a dry excavation during wet weather. Groundwater levels should be maintained at a minimum of 1 foot below the bottom of the excavations during construction. The placement of reinforcing steel or concrete in standing water should not be permitted.

To reduce the potential for sinkholes developing over sump pump pits after the sump pumps are removed, the crushed stone placed in the sump pump pits should be wrapped in a geotextile



**Preliminary Geotechnical Report
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

fabric. Alternatively, the crushed stone should be entirely removed after the sump pump is no longer in use, and the sump pump pit should be restored with suitable backfill.

4.6 Temporary Excavations

All excavations to receive human traffic should be constructed in accordance with OSHA guidelines.

The site soils should generally be considered Type “C” and should have a maximum allowable slope of 1.5 Horizontal to 1 Vertical (1.5H:1V) for excavations less than 20 feet deep. Deeper excavations, if needed, should have shoring designed by a professional engineer.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain the stability of the excavation sides and bottom.



5. REPORT LIMITATIONS

Our analyses and recommendations are based on project information provided to us at the time of this report. If changes to the type, size, and location of the proposed structures or to the site grading are made, the recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions and recommendations modified in writing by LGCI. LGCI cannot accept responsibility for designs based on our recommendations unless we are engaged to review the final plans and specifications to determine whether any changes in the project affect the validity of our recommendations, and whether our recommendations have been properly implemented in the design.

It is not part of our scope to perform a more detailed site history; therefore, we have not explored for or researched the locations of buried utilities or other structures in the area of the proposed construction. Our scope did not include environmental services or services related to moisture, mold, or other biological contaminants in or around the site.

The recommendations in this report are based in part on the data obtained from the subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations from anticipated conditions are encountered, it may be necessary to revise the recommendations in this report. We cannot accept responsibility for designs based on recommendations in this report unless we are engaged to 1) make site visits during construction to check that the subsurface conditions exposed during construction are in general conformance with our design assumptions and 2) ascertain that, in general, the work is being performed in compliance with the contract documents.

Our report has been prepared in accordance with generally accepted engineering practices and in accordance with the terms and conditions set forth in our agreement. No other warranty, expressed or implied, is made. This report has been prepared for the exclusive use of Mount Vernon Group Architects, Inc. for the specific application to the proposed Green Meadow Elementary School in Maynard, Massachusetts as conceived at this time.



6. REFERENCES

In addition to the references included in the text of the report, we used the following references:

The Commonwealth of Massachusetts (2017), “The Massachusetts State Building Code, Ninth (9th) Edition.”

The Department of Labor, Occupational Safety and Health Administration (1989), “Occupational Safety and Health Standards - Excavations; Final Rule,” 20 CFR Part 1926, Subpart P.

USGS Maynard MA topographic map from <http://mapserver.mytopo.com>.

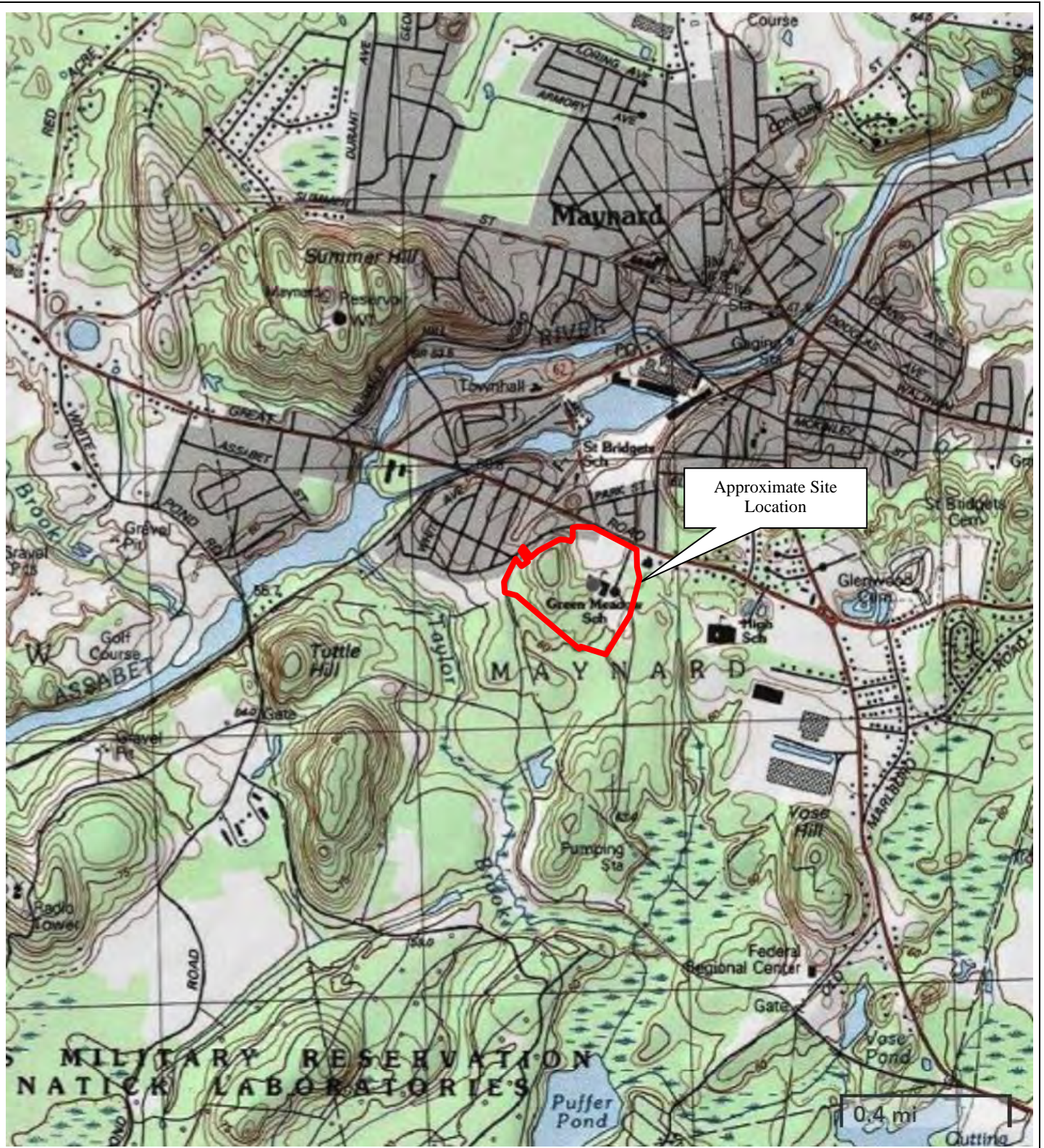


**Table 1 - Summary of LGCI's Borings
Proposed Green Meadow Elementary School
Maynard, Massachusetts
LGCI Project No. 2201**

Boring No. ¹	Groundwater ² Depth / El. (ft.)	Bottom of Topsoil Depth / El. (ft.)	Bottom of Subsoil Depth / El. (ft.)	Bottom of Fill Depth / El. (ft.)	Bottom of Buried Organic Soil Depth / El. (ft.)	Bottom of Sand Depth / El. (ft.)	Depth to Top of Rock Depth / El. (ft.)	Bottom of Boring Depth / El. (ft.)
B-1	5.5	1.0	-	4.0	-	17.5	17.5	19.0 ⁴
B-2	7.8	1.0	4.0	-	-	21.0	-	21.0 ³
B-4	9.0	0.8	-	4.0	-	21.0	-	21.0 ³
B-6	4.0	0.5	2.0	-	-	21.0	-	21.0 ³
B-7	12.5	1.0	4.0	-	-	12.0	12.0	14.0 ⁴
B-8	-	1.3	-	4.0	-	11.0	11.0	13.0 ⁴
B-9	9.0	1.0	-	6.6	9.0	21.0	-	21.0 ³
B-10	6.0	0.6	4.0	-	-	21.0	-	21.0 ³
B-11	15.7	0.5	-	6.0	-	14.3	14.3	18.0 ⁴

1. Borings B-3 and B-5 not performed.
2. Groundwater was measured during drilling, at the end of drilling, or based on sample moisture, whichever is shallower.
3. Boring terminated in the sand layer.
4. Boring terminated in rock.
5. "-" means layer was not encountered.


Last Modified: 05/22/2024 at 12:20PM EDT

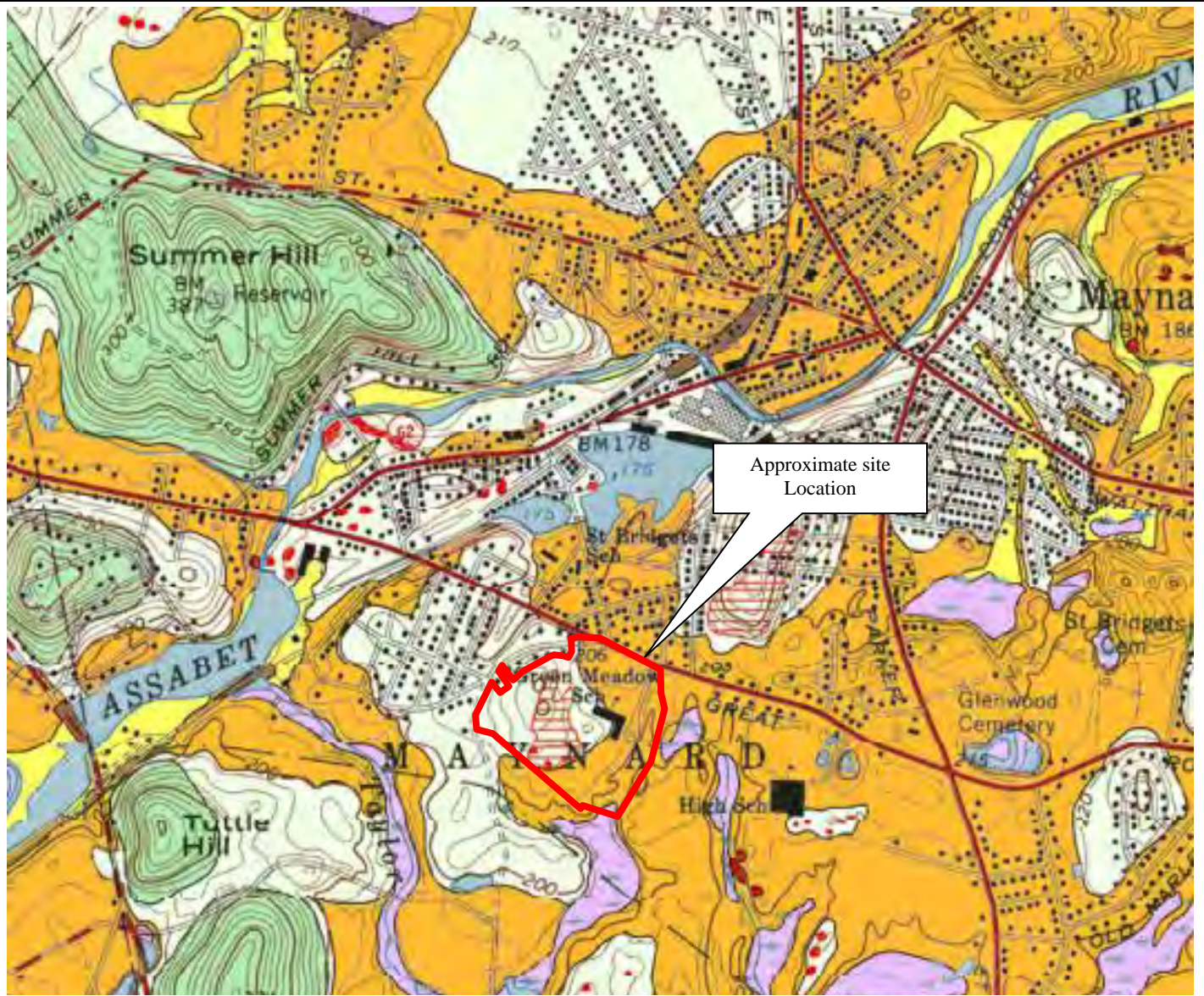


Contour Intervals: 3 meters

0.4 mi

Note: Figure based on USGS topographic map of Maynard, MA obtained from www.usgs.gov

Client: Mount Vernon Group Architects, Inc.	Project: Proposed Green Meadow School	Figure 1 – Site Location Map	
 LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Maynard, MA	LGCI Project No.: 2201	Date: Jan. 2022




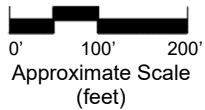
- Thin till**—Nonsorted, nonstratified matrix of sand, some silt, and little clay containing scattered pebble, cobble, and boulder clasts; large surface boulders are common; unit was mapped where till is generally less than 10 to 15 ft thick including areas of shallow bedrock. Predominantly consists of upper till of the last glaciation; loose to moderately compact, generally sandy, commonly stony. Two facies are present in some places: a looser, coarser grained ablation facies, melted out from supraglacial position; and an underlying more compact, finer grained lodgement facies deposited subglacially. In general, both ablation and lodgement facies of upper till derived from fine-grained bedrock are finer grained, more compact, less stony and have fewer surface boulders than upper till derived from coarse-grained crystalline rocks. Across Massachusetts, fine-grained bedrock sources include the red Mesozoic sedimentary rocks of the Connecticut Valley lowland, marble in the western river valleys, and fine-grained schists in upland areas
- Coarse deposits** consist of *gravel deposits*, *sand and gravel deposits*, and *sand deposits*, not differentiated in this report. *Gravel deposits* are composed of at least 50 percent gravel-size clasts; cobbles and boulders predominate; minor amounts of sand occur within gravel beds, and sand comprises a few separate layers. Gravel layers generally are poorly sorted, and bedding commonly is distorted and faulted due to postdepositional collapse related to melting of ice. *Sand and gravel deposits* occur as mixtures of gravel and sand within individual layers and as layers of sand alternating with layers of gravel. Sand and gravel layers generally range between 25 and 50 percent gravel particles and between 50 and 75 percent sand particles. Layers are well sorted to poorly sorted; bedding may be distorted and faulted due to postdepositional collapse. *Sand deposits* are composed mainly of very coarse to fine sand, commonly in well-sorted layers. Coarser layers may contain up to 25 percent gravel particles, generally granules and pebbles; finer layers may contain some very fine sand, silt, and clay
- Bedrock outcrops and areas of abundant outcrop or shallow bedrock**—Solid color shows extent of individual bedrock outcrops; horizontal-line pattern indicates areas of shallow bedrock or areas where small outcrops are too numerous to map individually; in areas of shallow bedrock, surficial materials are less than 5 to 10 ft thick. These units were not mapped consistently among all quadrangles; see note at beginning of appendix 1 for information on bedrock outcrop mapping by quadrangle

Note: Figure based on map titled: "Surficial Materials Map of the Maynard Quadrangle, Massachusetts," prepared by Stone, Byron D., and Stone, Janet R., for U.S. Geological Survey, Scientific Investigations Map 3402, Quadrangle 97 – Maynard.

Client: Mount Vernon Group Architects, Inc.	Project: Proposed Green Meadow School	Figure 2 – Surficial Geologic Map	
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Maynard, MA	LGCI Project No.: 2201	Date: January 2022

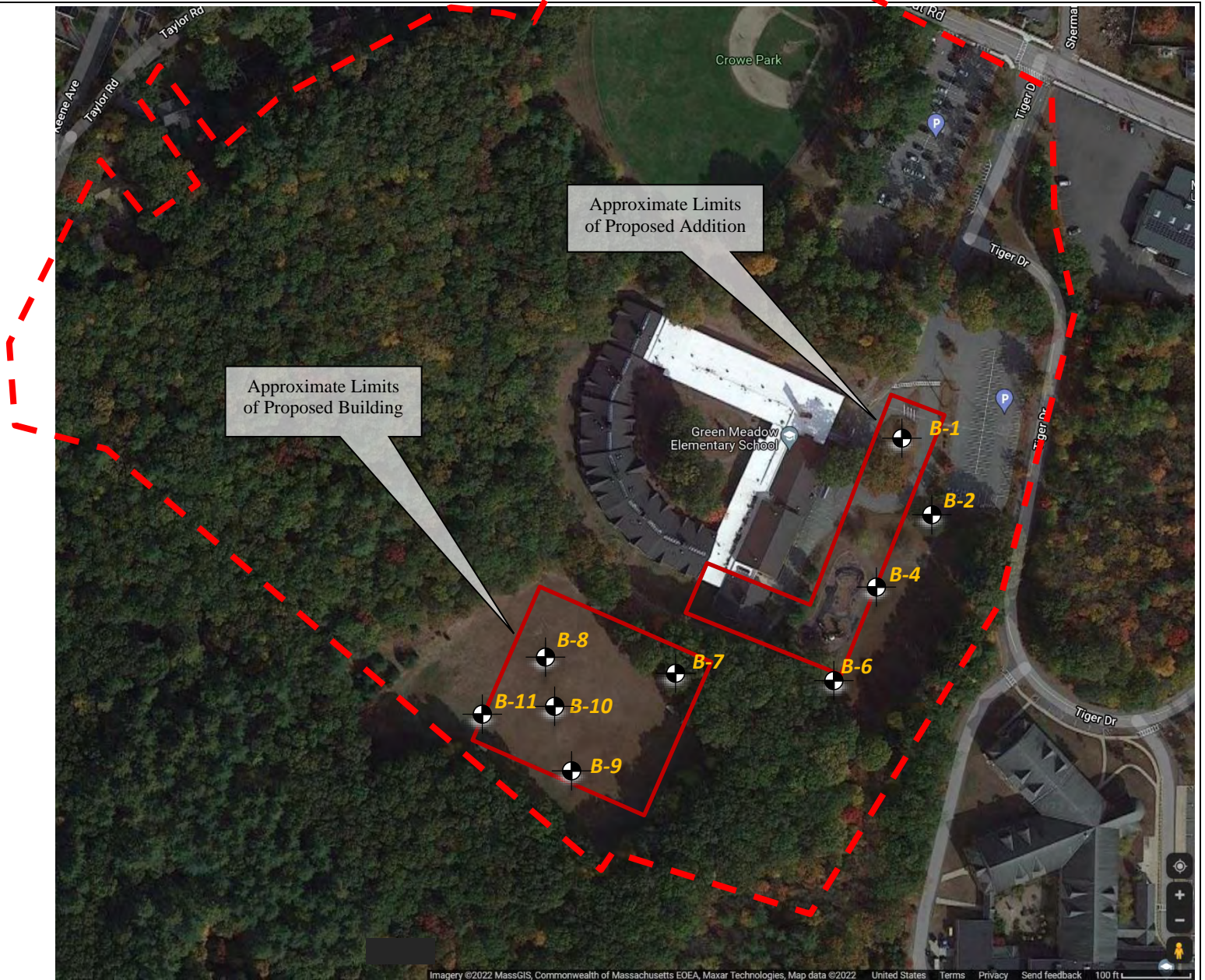
Legend



 Approximate location of boring advanced by Northern Drill Service, Inc. (NDS) of Northborough, MA between January 28 and February 1, 2022, and observed by Lahlaf Geotechnical Consulting, Inc. (LGCI). Borings B-3 and B-5 were not performed.



Notes

1. Figure based aerial view of site obtained from google.com/maps.
2. Limits of site are based on sketch titled Site Analysis provided to LGCI by Mount Vernon Group Architects, Inc. (MVG) via e-mail on December 9, 2021.
3. Approximate limits of proposed construction alternatives are based on renderings provided to LGCI by MVG via e-mail on December 9, 2021.



Client: Mount Vernon Group Architects, Inc.	Project: Proposed Green Meadow School	Figure 3 – Boring Location Plan	
 LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Maynard, MA	LGCI Project No.: 2201	Date: Feb. 2022

Appendix A – LGCI’s Boring Logs

CLIENT: Mount Vernon Group Architects, Inc. PROJECT NAME: Proposed Green Meadow Elementary School
 LGCI PROJECT NUMBER: 2201 PROJECT LOCATION: Maynard, MA

DATE STARTED: 2/1/22 DATE COMPLETED: 2/1/22 DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
 BORING LOCATION: Near northern edge of proposed addition DRILLING FOREMAN: Tim Tucker
 COORDINATES: NA DRILLING METHOD: Drive and wash with 4-inch casing
 SURFACE EI.: N/A (see note 1) TOTAL DEPTH: 19 ft. DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
 WEATHER: 20's / Cloudy HAMMER TYPE: Automatic
 GROUNDWATER LEVELS: HAMMER WEIGHT: 140 lb. HAMMER DROP: 30 in.
 ▽ DURING DRILLING: 9.0 ft. Based on sample moisture SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
 ▼ AT END OF DRILLING: 5.5 ft. CORE BARREL SIZE: NA
 ▼ OTHER: - LOGGED BY: HO CHECKED BY: NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0	S1	17-40-46-25 (86)	24/22		Topsoil	1.0	REMARK 1: Soil was frozen between depths of 0' and 2'. S1 - Top 12": Topsoil
		2	S2	12-11-10-10 (21)	24/9		Fill	4.0	Bot. 10": Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 35-40% coarse subangular gravel, trace of organic soil, brown, moist S2 - Silty SAND with Gravel (SM), fine to medium, trace coarse, 20-25% fines, 20-25% fine to coarse subrounded to subangular gravel, trace of organic soil, brown, moist
5		4	S3	4-4-4-7 (8)	24/9		Sand and Gravel		S3 - Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, light brown, moist
		6							▽
10		9	S4	12-9-22-25 (31)	24/22				▽
		11						2	REMARK 2: Drill rig chattering at depth of 12' on possible cobble.
15		14	S5	9-13-28-48 (41)	24/14				S5 - Similar to S4, ~20% fines
		16						3	REMARK 3: Drill rig chattering at depth of 17.5' on possible rock.
								4	REMARK 4: Roller bit advanced between depths of 17.5 to 19' to confirm presence of rock.
20							Rock	17.5	
								19.0	Bottom of borehole at 19.0 feet. Backfilled borehole with drill cuttings.

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. **PROJECT NAME:** Proposed Green Meadow Elementary School
LGCI PROJECT NUMBER: 2201 **PROJECT LOCATION:** Maynard, MA

DATE STARTED: 2/1/22 **DATE COMPLETED:** 2/1/22 **DRILLING SUBCONTRACTOR:** Northern Drill Service, Inc.
BORING LOCATION: Near eastern edge of proposed addition **DRILLING FOREMAN:** Tim Tucker
COORDINATES: NA **DRILLING METHOD:** Drive and wash with 4-inch casing
SURFACE EI.: N/A (see note 1) **TOTAL DEPTH:** 21 ft. **DRILL RIG TYPE/MODEL:** Mobile B-53 ATV Rig
WEATHER: 20's / Cloudy **HAMMER TYPE:** Automatic
GROUNDWATER LEVELS: **HAMMER WEIGHT:** 140 lb. **HAMMER DROP:** 30 in.
 ▽ **DURING DRILLING:** 9.0 ft. Based on sample moisture **SPLIT SPOON DIA.:** 1.375 in. I.D., 2 in. O.D.
 ▼ **AT END OF DRILLING:** 7.8 ft. **CORE BARREL SIZE:** NA
 ▼ **OTHER:** - **LOGGED BY:** HO **CHECKED BY:** NP

Depth (ft.)	EI. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Material Description
0			S1	13-39-45-17 (84)	24/24		Topsoil	REMARK 1: Soil was frozen between depths of 0' and 2.5'. S1 - Top 12": Topsoil
2			S2	12-13-8-7 (21)	24/15		Subsoil	Bot. 12": Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 20-25% coarse subangular gravel, trace of organic soil, light brown, moist S2 - Similar to S1, 15-20% fine subangular gravel
4			S3	7-7-7-7 (14)	24/15			S3 - Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, light brown, moist
6								
9			S4	6-10-12-13 (22)	24/14		Sand and Gravel	▼ ▼ S4 - Similar to S3, wet
11								
14			S5	4-3-6-7 (9)	24/18		Silt	S5 - Silt (ML), slightly plastic, 10-15% fine sand, brown, wet
16								
19			S6	14-20-31-26 (51)	24/8		Sand and Gravel	S6 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, angular, 5-10% fines, 15-20% fine to medium sand, brown, moist
21								Bottom of borehole at 21.0 feet. Backfilled borehole with drill cuttings.
25								

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: <u>Mount Vernon Group Architects, Inc.</u>	PROJECT NAME: <u>Proposed Green Meadow Elementary School</u>
LGCI PROJECT NUMBER: <u>2201</u>	PROJECT LOCATION: <u>Maynard, MA</u>
DATE STARTED: <u>1/31/22</u> DATE COMPLETED: <u>2/1/22</u>	DRILLING SUBCONTRACTOR: <u>Northern Drill Service, Inc.</u>
BORING LOCATION: <u>Near eastern edge of proposed addition</u>	DRILLING FOREMAN: <u>Tim Tucker</u>
COORDINATES: <u>NA</u>	DRILLING METHOD: <u>Drive and wash with 4-inch casing</u>
SURFACE EI.: <u>N/A (see note 1)</u> TOTAL DEPTH: <u>21 ft.</u>	DRILL RIG TYPE/MODEL: <u>Mobile B-53 ATV Rig</u>
WEATHER: <u>20's / Sunny</u>	HAMMER TYPE: <u>Automatic</u>
GROUNDWATER LEVELS:	HAMMER WEIGHT: <u>140 lb.</u> HAMMER DROP: <u>30 in.</u>
▽ DURING DRILLING: <u>9.0 ft. Based on sample moisture</u>	SPLIT SPOON DIA.: <u>1.375 in. I.D., 2 in. O.D.</u>
▽ AT END OF DRILLING: <u>10.0 ft.</u>	CORE BARREL SIZE: <u>NA</u>
▽ OTHER: <u>-</u>	LOGGED BY: <u>HO</u> CHECKED BY: <u>NP</u>

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description	
		0	S1	15-70-30	18/18		Topsoil	0.8	REMARK 1: Soil was frozen between depths of 0' and 1'. S1 - Top 9": Topsoil	
		1.5					Fill		Bot. 9": Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 15-20% fine to coarse subrounded gravel, trace of organic soil, light brown, moist	
		2	S2	8-9-27-24 (36)	24/8				S2 - Similar to S1 Bot. 9", 20-25% fines, 40-45% fine to coarse subangular gravel	
		4	S3	5-4-4-10 (8)	24/12		Sand and Gravel	4.0	S3 - Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, brown, moist	
		9	S4	100/4"	4/2				9.3	▽ S4 - Silty SAND with Gravel (SM), fine to coarse, ~15% fines, 40-45% fine to coarse subangular gravel, trace of weathered rock, brown, wet ▽
		14	S5	35-23-25-17 (48)	24/10					REMARK 2: Drill rig chattering between depths of 11' and 12' on possible cobbles or boulder.
		16					Sand and Gravel		S5 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, angular, 10-15% fines, 15-20% fine to coarse sand, trace of weathered rock, brown, wet	
		19	S6	12-33-39-41 (72)	24/12					REMARK 3: Drill rig chattering between depths of 17' to 17.5' on possible cobbles or boulder.
		21						21.0	S6 - Similar to S5, 25-30% fine to coarse sand	
									Bottom of borehole at 21.0 feet. Backfilled borehole with drill cuttings.	

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. PROJECT NAME: Proposed Green Meadow Elementary School
 LGCI PROJECT NUMBER: 2201 PROJECT LOCATION: Maynard, MA

DATE STARTED: 1/31/22 DATE COMPLETED: 1/31/22 DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
 BORING LOCATION: Near SE corner of proposed addition DRILLING FOREMAN: Tim Tucker
 COORDINATES: NA DRILLING METHOD: Drive and wash with 4-inch casing
 SURFACE EI.: N/A (see note 1) TOTAL DEPTH: 21 ft. DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
 WEATHER: 20's / Sunny HAMMER TYPE: Automatic
 GROUNDWATER LEVELS: HAMMER WEIGHT: 140 lb. HAMMER DROP: 30 in.
 ▽ DURING DRILLING: 4.0 ft. Based on sample moisture SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
 ▼ AT END OF DRILLING: 8.9 ft. CORE BARREL SIZE: NA
 ▼ OTHER: - LOGGED BY: HO CHECKED BY: NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0				1	Topsoil	0.5	REMARK 1: Soil was frozen between depths of 0' and 1'. S1 - Top 6": Topsoil Bot. 18": Silty SAND (SM), mostly fine, ~20% fines, trace of roots, trace of organic soil, dark brown, moist
		2	S1	22-24-11-8 (35)	24/24		Subsoil	2.0	
			S2	6-6-5-5 (11)	24/17				S2 - Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, trace gravel, tan, moist
			S3	4-6-7-8 (13)	24/9			▽	S3 - Similar to S2, wet
			S4	9-8-8-8 (16)	24/14				S4 - Similar to S2, wet
			S5	4-4-5-7 (9)	24/9			▼	S5 - Similar to S2, wet
			S6	2-4-3-6 (7)	24/14				S6 - Similar to S2, wet
			S7	10-27-39-32 (66)	24/20		Sand and Gravel		S7 - Top 10": Similar to S2, wet Bot 10": Silty SAND with Gravel (SM), mostly fine, 15-20% fines, 30-35% fine to coarse subangular gravel, trace of weathered rock, light brown, wet
			S8	15-21-26-20 (47)	24/8				S8 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subrounded to subangular, 10-15% fines, 15-20% fine to coarse sand, trace of weathered rock, brown, wet
						2			REMARK 2: Drill rig chattering between depths of 17' to 18' on possible cobbles or boulder.
			S9	13-10-7-27 (17)	24/5				S9 - Similar to S8, subangular, 5-10% fines
								21.0	Bottom of borehole at 21.0 feet. Backfilled borehole with drill cuttings and 3 bags of gravel.

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. **PROJECT NAME:** Proposed Green Meadow Elementary School
LGCI PROJECT NUMBER: 2201 **PROJECT LOCATION:** Maynard, MA

DATE STARTED: 1/28/22 **DATE COMPLETED:** 1/28/22 **DRILLING SUBCONTRACTOR:** Northern Drill Service, Inc.
BORING LOCATION: Near NE corner of proposed building **DRILLING FOREMAN:** Tim Tucker
COORDINATES: NA **DRILLING METHOD:** Drive and wash with 4-inch casing
SURFACE EI.: N/A (see note 1) **TOTAL DEPTH:** 14 ft. **DRILL RIG TYPE/MODEL:** Mobile B-53 ATV Rig
WEATHER: 20's / Cloudy **HAMMER TYPE:** Automatic
GROUNDWATER LEVELS: **HAMMER WEIGHT:** 140 lb. **HAMMER DROP:** 30 in.
 ▽ **DURING DRILLING:** Not Encountered **SPLIT SPOON DIA.:** 1.375 in. I.D., 2 in. O.D.
 ▼ **AT END OF DRILLING:** 12.5 ft. **CORE BARREL SIZE:** NA
 ▼ **OTHER:** - **LOGGED BY:** HO **CHECKED BY:** NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0					Topsoil	1.0	S1 - Top 12": Topsoil
		2	S1	13-12-5-6 (17)	24/24		Subsoil		Bot. 12": Silty SAND (SM), fine, 15-20% slightly plastic fines, trace of organic soil, trace of roots, light brown, moist
		4	S2	7-7-10-9 (17)	24/18			4.0	S2 - Top 13": Silty SAND (SM), fine to medium, 30-35% fines, 0-5% fine subangular gravel, trace of organic soil, light brown, moist Bot. 5": Silty SAND (SM), fine to medium, 20-25% slightly plastic fines, brown, moist
5			S3	7-12-17-34 (29)	24/12		Sand and Gravel		S3 - Silty SAND (SM), fine to medium, 15-20% fines, brown, moist
		6	S4	46-48-37-31 (85)	24/16				S4 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subrounded, 5-10% fines, 15-20% fine to medium sand, trace of weathered rock, brown, moist
10		9	S5	28-28-32-23 (60)	24/10				S5 - Silty GRAVEL with Sand (GM), fine to coarse, subrounded, ~15% fines, 40-45% fine to coarse sand, trace of weathered rock, light brown, moist
		11						12.0	
							Rock	14.0	▼ REMARK 1: Roller bit advanced between depths of 12' to 14' to confirm presence of rock.
15									Bottom of borehole at 14.0 feet. Backfilled borehole with drill cuttings and 2 bags of gravel.
20									
25									

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. PROJECT NAME: Proposed Green Meadow Elementary School
 LGCI PROJECT NUMBER: 2201 PROJECT LOCATION: Maynard, MA

DATE STARTED: 1/31/22 DATE COMPLETED: 1/31/22 DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
 BORING LOCATION: Near NW corner of proposed building DRILLING FOREMAN: Tim Tucker
 COORDINATES: NA DRILLING METHOD: Drive and wash with 4-inch casing
 SURFACE EI.: N/A (see note 1) TOTAL DEPTH: 13 ft. DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
 WEATHER: 20's / Sunny HAMMER TYPE: Automatic
 GROUNDWATER LEVELS: HAMMER WEIGHT: 140 lb. HAMMER DROP: 30 in.
 ▽ DURING DRILLING: Not Encountered SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
 ▼ AT END OF DRILLING: Not Encountered CORE BARREL SIZE: NA
 ▼ OTHER: - LOGGED BY: HO CHECKED BY: NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0	S1	19-15-75-25 (90)	24/24		Topsoil	1.3	REMARK 1: Soil was frozen between depths of 0' and 2'. S1 - Top 16": Topsoil
		2	S2	17-17-11-15 (28)	24/15		Fill	4.0	Bot. 8": Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 15-20% fine to coarse subangular gravel, trace of organic soil, brown, moist S2 - Similar to S1 Bot. 8", 15-20% fine angular gravel, trace roots REMARK 2: Drill rig chattering between depths of 3' to 4' on possible cobbles or boulder.
5		4	S3	78-100	12/6		Sand and Gravel		S3 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subangular, ~10% fines, 15-20% fine to coarse sand, trace of weathered rock, light brown, moist
		5							S4 - Top 12": Similar to S3, 40-45% fine to coarse sand Bot. 6": Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, trace fine subrounded gravel, light brown, moist
		6	S4	68-62-42-68 (104)	24/18				REMARK 3: Drill rig chattering at depth of 8.5' on possible cobbles or boulder.
		8							S5 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse subangular, ~10% fines, ~30% fine to coarse sand, trace of weathered rock, light brown, moist
10		9	S5	61-100/5"	11/7				REMARK 4: Drill rig chattering at depth of 11' on rock.
		9.9					Rock	11.0	REMARK 5: Roller bit advanced between depths of 11' to 13' to confirm presence of rock.
								13.0	Bottom of borehole at 13.0 feet. Backfilled borehole with drill cuttings.

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. **PROJECT NAME:** Proposed Green Meadow Elementary School
LGCI PROJECT NUMBER: 2201 **PROJECT LOCATION:** Maynard, MA

DATE STARTED: 1/28/22 **DATE COMPLETED:** 1/28/22 **DRILLING SUBCONTRACTOR:** Northern Drill Service, Inc.
BORING LOCATION: Near SE corner of proposed building **DRILLING FOREMAN:** Tim Tucker
COORDINATES: NA **DRILLING METHOD:** Drive and wash with 4-inch casing
SURFACE EI.: N/A (see note 1) **TOTAL DEPTH:** 21 ft. **DRILL RIG TYPE/MODEL:** Mobile B-53 ATV Rig
WEATHER: 20's / Cloudy **HAMMER TYPE:** Automatic
GROUNDWATER LEVELS: **HAMMER WEIGHT:** 140 lb. **HAMMER DROP:** 30 in.
 ▽ **DURING DRILLING:** 9.0 ft. Based on sample moisture **SPLIT SPOON DIA.:** 1.375 in. I.D., 2 in. O.D.
 ▽ **AT END OF DRILLING:** 12.5 ft. **CORE BARREL SIZE:** NA
 ▽ **OTHER:** - **LOGGED BY:** HO **CHECKED BY:** NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0					Topsoil	1.0	S1 - Top 12": Topsoil
		2	S1	14-19-21-14 (40)	24/18		Fill		Bot. 6": Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, trace of organic soil, trace of roots, light brown, moist
		4	S2	10-8-7-3 (15)	24/6			S2 - Poorly Graded SAND with Silt and Gravel (SP-SM), fine to medium, 10-15% fines, 25-30% fine subrounded gravel, light brown, moist	
5		6	S3	6-6-5-5 (11)	24/0			S3 - No recovery	
		6	S4	4-4-5-13 (9)	24/9		Buried Organic Soil	6.6	S4 - Top 7": Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subrounded, 5-10% fines, 20-25% fine to medium sand, trace of organic soil, light brown, moist
		8						9.0	Bot. 2": Silty SAND (SM), fine, 30-35% fines, trace of organic soil, organic odor, black, moist
10		9	S5	18-15-13-17 (28)	24/7				S5 - Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subangular, 5-10% fines, ~15% fine to coarse sand, trace of weathered rock, brown, wet
		11							
15		14	S6	4-6-8-8 (14)	24/9		Sand and Gravel		S6 - Poorly Graded SAND with Silt (SP-SM), fine, 10-15% fines, trace of weathered rock, light brown, wet
		16							
20		19	S7	7-8-6-6 (14)	24/7				S7 - Silty GRAVEL with Sand (GM), fine to coarse, subangular, 15-20% fines, 30-35% fine to medium sand, trace of weathered rock, light brown, wet
		21						21.0	Bottom of borehole at 21.0 feet. Backfilled borehole with drill cuttings and 2.5 bags of gravel.
25									

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. **PROJECT NAME:** Proposed Green Meadow Elementary School
LGCI PROJECT NUMBER: 2201 **PROJECT LOCATION:** Maynard, MA

DATE STARTED: 1/28/22 **DATE COMPLETED:** 1/28/22 **DRILLING SUBCONTRACTOR:** Northern Drill Service, Inc.
BORING LOCATION: Near center of proposed building **DRILLING FOREMAN:** Tim Tucker
COORDINATES: NA **DRILLING METHOD:** Drive and wash with 4-inch casing
SURFACE EI.: N/A (see note 1) **TOTAL DEPTH:** 21 ft. **DRILL RIG TYPE/MODEL:** Mobile B-53 ATV Rig
WEATHER: 20's / Cloudy **HAMMER TYPE:** Automatic
GROUNDWATER LEVELS: **HAMMER WEIGHT:** 140 lb. **HAMMER DROP:** 30 in.
 ▽ **DURING DRILLING:** 6.0 ft. Based on sample moisture **SPLIT SPOON DIA.:** 1.375 in. I.D., 2 in. O.D.
 ▼ **AT END OF DRILLING:** 12.0 ft. **CORE BARREL SIZE:** NA
 ▼ **OTHER:** - **LOGGED BY:** HO **CHECKED BY:** NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0					Topsoil	0.6	S1 - Top 7": Topsoil
		2	S1	14-33-26-9 (59)	24/22		Subsoil		Bot. 15": Silty SAND (SM), fine to coarse, 15-20% slightly plastic fines, trace of organic soil, light brown, moist
		4	S2	5-2-3-3 (5)	24/14			4.0	S2 - Silty SAND (SM), fine, 15-20% slightly plastic fines, trace of organic soil, light brown, moist
5		6	S3	1-2-1-2 (3)	24/16		Sand and Gravel		S3 - Silty SAND (SM), mostly fine, ~20% slightly plastic fines, trace of roots, light brown, moist
		8	S4	13-11-9-14 (20)	24/13			▽	S4 - Silty GRAVEL with Sand (GM), fine to coarse, subrounded, 15-20% fines, 20-25% fine to medium sand, trace of weathered rock, light brown, moist
10		9	S5	7-10-13-12 (23)	24/10			▼	S5 - Silty SAND with Gravel (SM), fine to coarse, 15-20% fines, 40-45% fine to coarse subrounded gravel, brown, wet
15		14	S6	6-5-5-7 (10)	24/8			REMARK 1: Drill rig chattering at depth of 13' on possible cobbles or boulder.	S6 - Silty SAND (SM), fine to medium, 15-20% fines, 5-10% fine subrounded gravel, brown, wet
20		19	S7	10-12-31-49 (43)	24/12				S7 - Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 25-30% fine subrounded gravel, trace of weathered rock, brown, wet
25		21						21.0	Bottom of borehole at 21.0 feet. Backfilled borehole with drill cuttings and 4 bags of gravel.

GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

CLIENT: Mount Vernon Group Architects, Inc. **PROJECT NAME:** Proposed Green Meadow Elementary School
LGCI PROJECT NUMBER: 2201 **PROJECT LOCATION:** Maynard, MA

DATE STARTED: 1/28/22 **DATE COMPLETED:** 1/28/22 **DRILLING SUBCONTRACTOR:** Northern Drill Service, Inc.
BORING LOCATION: Near SW corner of proposed building **DRILLING FOREMAN:** Tim Tucker
COORDINATES: NA **DRILLING METHOD:** Drive and wash with 4-inch casing
SURFACE EI.: N/A (see note 1) **TOTAL DEPTH:** 18 ft. **DRILL RIG TYPE/MODEL:** Mobile B-53 ATV Rig
WEATHER: 20's / Cloudy **HAMMER TYPE:** Automatic
GROUNDWATER LEVELS: **HAMMER WEIGHT:** 140 lb. **HAMMER DROP:** 30 in.
 ▽ **DURING DRILLING:** Not Encountered **SPLIT SPOON DIA.:** 1.375 in. I.D., 2 in. O.D.
 ▼ **AT END OF DRILLING:** 15.7 ft. **CORE BARREL SIZE:** NA
 ▼ **OTHER:** - **LOGGED BY:** HO **CHECKED BY:** NP

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El. (ft.)	Material Description
		0					Topsoil	0.5	S1 - Top 6": Topsoil
		2	S1	31-70-29-32 (99)	24/16		Fill		Bot. 10": Silty SAND with Gravel (SM), fine to medium, 15-20% fines, 20-25% coarse subrounded gravel, light brown, moist
		4	S2	23-32-21-23 (53)	24/20			S2 - Well Graded SAND with Silt and Gravel (SW-SM), fine to coarse, 5-10% fines, 20-25% fine to coarse subrounded to angular gravel, orange to brown, moist	
5		6	S3	7-24-14-14 (38)	24/9			S3 - Top 5": Silty SAND (SM), fine, trace medium, ~15% fines, 5-10% fine subrounded gravel, trace of roots, light brown, moist	
		8	S4	16-10-9-9 (19)	24/13			Bot. 4": Poorly Graded SAND with Silt and Gravel (SP-SM), fine to medium, 10-15% fines, ~20% fine to coarse subangular gravel, brown, moist (appears reworked)	
		10	S5	6-8-5-4 (13)	24/6			S4 - Top 6": Well Graded GRAVEL with Silt and Sand (GW-GM), fine to coarse, subangular, 5-10% fines, 15-20% fine to medium sand, brown, moist	
		11					Sand and Gravel	6.0	Bot. 7": Poorly Graded SAND (SP), fine to medium, 0-5% fines, 5-10% fine subrounded gravel, brown, moist
		14.3	S6	62/3"	3/0			S5 - Similar to S4 Bot. 7", 10-15% coarse subrounded gravel	
15		14.3				1	Rock	14.3	REMARK 1: Split spoon refusal encountered at depth of 14.3' on rock, tip of split spoon broke into two pieces.
						2		S6 - No recovery	
									▼ REMARK 2: Roller bit advanced between depths of 14.3' to 18' to confirm presence of rock.
								18.0	Bottom of borehole at 18.0 feet. Backfilled borehole with drill cuttings and 0.5 bag of gravel.
20									
25									

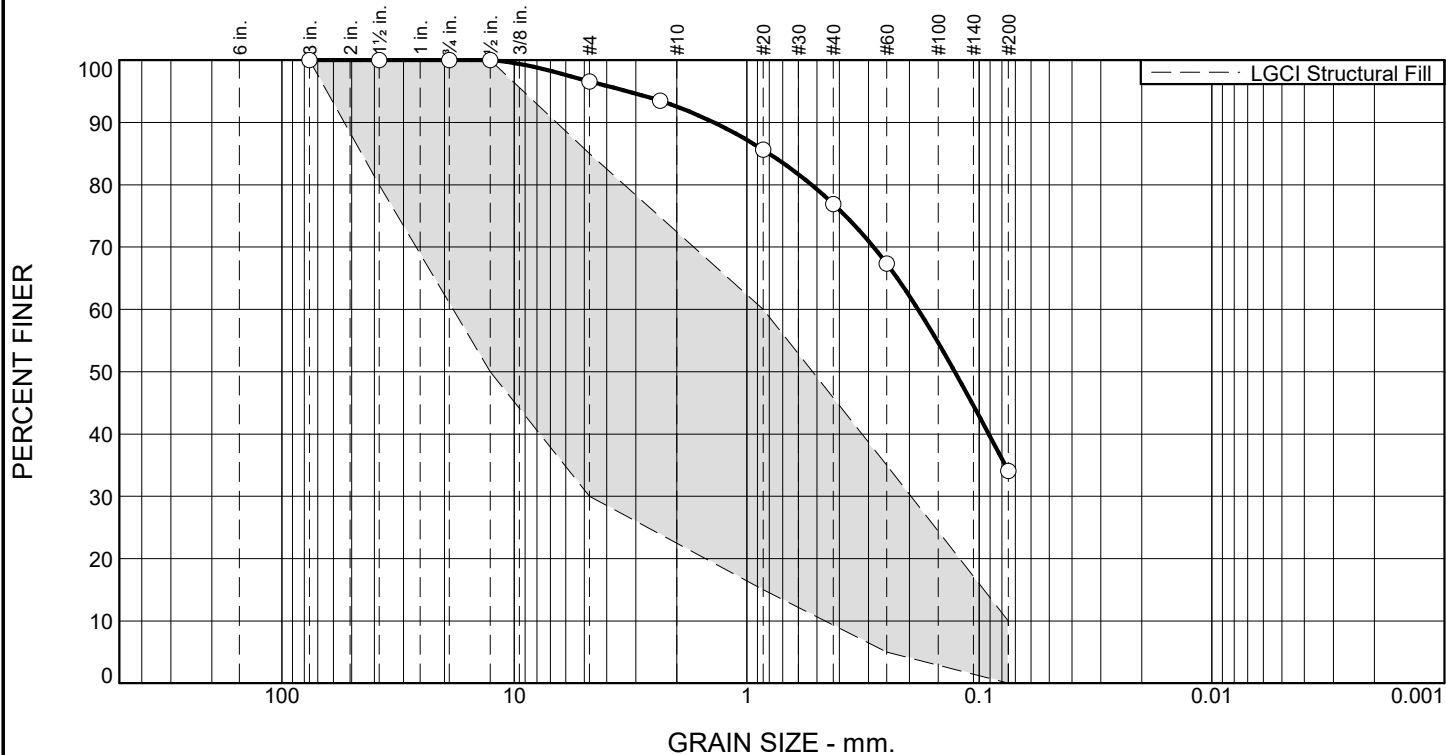
GENERAL NOTES:

1. The ground surface elevation not available.

Last Modified: 05/22/2024 at 12:20PM EDT

Appendix B – Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.4	4.1	15.6	42.8	34.1	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0	100.0	
1.5"	100.0	80.0 - 100.0	
0.75"	100.0	50.0 - 100.0	
0.5"	100.0	50.0 - 100.0	
#4	96.6	30.0 - 85.0	X
#8	93.5	30.0 - 85.0	X
#20	85.6	15.0 - 60.0	X
#40	76.9	15.0 - 60.0	X
#60	67.4	5.0 - 35.0	X
#200	34.1	0.0 - 10.0	X

Material Description

ASTM (D 2488) Classification: Silty SAND (SM), fine to medium, 30-35% fines, 0-5% fine subangular gravel, trace of organic soil, light brown

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 1.3826 D₈₅= 0.8015 D₆₀= 0.1833
D₅₀= 0.1273 D₃₀= _____ D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

Subsoil sample.

Date Received: 01/28/2022 Date Tested: 02/01/2022

Tested By: LB

Checked By: OIL

* LGCI Structural Fill

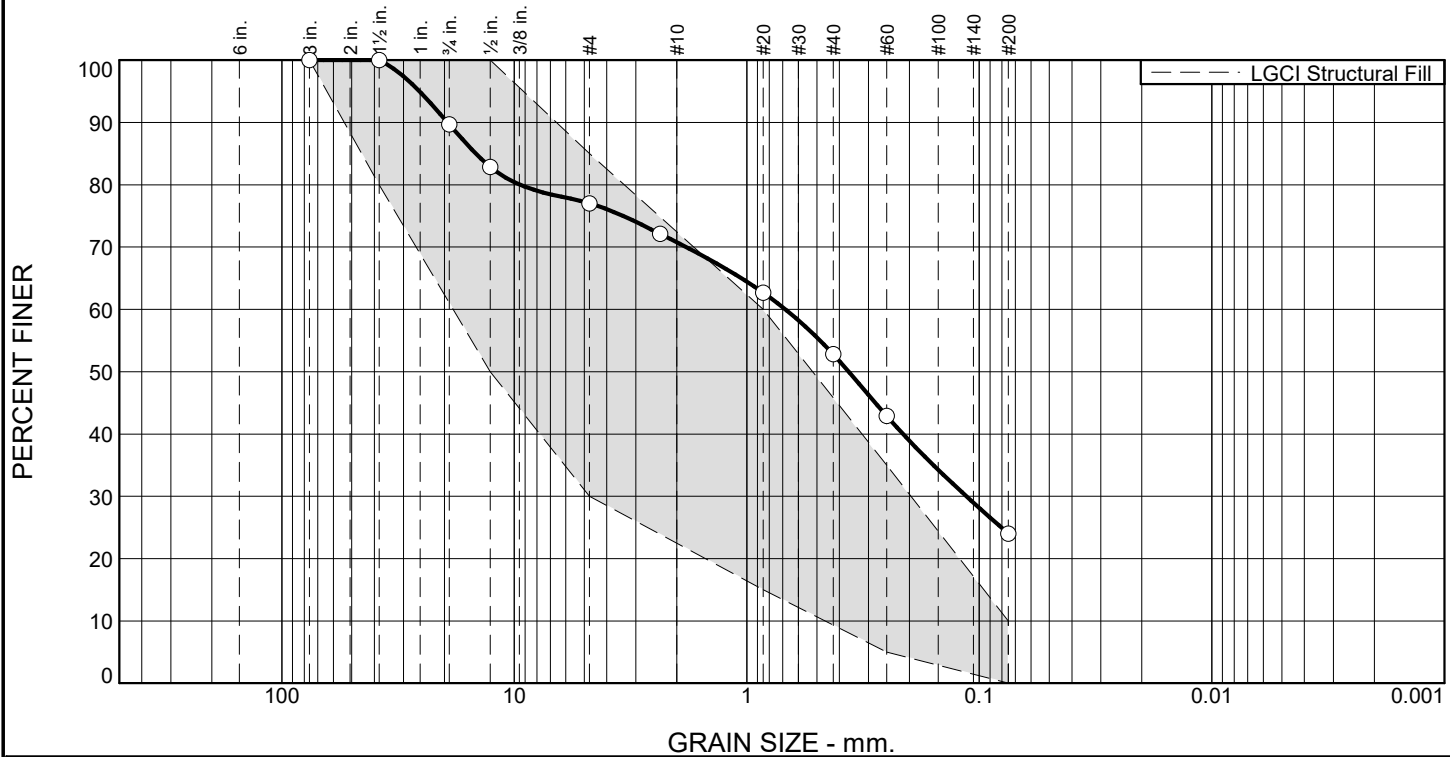
Location: Boring B-7 **Sample Number:** S2 Top 13" **Depth:** 2'-4" **Date Sampled:** 01/28/2022



Client: Mount Vernon Group Architects, Inc.
Project: Proposed Green Meadow Elementary School, Maynard, MA
Project No: 2201 **Figure**

Last Modified: 05/22/2024 at 12:20PM EDT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	10.3	12.7	6.2	18.0	28.8	24.0	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0	100.0	
1.5"	100.0	80.0 - 100.0	
0.75"	89.7		
0.5"	82.9	50.0 - 100.0	
#4	77.0	30.0 - 85.0	
#8	72.1		
#20	62.7	15.0 - 60.0	X
#40	52.8		
#60	42.9	5.0 - 35.0	X
#200	24.0	0.0 - 10.0	X

Material Description

ASTM (D 2488) Classification: Silty SAND with Gravel (SM), fine to medium, trace coarse, 20-25% fines, 20-25% fine to coarse subrounded to subangular gravel, trace of organic soil, brown

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D₉₀= 19.3490 D₈₅= 14.6403 D₆₀= 0.6834
D₅₀= 0.3640 D₃₀= 0.1135 D₁₅=
D₁₀= C_u= C_c=

Remarks

Fill sample.

Date Received: 02/01/2022 Date Tested: 02/02/2022

Tested By: LB

Checked By: OIL

* LGCI Structural Fill

Location: Boring B-1
Sample Number: S2

Depth: 2'-4'

Date Sampled: 02/01/2022

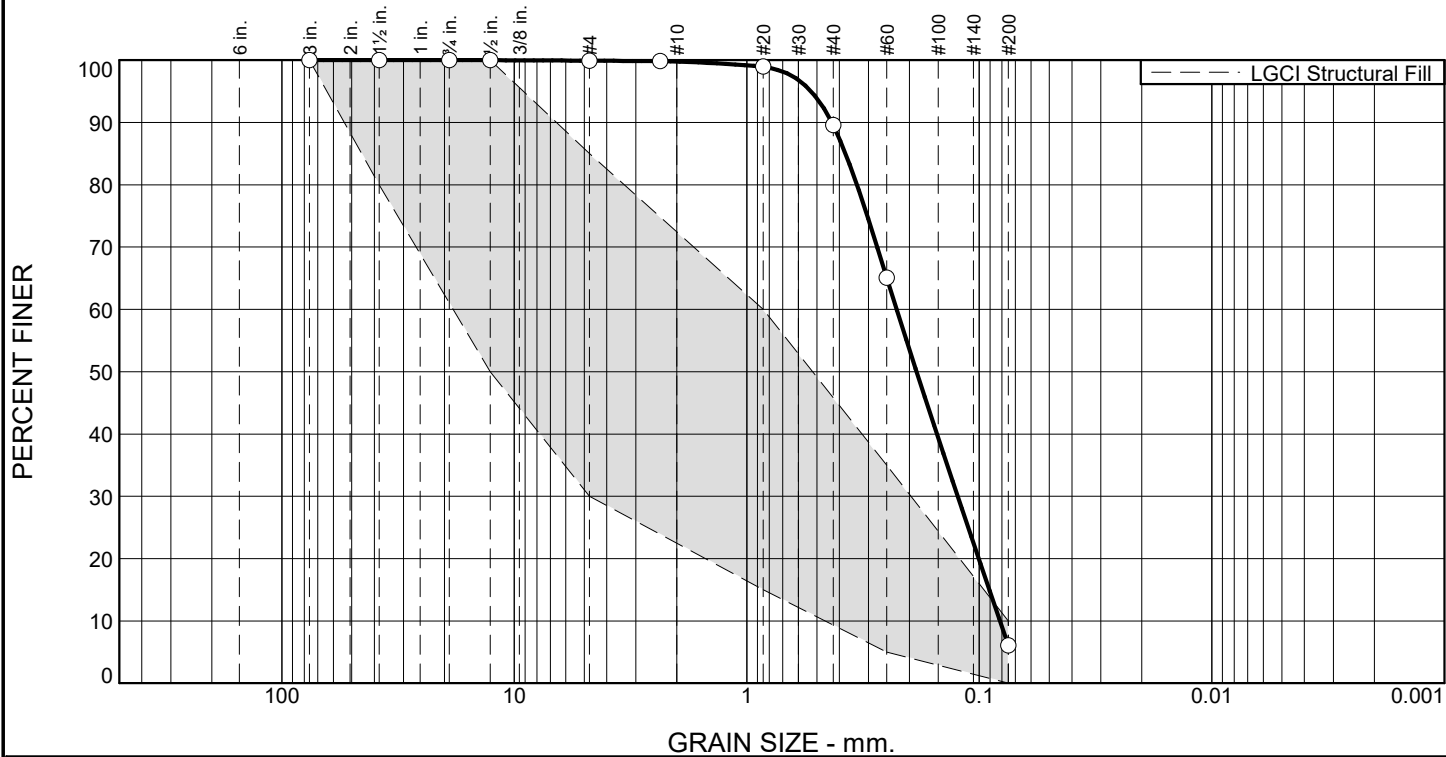


Client: Mount Vernon Group Architects, Inc.
Project: Proposed Green Meadow Elementary School, Maynard, MA

Project No: 2201

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.1	10.2	83.5	6.1	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0	100.0	
1.5"	100.0	80.0 - 100.0	
0.75"	100.0		
0.5"	100.0	50.0 - 100.0	
#4	99.9	30.0 - 85.0	X
#8	99.9		
#20	99.0	15.0 - 60.0	X
#40	89.6		
#60	65.1	5.0 - 35.0	X
#200	6.1	0.0 - 10.0	

* LGCI Structural Fill

Material Description
 ASTM (D 2488) Classification: Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, trace gravel, tan

Atterberg Limits (ASTM D 4318)
 PL= _____ LL= _____ PI= _____

Classification
 USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients
 D₉₀= 0.4307 D₈₅= 0.3758 D₆₀= 0.2265
 D₅₀= 0.1859 D₃₀= 0.1237 D₁₅= 0.0905
 D₁₀= 0.0815 C_u= 2.78 C_c= 0.83

Remarks
 Sand sample.

Date Received: 01/31/2022 **Date Tested:** 02/02/2022
Tested By: LB
Checked By: OIL

Location: Boring B-6
Sample Number: S2

Depth: 2'-4'

Date Sampled: 01/31/2022



Client: Mount Vernon Group Architects, Inc.
Project: Proposed Green Meadow Elementary School, Maynard, MA

Project No: 2201

Figure

THIS PAGE INTENTIONALLY LEFT BLANK

PHASE I ENVIRONMENTAL SITE ASSESSMENT

**Green Meadow Elementary School
5 Tiger Drive
Maynard, Massachusetts**



Prepared for:

**Christopher LeBlanc
Mount Vernon Group Architects
264 Exchange Street, Suite G4
Chicopee, MA 02013**

Prepared by:

**Lord Environmental, Inc.
1506 Providence Highway, Suite 30
Norwood, Massachusetts 02062**

Project # 3096

January 18, 2022

Lord Environmental, Inc.

Consulting & Licensed Site Professional Services

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

Voice: 781.255.5554
Fax: 781.255.5535
www.lordenv.com

January 18, 2022

Christopher LeBlanc, Chicopee Office
Mount Vernon Group Architects
178 Albion Street, Suite 240
Wakefield, MA 01880

**RE: Phase I Environmental Site Assessment
5 Tiger Drive
Maynard, Massachusetts**

Dear Mr. LeBlanc:

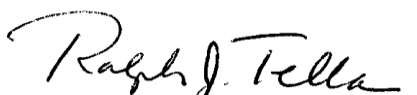
Lord Environmental, Inc. has completed a Phase I Environmental Site Assessment of the referenced property (the "Site"). Environmental investigations were completed in general conformance to standard industry practice, the ASTM E-1527 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", applicable regulations as defined by Chapter 21E of the Massachusetts General Laws, and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). The purpose of this assessment was to identify "Recognized Environmental Conditions" as defined in ASTM E 1527-21, and to determine if additional investigation is warranted.

This assessment has not identified any Recognized Environmental Conditions (RECs) in connection with the property, 5 Tiger Drive, in Maynard, Massachusetts. Although not a REC, it is recommended that the abandoned fuel oil ASTs be cleaned and removed for disposal at licensed facilities.

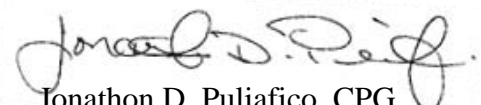
A Historic REC was identified. Previous environmental assessment activities, completed in 1998 on a portion of the subject property, detected contaminants attributed to dumping of coal ash/mill waste. Although it was determined that a condition of No Significant Risk existed without cleanup activities, appropriate characterization and disposal of the material would be required if redevelopment of the Site includes excavation of soil.

Please refer to the attached report for specific details and findings of our assessment. We appreciate the opportunity to have provided our professional environmental consulting and analytical services.

Sincerely,
LORD ENVIRONMENTAL, INC.


Ralph Tella, CHMM, LSP
President


Katelyn Putt
Project Assistant


Jonathon D. Puliafico, CPG
Senior Project Manager

Enc.: Phase I ESA

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	DEFINITIONS	1
1.2	PURPOSE	1
1.3	SPECIAL TERMS AND CONDITIONS	2
2.0	SCOPE OF SERVICES	3
3.0	SITE DESCRIPTION	4
3.1	SITE LOCATION AND PARCEL LEGAL DESCRIPTION	4
3.2	SITE AND VICINITY GENERAL CHARACTERISTICS	4
3.3	CURRENT PROPERTY USE	4
3.4	DESCRIPTION OF IMPROVEMENTS	4
3.4.1	Wastewater	4
3.4.2	Water Supply	5
3.4.3	Wells	5
3.4.4	Heating/Cooling System	5
3.4.5	Solid Waste Disposal	5
3.4.6	Storage Tanks	5
3.4.7	Transformers, Hydraulic Equipment and Other Potential Evidence of the Potential Use of Polychlorinated Biphenyls	5
3.5	CURRENT USES OF ADJOINING PROPERTIES	6
4.0	USER PROVIDED INFORMATION	7
4.1	USER QUESTIONNAIRE	7
4.3	ENVIRONMENTAL LIENS, ACTIVITY AND USE LIMITATIONS	8
4.4	SPECIALIZED KNOWLEDGE	8
4.5	COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION	8
4.6	VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES	8
4.7	OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION	8
4.8	REASON FOR PERFORMING PHASE I STUDY	8
5.0	RECORDS REVIEWS	9
5.1	MUNICIPAL OFFICES	9
5.1.1	Assessor's Office	9
5.1.2	Health Department	9
5.1.3	Building Department / Inspectional Services	9
5.1.4	Conservation Commission	9
5.1.5	Clerk's Office	10
5.1.6	Fire Prevention	10
5.2	SANBORN/HISTORICAL MAP REVIEW	10
5.3	HISTORIC AERIAL PHOTOGRAPH REVIEW	10
5.4	RADIUS SEARCH FOR PROPERTIES OF ENVIRONMENTAL CONCERN	10
5.5	MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION REVIEW	11
5.6	PREVIOUS REPORTS	12
5.7	PHYSICAL SETTING SOURCES	13
5.8	HISTORICAL USE INFORMATION	13
6.0	SITE RECONNAISSANCE	14
6.1	METHODOLOGY AND LIMITING CONDITIONS	14
6.2	INTERIOR INSPECTION	14
6.3	EXTERIOR INSPECTION	14
7.0	INTERVIEWS	14
8.0	SUMMARY OF FINDINGS AND CONCLUSION	15
8.1	FINDINGS	15

8.2 CONCLUSIONS 16

9.0 RESTRICTIVE CONDITIONS.....17

9.1 LIMITATIONS & DEVIATIONS 17

9.2 SIGNIFICANCE OF DATA GAPS..... 17

10.0 LIMITATIONS.....17

11.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONAL STATEMENT18

APPENDIX A – FIGURES, PHOTOGRAPHS AND QUESTIONNAIRE

APPENDIX B – EDR REPORT & SANBORN MAPS

APPENDIX C – MUNICIPAL INFORMATION

APPENDIX D – MADEP REPORT

1.0 INTRODUCTION

1.1 Definitions

Recognized Environmental Conditions (REC) are defined as the presence or likely presence of hazardous substances or petroleum products on the property under conditions that indicate an existing release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Controlled Recognized Environmental Conditions (CREC) are defined as a Recognized Environmental Condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

Historic Recognized Environmental Conditions (HREC) are defined as a past release of hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

Business Environmental Risks (BER) are defined as a risk which can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.

1.2 Purpose

Lord Environmental, Inc. (LEI) has completed a Phase I Environmental Site Assessment of 5 Tiger Drive, Maynard, Massachusetts (the “Site”). The purpose of this assessment was to identify any Recognized Environmental Conditions, Controlled Environmental Conditions, Historic Environmental Conditions and Business Environmental Risks (**Section 1.1**), as defined in ASTM standard E 1527-21 (the “Standard”), and to determine if additional investigation is warranted.

The terms defined above are not intended to include *de minimis* conditions which generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of a notification and/or enforcement action if brought to the attention of appropriate governmental agencies.

The Phase I consisted of a Site reconnaissance and an assessment of the Site and surrounding properties for visual and/or olfactory evidence of the use, storage, and/or release of oil and/or hazardous material. The Phase I also included a review of federal,

state, and local agency files regarding the history of the Site and surrounding area relative to the use, storage and/or release of oil and/or hazardous material.

Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-21, therefore LEI did not explore those conditions.

1.3 Special Terms and Conditions

The Phase I ESA was completed by LEI on behalf of the Client consistent with the agreed upon Scope of Work and LEI Standard Terms and Conditions. No other special terms and conditions were established in connection with these services.

2.0 SCOPE OF SERVICES

This assessment was performed following standard industry practice and with consideration to the ASTM E 1527-21 site assessment standard entitled “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The investigation included completion of the following tasks:

1. A field investigation was performed including a visual surficial inspection of the Site and abutting properties; and
2. The following agencies were contacted to inquire of past ownership, complaints, or violations concerning environmental issues at the Site and vicinity.
 - The Massachusetts Department of Environmental Protection (MADEP)
 - The Maynard Tax Assessor’s Office
 - The Maynard Town Clerk’s Office
 - The Maynard Health Department
 - The Maynard Inspection Services Department
 - The Maynard Conservation Commission
 - The Maynard Fire Prevention Office
 - Environmental Data Resources Inc.
 - Sanborn Fire Insurance Maps
3. The following agencies were contacted to determine the physical characteristics of the Site and vicinity:
 - USGS Topographical Maps
 - MADEP Priority Resource Maps
 - Massachusetts Geographic Information Systems (MAGIS)
 - US Fish & Wildlife Service Wetlands Inventory
 - FEMA Flood Zone Maps
 - USDA Soil Survey Maps
 - UC Davis Soil Web App
 - Google Earth Pro

3.0 SITE DESCRIPTION

3.1 Site Location and Parcel Legal Description

Information provided indicates that the Site consists of one lot totaling approximately 18.775 acres of land addressed 5 Tiger Drive in Maynard, Massachusetts. The intersection of Great Road (Rt. 117) and Taylor Road is located at the north end of the Site. Tiger Drive extends south from Great Road to the Green Meadow Elementary School located in the central portion of the Site.

A Site Location Map is included as **Figure 1**. The Site is designated as Lot 1 on Maynard Assessor Map #24. An Assessor's Map is included as **Figure 2** and a Site Plan depicting pertinent Site features is included as **Figure 3**.

Information provided indicates the Site entrance longitude and latitude are approximately -71.458983° west and 42.423908° north, respectively. Universal Transverse Mercator (UTM) coordinates are approximately 4,699,560 meters north by 297,700 meters east.

3.2 Site and Vicinity General Characteristics

The Site is developed as an elementary school. Abutting properties are residential to the north and northwest. Maynard Motors, an auto sales and maintenance facility, abuts the northeast corner of the Site. The Fowler Middle School abuts the Site to the southeast. Undeveloped woods are located along the western and southern boundaries of the Site.

3.3 Current Property Use

The Site is occupied by the Green Meadow Elementary School.

3.4 Description of Improvements

The Site is improved with an elementary school constructed on concrete slabs with a footprint of approximately 85,000 square feet. Construction was initiated circa 1956 with additions constructed in the 1970s and 1980s.

The school is located in the central portion of the Site, with paved asphalt parking lots to the north and east. Landscaped areas are located in the areas of the building. Athletic fields are located to the north and southwest of the school. A playground is located to the east of the school. A detailed Site description is presented in **Section 4.0**.

3.4.1 Wastewater

Wastewater generated on-Site is discharged to the municipal sewer system. Floor drains and storm water catch basins, reportedly connected to the municipal drain system, were observed on the Site.

3.4.2 Water Supply

The Site is connected to the municipal water supply.

3.4.3 Wells

No injection, monitoring, or dry wells were observed or identified from the interviews or records reviewed.

3.4.4 Heating/Cooling System

Heat in the building is provided by natural-gas powered furnaces located in the boiler room of the northern portion of the building.

A fuel oil burning furnace, that is no longer functioning, is located in an adjacent boiler room. A sign on the fuel oil boiler furnace reads “Pipe Insulation May Contain Asbestos”. According to Mr. John Barbagallo, Custodian, use of the fuel oil boiler was discontinued in 2011 when the two natural gas boilers were installed.

Mr. Barbagallo stated that an asbestos assessment and abatement were completed a couple years ago. Some asbestos was removed and some was left in-place.

3.4.5 Solid Waste Disposal

Solid waste dumpsters are located near the school building and in a parking lot to the northeast of the school. No significant staining of the dumpsters was observed during the Site visit.

There were no areas of solid waste disposal, mounds or depressions, or areas apparently filled or graded by non-natural causes suggesting solid waste disposal observed.

3.4.6 Storage Tanks

No evidence or records of current or historic underground storage tanks (UST) were observed during the inspection or through record reviews. Two 275-gallon fuel oil ASTs are located in the boiler room. An oil level indicator on the wall near the ASTs did not indicate the presence of oil in the tanks.

3.4.7 Transformers, Hydraulic Equipment and Other Potential Evidence of the Potential Use of Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) can be found in hydraulic-oil filled electrical equipment (such as motors and pumps), capacitors or transformers, and fluorescent light ballasts manufactured prior to July 2, 1979.

LEI observed fluorescent light fixtures throughout the Site. Any light ballast manufactured after 1979 must be labeled “No PCB”. Note that electric light ballasts that contained PCBs had less than 1.5 ounces of PCB. The reportable quantity requiring notification to the Massachusetts Department of Environmental Protection of a release is one pound. Therefore the risk presented by PCB-containing ballasts is relatively low.

An electrical transformer was observed near the northeast corner of the school. No indications of a release of transformer oil were observed.

3.5 Current Uses of Adjoining Properties

Use of abutting properties is as follows:

Table 1
Area Land Usage

Usage	Orientation
Residential	North
Undeveloped woods	South
Middle School and commercial	East
Undeveloped woods	West

4.0 USER PROVIDED INFORMATION

A summary of user provided information is provided below.

4.1 User Questionnaire

A User Questionnaire was completed by Justin DeMarco, Director of Public Works for the Town of Maynard, to assist the user and LEI in gathering information that may be material to identifying RECs. A copy of the completed questionnaire is attached in **Appendix C**.

Table 2
User Questionnaire

Inquiry	Response
Name and title	Justin DeMarco Director PWD
Tenure with Site	3 years
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?	N/A
Are you aware of any Activity and Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?	N/A
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	
Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	N/A
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:	
<ul style="list-style-type: none"> ▪ Do you know the past uses of the property? 	Prior to school use, was farm
<ul style="list-style-type: none"> ▪ Do you know of specific chemicals that are present or once were present at the property? 	MSDA sheets can be found at school main office
<ul style="list-style-type: none"> ▪ Do you know of spills or other chemical releases that have taken place at the property? 	N/A
<ul style="list-style-type: none"> ▪ Do you know of any environmental cleanups that have taken place at the property? 	Asbestos abatement of facility 2-years ago
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?	

Last Modified: 05/22/2024 at 12:20PM EDT

4.2 Title Records

LEI did not review the property title. However, based on the Assessor's information, the Site is owned by the Town of Maynard.

4.3 Environmental Liens, Activity and Use Limitations

No information regarding environmental liens or Activity and Use Limitations was made available by the owner and the agency check revealed no listing for an Activity and Use Limitation in connection with the Site.

4.4 Specialized Knowledge

No specialized knowledge of Recognized Environmental Conditions was provided to LEI by the owner or client.

4.5 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information regarding Recognized Environmental Conditions was provided to LEI by the owner or client.

4.6 Valuation Reduction for Environmental Issues

No information regarding the sale price of the Site in comparison to the expected value of the property was provided to LEI by the owner or client.

4.7 Owner, Property Manager, and Occupant Information

According to the Maynard Assessor's Department, the current owner of the Site is:

Town of Maynard
School Dept / Parks & Rec
5 Tiger Drive
Maynard, MA 01754

LEI conducted interviews with Mr. Robert Rouleau, Principal and John Barbagallo, Custodian, regarding the use and history of the property.

4.8 Reason for Performing Phase I Study

This Phase I ESA was completed at the request of the Client.

5.0 RECORDS REVIEWS

A review of federal, state and local regulatory agency files was conducted in accordance with ASTM E 1527-21 standards to identify the use, generation, storage, treatment, disposal and/or release of oil and/or hazardous materials that may potentially impact the Site.

On December 20, 2021, LEI submitted a Public Records Request for information regarding environmental issues at the Site to the Maynard Public Records Access Officer at the Town Clerk’s Office. A copy of the request is attached in **Appendix C**.

5.1 Municipal Offices

5.1.1 Assessor’s Office

Lord Environmental, Inc. reviewed online records at the Assessor’s Office regarding historical ownership information for the Site. This data was reviewed for the purposes of land use determination and should not be relied upon as a complete chain-of-title. According to the Assessor’s Property Information Sheet, attached in **Appendix C**, the Site was sold to the Town of Maynard in 1901. **Table 3** is a summary of Site ownership information obtained at the Assessor’s office.

Table 3
Chain of Title

Grantor	Date of Acquisition	Book/Page
William H. Eveleth	06/18/1901	2925/224

5.1.2 Health Department

According to the Maynard Public Records Access Officer, no records were provided by the Health Department.

5.1.3 Building Department / Inspectional Services

According to the Maynard Public Records Access Officer, no records were provided by the Building Department.

5.1.4 Conservation Commission

Records on file with the Conservation Commission included a Wetlands Protection WPA Form 5 Order of Conditions for the approval of the construction of a playground on the property. A copy of the Order is attached in **Appendix C**.

5.1.5 Clerk's Office

The Clerk's Office was visited on December, 2021. According to a representative of the Clerk's Office, the request for information was managed through their office. The only documentation provided by the Town was the Order of Conditions summarized in **Section 5.1.4.**

5.1.6 Fire Prevention

According to the Maynard Public Records Access Officer, no records were provided by the Maynard Fire Department.

5.2 Sanborn/Historical Map Review

Sanborn Fire Insurance Maps were reviewed for the Site and vicinity. Sanborn Maps usually show property use and underground commercial fuel storage for the purposes of insurance companies. Although Sanborn Maps were provided for the years 1924, 1931, 1947 and 1955, all four maps depict the area north of the Site developed as residential. The Site is in an area not covered by the Sanborn Maps. The Sanborn Map Report is attached in **Appendix B.**

5.3 Historic Aerial Photograph Review

Aerial photographs were reviewed through the Historic Aerials website (www.historicaerials.com) and a current 2019 aerial photograph was reviewed from Google Earth.

The current school is depicted in the aerial photographs from 1992 to the present. Aerial photographs from 1978 to 1957 depict a smaller school with athletic fields to the south or north of the building. The 1937 aerial is indecipherable.

5.4 Radius Search for Properties of Environmental Concern

A radius search was conducted of federal and state-listed sites of potential environmental concern as outlined in ASTM E 1527 guidelines. The search was performed using software developed by Environmental Data Resources Inc. (EDR). Sites identified within the designated ASTM search radii are summarized in the following table. The EDR report is included in **Appendix B.**

Table 4
Properties of Potential Environmental Concern

RCRIS TSDF (1 mi.)	CERCLIS (0.5 mi.)	Landfill (0.5 mi.)	STATE SITES (0.5 mi.)	LUST, LAST & SPILLS (0.25 mile)	ERNS (Site/ Abutters)	RCRIS (Site/ Abutter)	UST (Site/ Abutter)
NI	NI	NI0	Green Meadow School Great Road Subject property Elev diff. NA 2-0012298 / B-1 RAO Near Intersection Great Rd & Sherman St 146 Great Rd 111 ft. NE Elev diff. Higher 2-0017869 / A-2 RAO JF & P Realty Trust 145 Great Rd 171 ft. ENE Elev diff. Higher 2-0017681 / A-2 RAO 2-0018818 / Not Reported 12 additional sites from 0.25 to 0.5 mile	Landry Residence 4 Omoore Ave 462 ft. N Elev. diff. Lower 2-0012907 / A-1 RAO	NI	Maynard Motors 145 Great Rd NE Abutter EPA ID: MAD019476647 VSQG	JF & P Realty Trust 145 Great Rd NE Abutter Facility ID: 10386 Tank: 1 Removed 1991 Tank: 2 Removed 1991

Notes:

Elev. Diff: = Difference in elevation from Site
 TSDF = Treatment Storage & Disposal Facilities
 NI = None Identified
 PSNC = Permanent Solution with No Conditions
 F = Final
 VSQG = Very Small Quantity Generator
 TierII = Listed with MADEP due to oil or hazardous material in soil/groundwater (not closed)
 DPS = Downgradient Property Status (contamination is from an upgradient source)

N=north, S=south, W=west, E=east
 NPL = National Priorities List
 ERNS = Environmental Response Notification System
 NFA – LSP Opinion of No Further Action
 UST = Underground Storage Tank
 RAO = Closed in accordance with MADEP Regulations
 RCRIS = Resource Conservation and Recovery Information System

5.5 Massachusetts Department of Environmental Protection Review

As summarized in a report by Earth Tech, Inc. of Concord MA, titled *Response Action Outcome (RAO) Statement, Maynard Public School Department, Green Meadow School Soccer Field*, dated July 1998, (RTN 2-12298) an Environmental Site Assessment of Parcels 2 and 13 on Assessor’s Map 24 was ordered by the Maynard School Department in December 1997. A copy of the RAO report is attached in **Appendix D**.

As specified by Earth Tech in their RAO report, assessment activities included the soccer field at Green Meadow School. The specific location of the soccer field is unclear based on the Site Plan included in the RAO report. After reviewing a copy of the RAO report, Mr. Barbagallo concluded that the “soccer field” depicted in the RAO report is the current athletic field on the southern portion of the Green Meadow Elementary School property.

Based on assessment activities, Earth Tech concluded that “the most probable past site use was as a dumping area for mill wastes generated at the American Woolen Mills

which operated mills in Maynard from circa 1850s to approximately 1950. There is no evidence that the site was occupied by any mill buildings or other structures.”

Additionally, Earth Tech concluded that the most recent development in the area of the Green Meadow School and the Maynard High School was in the prior 30 years (1960s-1990s).

Assessment of the soccer field in 1998 included soil borings, groundwater monitoring wells and laboratory analyses of soil and groundwater samples. Field screening of soil samples for total organic vapors (TOV) with an organic vapor meter (OVM) detected TOV concentrations ranging from 1.02 parts per million by volume (ppmv) to 40 ppmv. Earth Tech concluded that TOV concentrations below 50 ppmv were not indicative of volatile organics contamination.

Analyses of soil samples detected polycyclic aromatic hydrocarbons (PAH), extractable petroleum hydrocarbons (EPH) and metals above the laboratory detection limits. Earth Tech concluded that the source of compounds of concern in soil were suspected to be from historical dumping of woolen mill coal ash.

The concentration of one PAH, specifically benzo(b)fluoranthene, was detected in four of fifteen soil samples at concentrations above the MADEP S-1/GW-1 and S-1/GW-3 Risk Characterization standards of 0.7. The maximum concentration of benzo(b)fluoranthene detected by Earth Tech was 1.1 mg/kg. Based on the calculations of exposure point concentrations for soil, it was determined that there was no significant risk associated with the detected contaminants and no further assessment was required.

It should be noted that the current S-1/GW-1 and S-1/GW-3 Risk Characterization standard for benzo(b)fluoranthene is 7.0 mg/kg which is above the highest concentration detected in 1998 of 1.1 mg/kg.

Files for the other properties were not reviewed at the MADEP. Although the other state-listed properties were identified within applicable search radii, based on site-specific information, the location, distance, and/or cleanup activities, the identified releases in the area are not likely to have significant potential to migrate to the Site resulting in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.

5.6 Previous Reports

No previously completed Phase I Environmental Site Assessments of the Site were made available during the course of this assessment. To date, searching of the school files for the previously completed assessments of the abutting parcels 2 and 13 in 1998 have not found those reports.

5.7 Physical Setting Sources

LEI reviewed information provided by the United States Geological Survey (USGS) in connection with physiographic conditions, soil and bedrock types. LEI also reviewed the MassGIS Resource Map for the area, and located natural resources during the Site Reconnaissance. According to the attached Topographical Map of the Site (**Figure 1**), the elevation of the Site varies from approximately 200 above sea level in the southern portion of the property to approximately 250 feet above sea level in the northwest portion of the Site.

Review of the MassGIS Bureau of Waste Site Cleanup Priority Resources Map (**Figure 5**) published by the MADEP, indicated the Site is located within a Zone II of a Public Water Supply Protection Area. The Site is also depicted as a Protected Open Space.

Review of the Flood Insurance Rate Map, attached as **Figure 6**, published by the Federal Emergency Management Agency (FEMA) indicated the Site is located in an area of minimal flooding.

Review of the National Wetlands Inventory Map (**Figure 7**) from the U.S Fish and Wildlife Service, indicated that a wetland and associated intermittent brook are located in the southern portion of the Site.

5.8 Historical Use Information

Research regarding historical land usage of the Site and surrounding properties was conducted using data obtained from historical maps, parties familiar with the Site, and municipal officials.

The 1937 aerial photo of the Site depicts one building on the property. Use of the small building is undecipherable. A school was constructed on the Site in 1956. Additions to the school were constructed in the 1970s and 1980s.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

On December 28, 2021, LEI personnel conducted on-Site inspections, which consisted of a visual examination of the Site and portions of adjacent properties and interviews with Site personnel. Areas were examined for surficial indications of releases of oil and/or hazardous materials (OHM).

6.2 Interior Inspection

The school is a single-story buildings with a total footprint of approximate 85,000 square feet. Subdivisions within the buildings include offices, classrooms, maintenance closets, a utility/mechanical/boiler room, gymnasium and cafeteria.

Storage of oil or other hazardous materials consisted of standard maintenance supplies and two 275-gallon fuel oil ASs located in the boiler room. Mr. Barbagallo stated that no laboratories or associated chemicals are located in the school.

Several floor drains were observed in the school. Mr. Barbagallo stated that he believes they are connected to the municipal sewer system

No evidence of a release of OHM was observed through the course of our inspection. LEI did not inspect the roof.

6.3 Exterior Inspection

The balance of the Site consists of paved asphalt driveways and parking lots, landscaped areas and athletic fields. Storm water drains were observed connecting to the municipal storm water system. One electrical transformer was observed near the northern end of the building; no evidence of a release was observed.

No evidence of current or former USTs or ASTs was observed on exterior portions of the Site. No evidence of releases or dumping of OHM was observed on the Site through the course of our inspection. LEI did not observe any odors, pools of liquid, ponds, lagoons, stressed vegetation, suspicious containers or tanks, or solid waste during the reconnaissance.

7.0 INTERVIEWS

LEI interviewed Mr. John Barbagallo, Custodian, and Mr. Robert Rouleau, Principal, in connection with property conditions and the potential for Recognized Environmental Conditions. The User Questionnaire was completed by Justin DeMarco, Director of Public Works.

8.0 SUMMARY OF FINDINGS AND CONCLUSION

8.1 Findings

Lord Environmental, Inc. has completed a Phase I Environmental Site Assessment of the Site. This assessment was performed in conformance with standard industry practice and the ASTM E 1527-21 site assessment standard entitled “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”. Our findings are presented below:

1. Information provided indicates that the Site consists of one parcel totaling approximately 18.775 acres of land addressed 5 Tiger Drive in Maynard, Massachusetts. Tiger Drive extends south from Great Road to the Green Meadow Elementary School located in the central portion of the Site. Maynard Assessors records specify that the Site is designated as Lot 1 on Maynard Assessor Map #24.
2. The Site is improved with an elementary school constructed on concrete slabs with a footprint of approximately 85,000 square feet. Construction was initiated circa 1956 with additions constructed in the 1970s and 1980s. The school is completed with paved asphalt parking lots to the north and east. Landscaped areas are located in the areas of the building. Athletic fields are located to the north and southwest of the school. A playground is located to the of the east of the school.
3. Heat in the building is provided by natural-gas powered furnaces located in the boiler room of the northern portion of the building. An abandoned fuel oil furnace is located in an adjacent boiler room. According to Mr. Barbagallo, fuel oil was used for the heating system that operated until circa 2011 when the two natural gas burning boilers were installed.
4. Two 275-gallon fuel oil ASTs are located in the boiler room. An oil level indicator on the wall near the ASTs did not indicate the presence of oil in the tanks. No evidence or records of current or historic UST were observed during the inspection or through record reviews.
5. Assessment of Town properties in 1998 included a subsurface investigation of the soccer field (athletic field) on the southern portion of the subject property. Field screening of soil samples detected TOV concentrations ranging from 1.02 ppmv to 40 ppmv. Earth Tech concluded that TOV concentrations below 50 ppmv were not indicative of volatile organics contamination. Laboratory analysis of soil and groundwater samples included EPH/VPH with target analytes and metals. Analyses of soil samples detected EPH fractions and compounds and metals above the laboratory detection limits. Benzo(b)fluoranthene, was detected in four of fifteen soil samples at concentrations above the MADEP S-1/GW-1 and S-1/GW-3 Risk Characterization standards of 0.7. The maximum concentration of

benzo(b)fluoranthene detected by Earth Tech was 1.1 mg/kg. Based on the calculations of exposure point concentrations for soil, it was determined that there was no significant risk associated with the detected contaminants and no further assessment was required. It should be noted that the current S-1/GW-1 and S-1/GW-3 Risk Characterization standard for benzo(b)fluoranthene is 7.0 mg/kg which is above the highest concentration detected in 1998 of 1.1 mg/kg.

6. Based on assessment activities, Earth Tech concluded that “the most probable past site use was as a dumping area for mill wastes generated at the American Woolen Mills which operated mills in Maynard from circa 1850s to approximately 1950.
7. Several other state-listed properties were identified within the ASTM-specified radii as having had a reported release of oil or other hazardous materials in the vicinity. Based on the information in the database, the location, distance, regulatory status and/or cleanup activities, it is our opinion that the properties listed are not likely to have current or former releases of hazardous substances and/or petroleum products with the potential to migrate to the Site that would result in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.
8. Lord Environmental, Inc. conducted an inspection of the Site consisting of a visual examination of the Site, immediate surrounding features, and abutting properties. The building is connected to municipal water and sewer systems and heat is fueled by natural gas. No evidence of releases or dumping of OHM was observed on the Site through the course of our inspection.
9. Municipal reviews were performed including the Fire Prevention Office. No record of current or former fuel storage or releases of OHM was discovered in municipal file reviews.

8.2 Conclusions

This assessment has not identified any current Recognized Environmental Conditions (RECs) in connection with the property, 5 Tiger Drive, Maynard, Massachusetts.

Although not a REC, it is recommended that the abandoned fuel oil ASTs be cleaned and removed for disposal at licensed facilities.

A Historic REC was identified. Previous environmental assessment activities, completed in 1998 on a portion of the subject property, detected contaminants attributed to dumping of coal ash/mill waste. Although it was determined that a condition of No Significant Risk existed without cleanup activities, appropriate characterization and disposal of the material would be required if redevelopment of the Site includes excavation of soil.

Any exceptions to, or deletions from, ASTM Practice E 1527 are described in **Section 9** of this report. Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-21, therefore LEI did not explore those conditions.

9.0 RESTRICTIVE CONDITIONS

9.1 Limitations & Deviations

L LEI AI recognizes the following limitations and/or deviations from the Standard with respect to this Phase I Environmental Site Assessment Update:

- LEI did not interview past owners of the Site;
- LEI did not interview owners of neighboring property;
- LEI did not review Title Records for the Site; and
- LEI did not conduct an evaluation of the purchase price of the Site compared to the fair market value.

9.2 Significance of Data Gaps

As described above, the deviations from the Standard constitute data gaps. However, it is our opinion that these data gaps do not raise reasonable concerns that would affect the ability to identify conditions indicative of a release or threatened release or Recognized Environmental Conditions (RECs) based upon other information collected during the course of the Phase I Environmental Site Assessment Update.

- Although the past owner and owners of neighboring property were not interviewed, site and surrounding area history does not indicate prior use involving oil and/or hazardous materials.
- In Massachusetts, all environmental liens and Activity and Use Limitations are identified on the MADEP sites database, which has been searched.
- Based on Site History, there is no reasonable indication that property value has been affected due to environmental concerns.

10.0 LIMITATIONS

No warranty, whether expressed or implied, is given with respect to this report or any opinions expressed herein. It is expressly understood that this report and the opinions expressed herein are based upon Site conditions, as they existed only at the time of assessment. Nothing in this report constitutes a legal opinion or legal service, and should not be relied upon as such.

The data reported and the findings, observations, and opinions expressed in the report are limited by the Scope of Work. The Scope of Work was performed based on budgetary, time, and other constraints imposed by the Client, and the agencies and persons reviewed.

In preparing this report, Lord Environmental, Inc. has relied upon and presumed accurate certain information about the Site and adjacent properties provided by governmental agencies, the client and others identified in the report. Except as otherwise stated in the report, Lord Environmental, Inc. has not attempted to verify the accuracy or completeness of any such information.

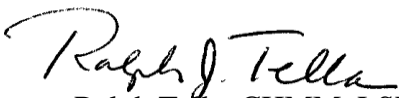
This report has been prepared on behalf of and for the exclusive use of the client, and those immediate entities involved with the proximate financing of this project, solely for use in the environmental evaluation of the Site. Any reuse or reliance on this report by any other third party shall be done only with the written consent of LEI.

11.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONAL STATEMENT

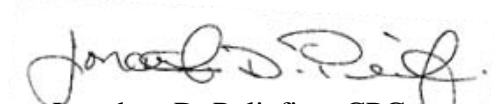
LEI declares that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. LEI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. LEI has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

This report is dated this January 18, 2022 and is signed by individuals who are duly authorized to do so.

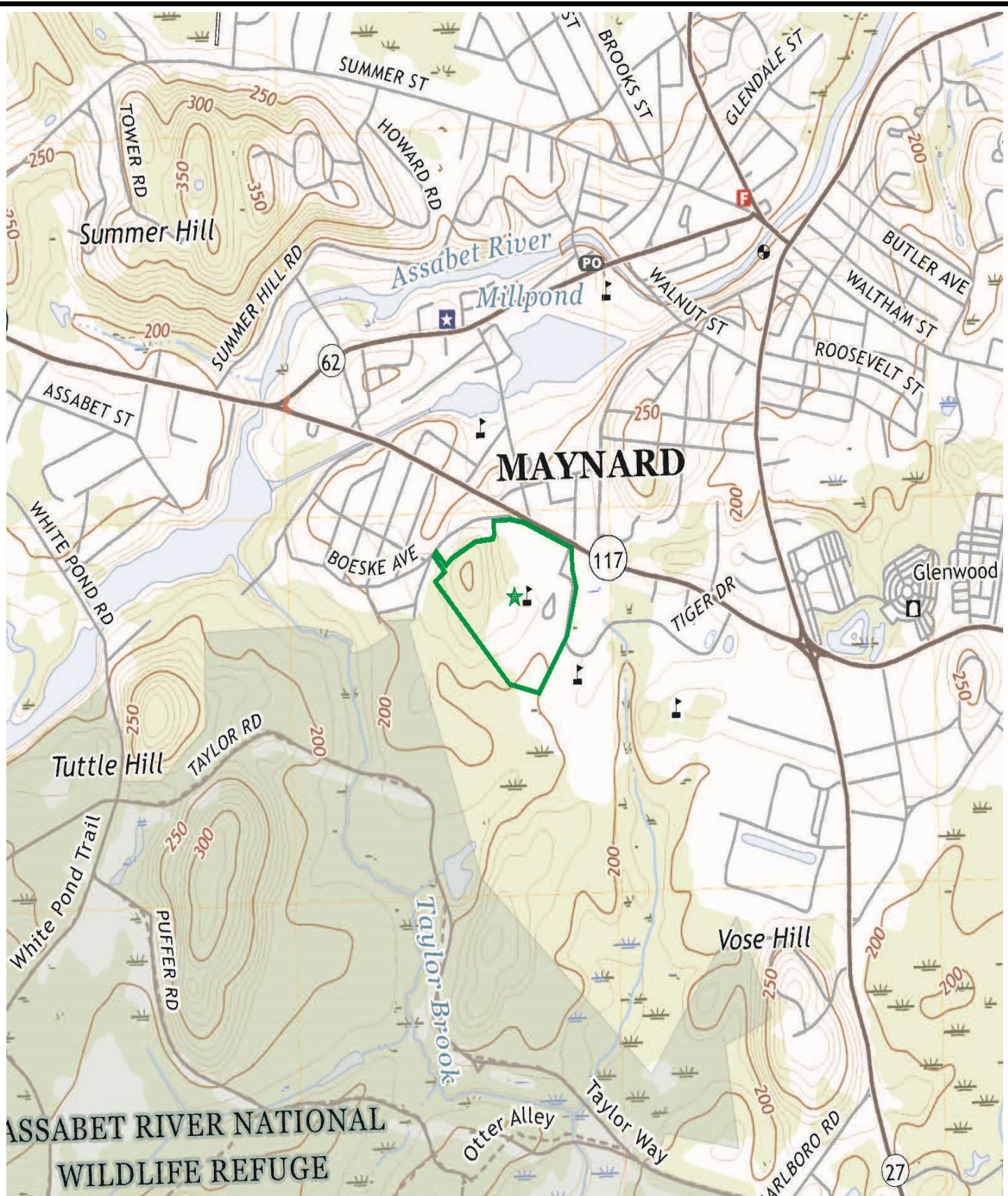
LORD ENVIRONMENTAL, INC.


Ralph Tella, CHMM, LSP
President


Katelyn Putt
Project Assistant


Jonathon D. Puliafico, CPG
Senior Project Manager

APPENDIX A



LORD ENVIRONMENTAL, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

EDR Report figure

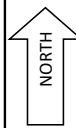
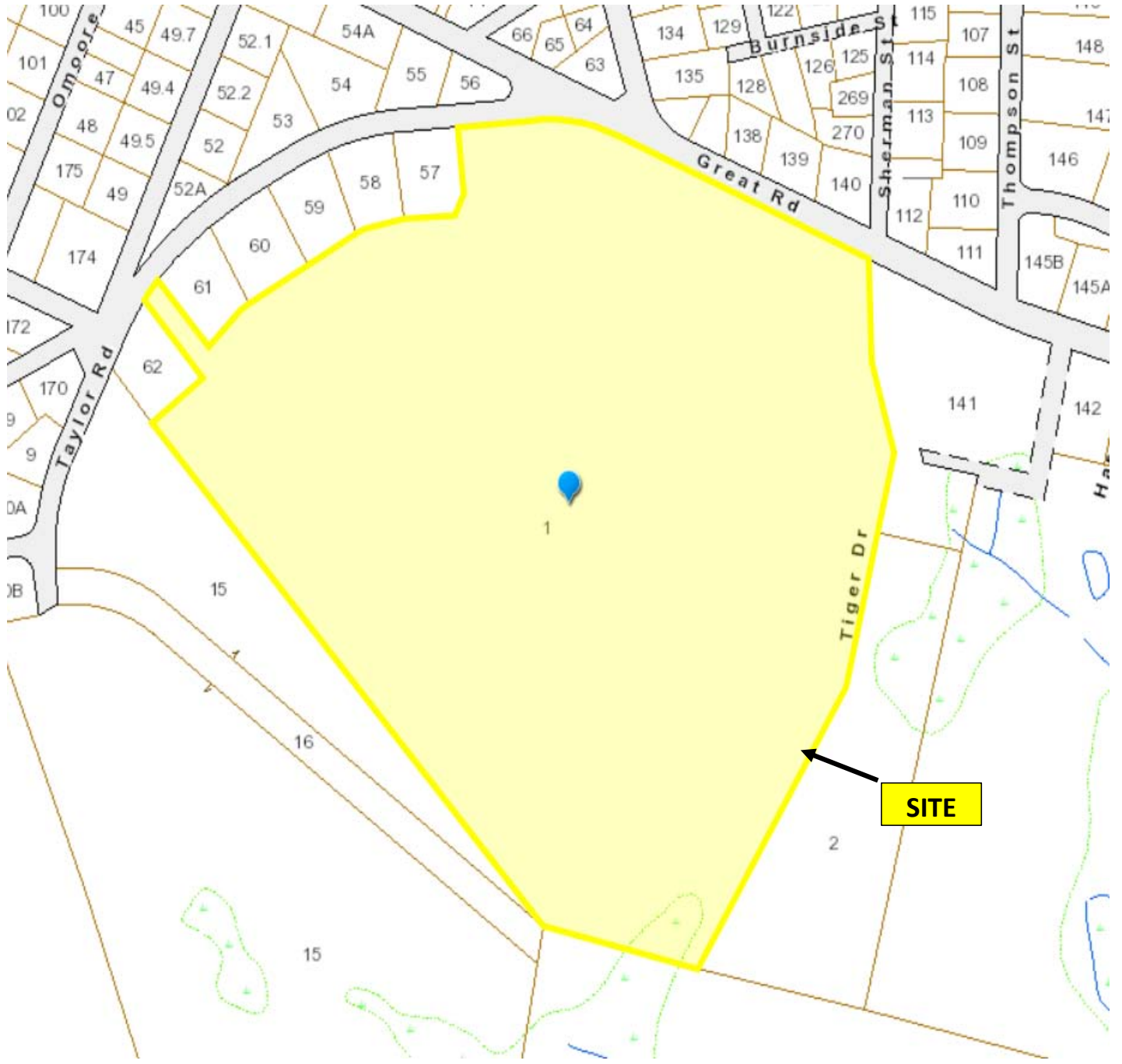


FIGURE 1: SITE LOCATION MAP

**5 Tiger Drive,
Maynard MA**



LORD ENVIRONMENTAL, INC.
1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:
Maynard MA GIS

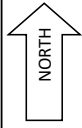


FIGURE 2: PARCEL MAP

**5 Tiger Drive,
Maynard MA**



LORD ENVIRONMENTAL, INC.
 1506 Providence Highway, Suite 30
 Norwood, MA 02062-4647
 (781) 255-5554

REFERENCE:
 Maynard MA GIS

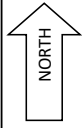
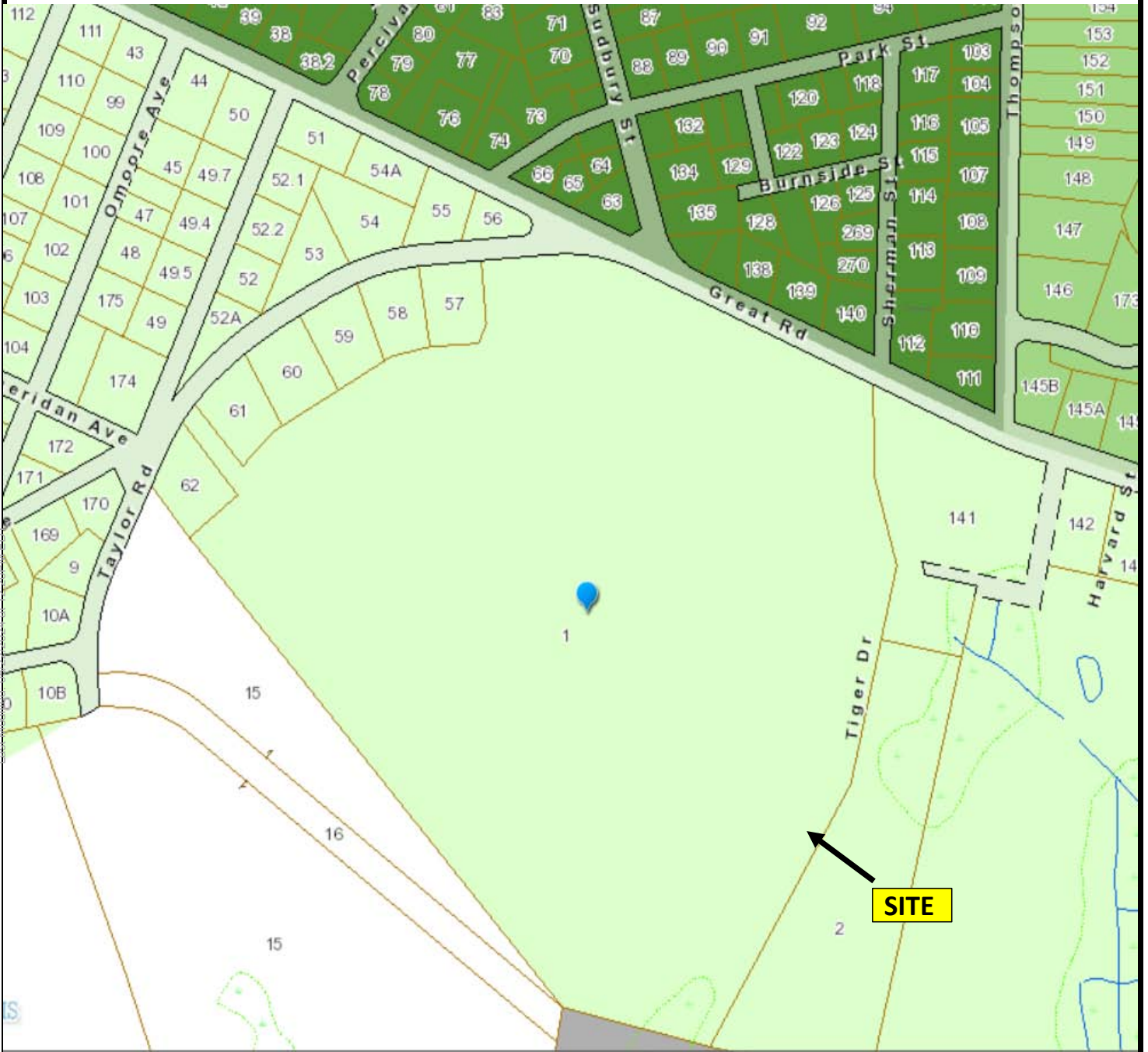


FIGURE 3: SITE PLAN

**5 Tiger Drive,
 Maynard MA**



Lord Environmental, Inc. 2024-08-01 10:00 AM EDT

LORD ENVIRONMENTAL, INC.
 1506 Providence Highway, Suite 30
 Norwood, MA 02062-4647
 (781) 255-5554

REFERENCE:
 Maynard MA GIS

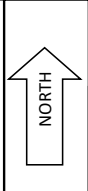


FIGURE 4: ZONING MAP

**5 Tiger Drive,
 Maynard MA**

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

5 TIGER ROAD MAYNARD, MA

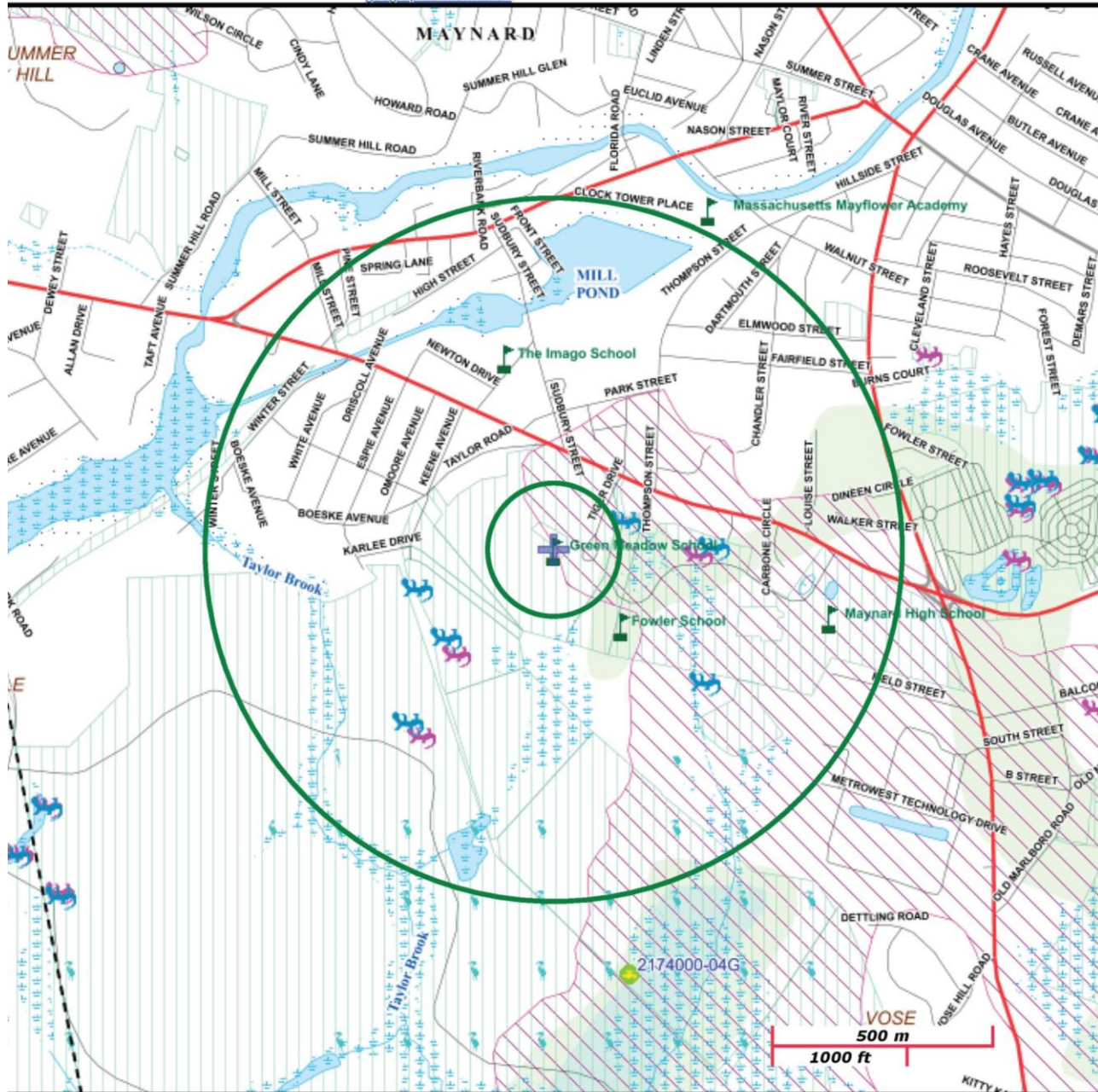
NAD83 UTM Meters:
4699746mN, 297724mE (Zone: 19)
December 15, 2021

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>.



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.

LORD ENVIRONMENTAL, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

MADEP

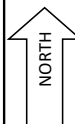
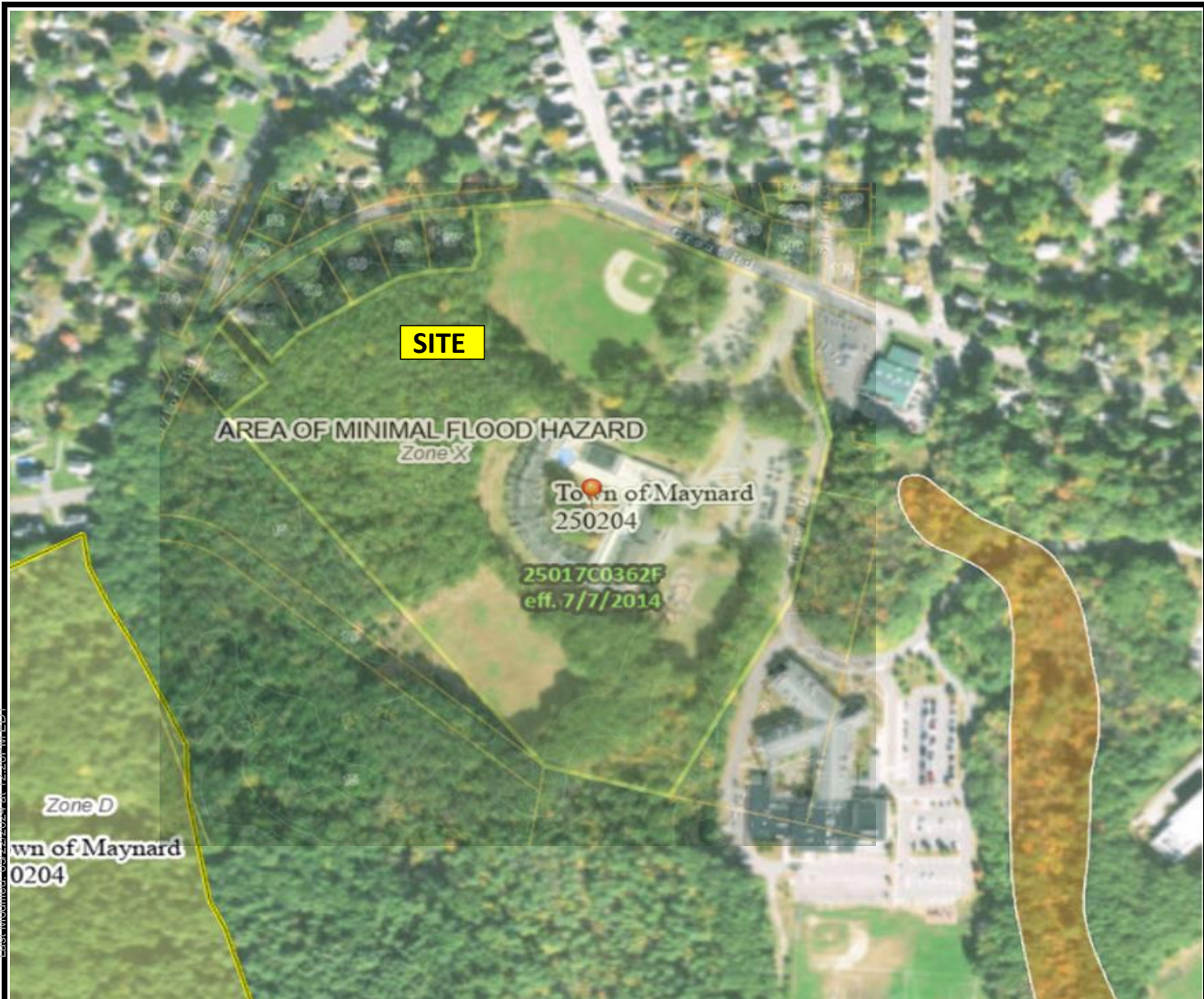
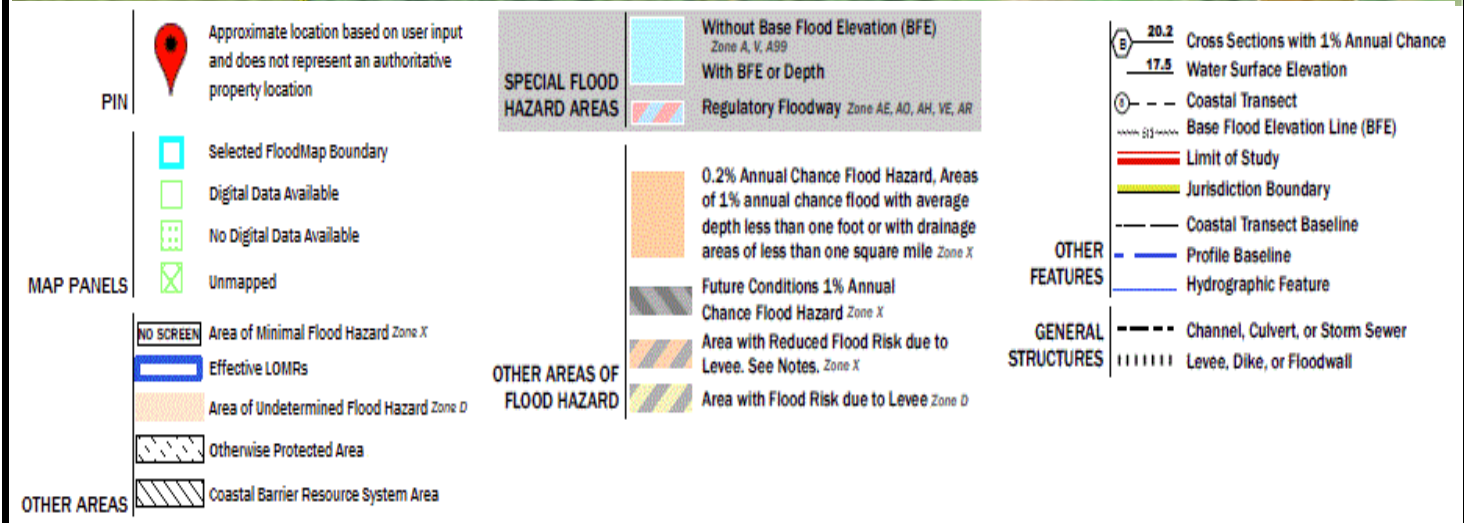


FIGURE 5:
PRIORITY RESOURCES MAP

**5 Tiger Drive,
Maynard MA**



Last Modified: 05/22/2024 at 12:20 PM EDT



LORD ENVIRONMENTAL, INC.

1506 Providence Highway, Suite 30
 Norwood, MA 02062-4647
 (781) 255-5554

REFERENCE:

FEMA Flood Map
<https://msc.fema.gov/portal/>

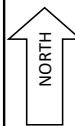
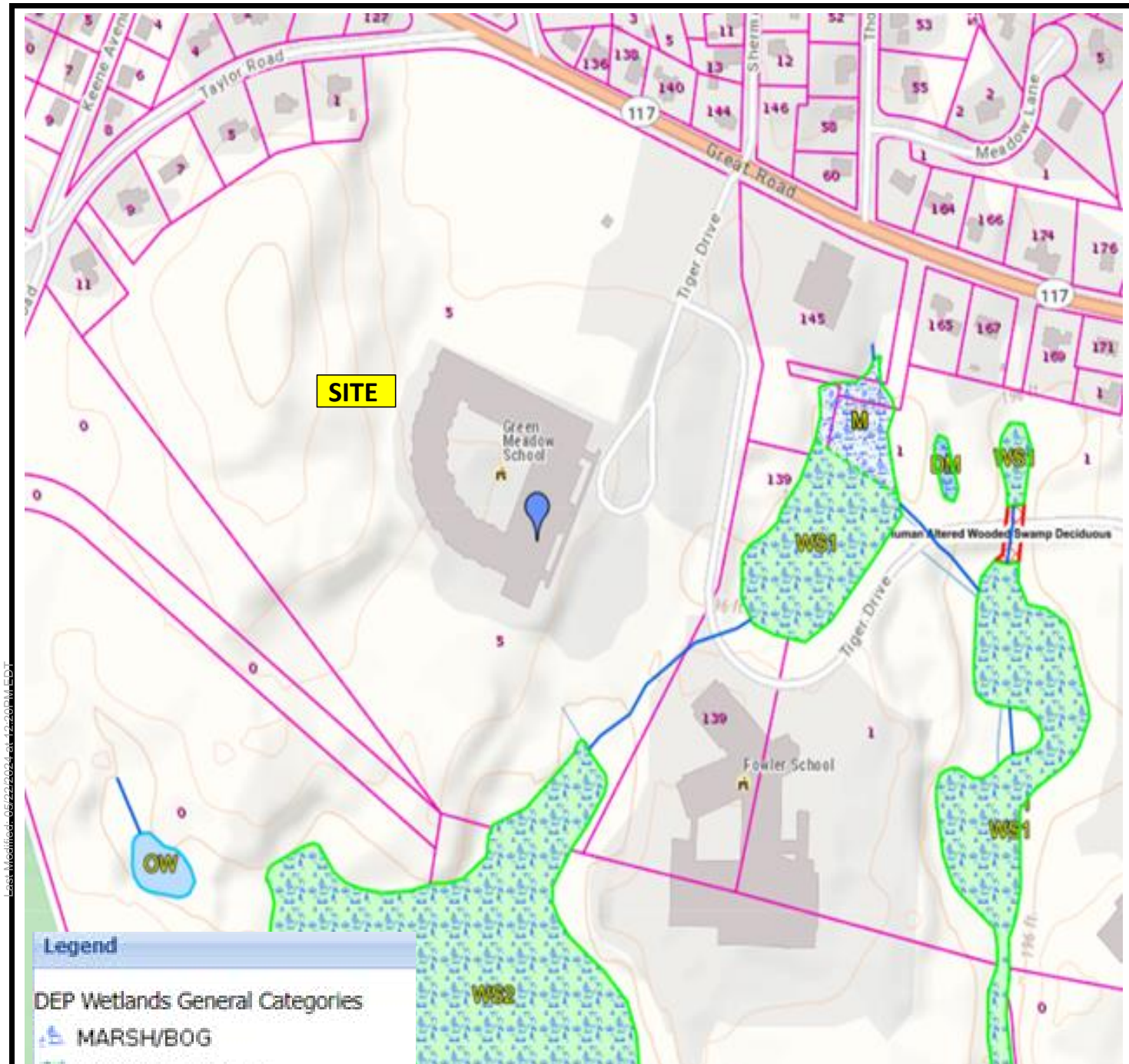


FIGURE 6: FEMA Flood Zones

**5 Tiger Drive,
 Maynard MA**



Legend

- DEP Wetlands General Categories
- MARSH/BOG
 - WOODED MARSH
 - CRANBERRY BOG
 - SALT MARSH
 - OPEN WATER
 - RESERVOIR (WITH PWSID)
 - TIDAL FLATS
 - BEACH/DUNE

LORD ENVIRONMENTAL, INC.
 1506 Providence Highway, Suite 30
 Norwood, MA 02062-4647
 (781) 255-5554

REFERENCE:
 FEMA Flood Map
<https://msc.fema.gov/portal/>

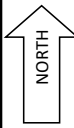


FIGURE 7: Wetland Map

**5 Tiger Drive,
 Maynard MA**

Case: H:\010101-05\2222024-14-20\111.EDT



Photo #1:	Tiger Drive entrance to the school
-----------	------------------------------------



Photo #2:	Green Meadow Elementary looking southwest
-----------	---



Photo #3:	Entrance at the northeast corner of the school
-----------	--



Photo #4:	North side of the school
-----------	--------------------------



Photo #5:	Southeast portion of the school looking south
-----------	---



Photo #6:	West side of the school
-----------	-------------------------



Photo #7:	Southeast corner of the school looking north
-----------	--



Photo #8:	Natural gas pipes at the northeast corner of the school
-----------	---



Photo #9: Athletic field and support buildings north of the school



Photo #10: Athletic field southwest of the school



Photo #11: Natural gas boilers

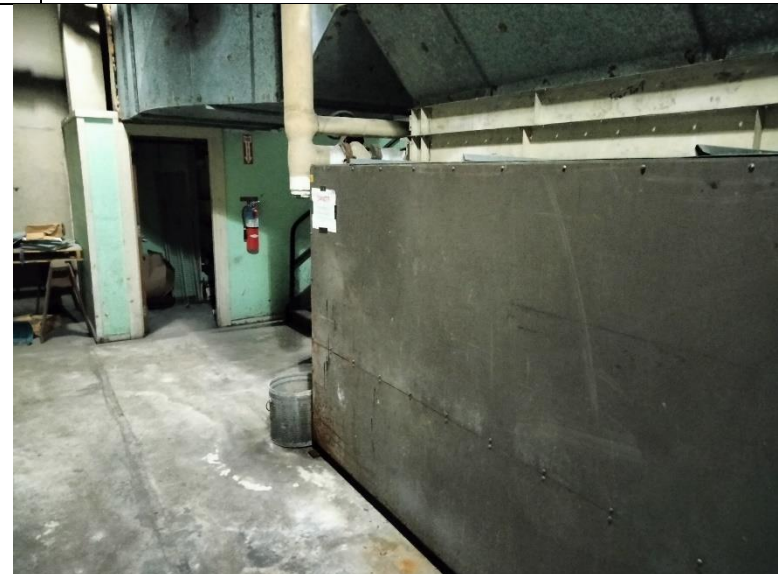


Photo #12: Fuel oil boiler (not used)



Photo #33: Two 275-gallon ASTs with fuel oil feed line



Photo #14: Storage



Photo #15: Maintenance closet



Photo #16: Electricity service room

USER QUESTIONNAIRE

INTRODUCTION

Lord Environmental, Inc. has been retained to conduct a Phase I Environmental Site Assessment on the property addressed 5 Tiger Drive, Maynard, MA. In accordance with our contract and the ASTM Method, we are required to ask the following questions. Please answer to the best of your ability and in good faith. This questionnaire may be used to qualify for one of the *Landowner Liability Protections* (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the *User* must provide the following information (if available) to the *Environmental Professional*. Failure to provide this information could result in a determination that “*all appropriate inquiry*” is not complete.

1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

N/A

2. Activity and Use Limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

Are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, state, tribal or local law?

N/A

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

As the *User* of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

N/A

4. Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the property?

N/A

5. **Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).** Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as *User*,

a.) Do you know the past uses of the property? Prior to school use, was farm.

b.) Do you know of specific chemicals that are present or once present at the property?

MSDA sheets can be found at school main office

c.) Do you know of spills or other chemical releases that have taken place at the property?

N/A

d.) Do you know of any environmental cleanups that have taken place at the property?

Asbestos abatement of facility 2-years ago

6. **The degree of obviousness of the presence of contamination at the property and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).** As the *User* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence of contamination at the property?

Site Address:

5 Tiger Drive
Maynard, MA 01754

Person Completing Questionnaire:

Justin DeMarco

Phone # and/or email address:

(978) 897-1308 Jdemarco@Townofmaynard
MA

Relationship to Site:

Director of Public Works

Years associated with site:

3-years

Date:

1/7/2022

Signature:



APPENDIX B

5 Tiger Drive

5 Tiger Drive

Maynard, MA 01754

Inquiry Number: 6791131.3s

December 16, 2021

EDR FIRST REPORT

A Search of ASTM E1527-21 §8.2.2 Databases



edrnet.com

800.352.0050

Table of Contents

This report includes a search of reasonably available environmental records to assist the professional in compliance with Section 8.2.2 Standard Federal, State, and Tribal Environmental Record Source of ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-21). Additional environmental records sources may be available for your property.

Target Site: 5 TIGER DRIVE
MAYNARD, MA 01754

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>	<u>UTMs</u>
Longitude:	71.458983	71.4589830 - 71° 27' 32.33"	Easting: 297698.8
Latitude:	42.423908	42.4239080 - 42° 25' 26.06"	Northing: 4699559.5
Elevation:	207 ft. above sea level		Zone: Zone 19

<u>SECTION</u>	<u>PAGE</u>
Search Summary	ES-1
Sites Sorted by Distance	ES-3
Sites Sorted by Database	ES-5
1 Mile Map	2
0.25 Mile Map	3
Mapped Sites Summary	4
Orphan Summary	OR-1
Records Searched/Data Currency Tracking	GR-1
USGS 7.5 Minute Topographic Map	TM-1

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc., as described herein. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.**

Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2015 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Search Summary

**TARGET SITE: 5 TIGER DRIVE
MAYNARD, MA 01754**

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
<i>Lists of Federal NPL (Superfund) sites</i>										
	NPL	10/20/2021	1.000	0	0	0	0	0	0	0
	Proposed NPL	10/20/2021	1.000	0	0	0	0	0	0	0
	NPL LIENS	10/15/1991	TP	0	-	-	-	-	0	0
<i>Lists of Federal Delisted NPL sites</i>										
	Delisted NPL	10/20/2021	1.000	0	0	0	0	0	0	0
<i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i>										
	FEDERAL FACILITY	05/25/2021	0.500	0	0	0	0	-	0	0
	SEMS	10/20/2021	0.500	0	0	0	0	-	0	0
<i>Lists of Federal CERCLA sites with NFRAP</i>										
	SEMS-ARCHIVE	10/20/2021	0.500	0	0	0	2	-	0	2
<i>Lists of Federal RCRA facilities undergoing Corrective Action</i>										
	CORRACTS	09/13/2021	1.000	0	0	0	0	0	0	0
<i>Lists of Federal RCRA TSD facilities</i>										
	RCRA-TSDF	09/13/2021	0.500	0	0	0	0	-	0	0
<i>Lists of Federal RCRA generators</i>										
	RCRA-LQG	09/13/2021	0.250	0	0	0	-	-	0	0
	RCRA-SQG	09/13/2021	0.250	0	0	0	-	-	0	0
	RCRA-VSQG	09/13/2021	0.250	0	1	0	-	-	0	1
<i>Federal institutional controls / engineering controls registries</i>										
	LUCIS	07/12/2021	0.500	0	0	0	0	-	0	0
	US ENG CONTROLS	08/23/2021	0.500	0	0	0	0	-	0	0
	US INST CONTROLS	08/23/2021	0.500	0	0	0	0	-	0	0
<i>Federal ERNS list</i>										
	ERNS	09/13/2021	TP	0	-	-	-	-	0	0
<i>Lists of state- and tribal hazardous waste facilities</i>										
	SHWS	07/06/2021	1.000	0	4	0	12	15	1	32
<i>Lists of state and tribal landfills and solid waste disposal facilities</i>										
	SWF/LF	01/14/2020	0.500	0	0	0	0	-	0	0

Last Modified: 05/22/2024 at 12:20PM EDT

Search Summary

**TARGET SITE: 5 TIGER DRIVE
MAYNARD, MA 01754**

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
<i>Lists of state and tribal leaking storage tanks</i>										
	LAST	07/06/2021	0.500	0	1	0	2	-	0	3
	LUST	07/06/2021	0.500	0	0	0	6	-	0	6
	INDIAN LUST	04/28/2021	0.500	0	0	0	0	-	0	0
<i>Lists of state and tribal registered storage tanks</i>										
	FEMA UST	01/29/2021	0.250	0	0	0	-	-	0	0
	UST	11/03/2021	0.250	0	1	0	-	-	0	1
	AST	06/07/2021	0.250	0	0	0	-	-	0	0
	INDIAN UST	04/28/2021	0.250	0	0	0	-	-	0	0
<i>State and tribal institutional control / engineering control registries</i>										
	INST CONTROL	07/06/2021	0.500	0	0	0	4	-	0	4
<i>Lists of state and tribal voluntary cleanup sites</i>										
	INDIAN VCP	07/27/2015	0.500	0	0	0	0	-	0	0
<i>Lists of state and tribal brownfield sites</i>										
	BROWNFIELDS	04/05/2017	0.500	0	0	0	6	-	0	6
	- Totals --			0	7	0	32	15	1	55

Last Modified: 05/22/2024 at 12:20PM EDT

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

5 TIGER DRIVE
MAYNARD, MA 01754

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
1	GREEN MEADOW SCHOOL	GREAT RD	SHWS	Lower	1 ft.
2	NEAR INTERSECTION GR	146 GREAT RD	SHWS	Higher	111, 0.021, NE
A3	JF&P REALTY TRUST	145 GREAT RD	SHWS, UST	Higher	171, 0.032, ENE
A4	NO LOCATION AID	145 GREAT ROAD	SHWS	Higher	171, 0.032, ENE
A5	MAYNARD MOTORS INC	145 GREAT RD	RCRA-VSQG	Higher	171, 0.032, ENE
6	LANDRY RESIDENCE	4 OMOORE AVE	LAST	Lower	462, 0.087, North
B7	JIMMY'S GARAGE INC	170 MAIN STREET	LUST	Lower	1532, 0.290, NNW
B8	PJ MURPHY TRANSPORTA	174 MAIN ST	SHWS	Lower	1560, 0.295, NNW
9	MAYNARD DPW	38 WINTER ST	LAST, LUST, INST CONTROL	Lower	1683, 0.319, West
10	63 GREAT ROAD PARTNE	63 GREAT RD	LUST, INST CONTROL, BROWNFIELDS	Lower	1890, 0.358, WNW
11	GLOBAL MONTELLO GROU	260 MAIN ST	SHWS, LUST, BROWNFIELDS	Lower	1893, 0.359, NW
C12	FUTUR ACACIA TENANT	150 MAIN STREET	SHWS, BROWNFIELDS	Lower	1952, 0.370, North
13	MARTIN STREET LAB PA	9 MARTIN STREET	SEMS-ARCHIVE	Lower	1990, 0.377, NNW
D14	AUTO MACHINE SERVICE	233 MAIN ST	SHWS	Lower	2030, 0.384, NNW
C15	MAIN ST AUTO SERVICE	151 MAIN ST	SHWS, LUST, BROWNFIELDS	Lower	2045, 0.387, North
D16	C.J. SUTHERLAND HEAT	241 REAR MAIN ST	LAST	Lower	2049, 0.388, NNW
E17	FORMER DIGITAL EQUIP	146 MAIN STREET, /4	BROWNFIELDS	Lower	2090, 0.396, NNE
E18	DIGITAL EQUIPMENT CO	146 MAIN ST	LUST	Lower	2090, 0.396, NNE
E19	DIGITAL EQUIPMENT CO	146 MAIN ST.	SEMS-ARCHIVE	Lower	2090, 0.396, NNE
E20	FORMER BUILDING NO.1	146 MAIN STREET	SHWS, INST CONTROL	Lower	2090, 0.396, NNE
E21	PARKING LOT ON SUDBU	146 MAIN ST	SHWS	Lower	2090, 0.396, NNE
E22	4 CLOCKTOWER PLACE,	146 MAIN STREET AND	BROWNFIELDS	Lower	2090, 0.396, NNE
C23	FMR GAS STA	149 MAIN ST	SHWS	Lower	2108, 0.399, NNE
24	MILL AND MAIN NORTHE	9 MILL AND MAIN PL	SHWS, INST CONTROL	Lower	2315, 0.438, NW
F25	BUILDING #6	4 CLOCKTOWER PLACE	SHWS	Lower	2319, 0.439, NNE
F26	131-132 MAIN ST PROP	131-132 MAIN ST	SHWS	Lower	2368, 0.448, NNE
27	RESIDENCE	42 GREAT RD	SHWS	Lower	2474, 0.469, NW
28	PIZZA EXPRESS	62 MAIN ST	SHWS	Lower	2729, 0.517, NNE
29	SOKOLOFF OFFICES	16-20 NASON ST	SHWS	Lower	2834, 0.537, NNE
30	DUNN OIL CO	17 EUCLID ST	SHWS	Lower	2979, 0.564, NNE
G31	INTERSECTION OF ROUT	24 MAIN ST	SHWS	Lower	3078, 0.583, NNE
G32	PROPERTY	4 MAIN STREET	SHWS	Lower	3281, 0.621, NNE
33	FIVE WALTHAM ST INC	5 WALTHAM ST	SHWS	Lower	3300, 0.625, NE
H34	UST TEST FAILURE	1 POWDERMILL RD	SHWS	Lower	3489, 0.661, NE
35	NEAR POLE 8 ABBOT RD	8 ABBOT RD	SHWS	Higher	3572, 0.677, NNW
H36	PROPERTY	3 POWDER MILL RD	SHWS	Lower	3595, 0.681, NE
H37	POLE MOUNTED TRANSFO	9 OLD SUDBURY RD	SHWS	Lower	3656, 0.692, NE
I38	CUMBERLAND FARMS	52 ACTON ST	SHWS	Lower	4000, 0.758, NNE
I39	CUMBERLAND FARMS	54 ACTON ST	SHWS	Lower	4076, 0.772, NNE

Last Modified: 05/22/2024 at 12:20PM EDT

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

5 TIGER DRIVE
MAYNARD, MA 01754

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
40	WETLAND BEHIND PROPE	15 WOODMAN PL	SHWS	Higher	4442, 0.841, WNW
J41	SHORETTE AUTOBODY	2 BROWN ST	SHWS	Lower	4747, 0.899, NNE
J42	RAIL TRAIL	TRAIL BEHIND 13 BROW	SHWS	Higher	4774, 0.904, NNE

Sites Sorted by Database

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MARTIN STREET LAB PA	9 MARTIN STREET	NNW (0.377 mi. / 1990 ft.)	13	10
DIGITAL EQUIPMENT CO	146 MAIN ST.	NNE (0.396 mi. / 2090 ft.)	E19	12

Lists of Federal RCRA generators

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MAYNARD MOTORS INC	145 GREAT RD	ENE (0.032 mi. / 171 ft.)	A5	5

Lists of state- and tribal hazardous waste facilities

SHWS: Reportable Releases Database

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GREEN MEADOW SCHOOL Release Tracking Number: 2-0012298 Current Status: RAO	GREAT RD	(0.000 mi. / 0 ft.)	1	4
NEAR INTERSECTION GR Release Tracking Number: 2-0017869 Current Status: RAO	146 GREAT RD	NE (0.021 mi. / 111 ft.)	2	4
JF&P REALTY TRUST Release Tracking Number: 2-0017681 Current Status: RAO	145 GREAT RD	ENE (0.032 mi. / 171 ft.)	A3	4
NO LOCATION AID Release Tracking Number: 2-0018818 Current Status: RAONR	145 GREAT ROAD	ENE (0.032 mi. / 171 ft.)	A4	5

Sites Sorted by Database

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PJ MURPHY TRANSPORTA Release Tracking Number: 2-0016189 Current Status: RAO	174 MAIN ST	NNW (0.295 mi. / 1560 ft.)	B8	7
GLOBAL MONTELLO GROU Release Tracking Number: 2-0019285 Current Status: PSNC	260 MAIN ST	NW (0.359 mi. / 1893 ft.)	11	9
FUTUR ACACIA TENANT Release Tracking Number: 2-0019805 Current Status: PSNC	150 MAIN STREET	N (0.370 mi. / 1952 ft.)	C12	9
AUTO MACHINE SERVICE Release Tracking Number: 2-0013893 Current Status: RAO	233 MAIN ST	NNW (0.384 mi. / 2030 ft.)	D14	10
MAIN ST AUTO SERVICE Release Tracking Number: 2-0017432 Current Status: RAONR	151 MAIN ST	N (0.387 mi. / 2045 ft.)	C15	10
FORMER BUILDING NO.1 Release Tracking Number: 2-0020017 Current Status: PSC	146 MAIN STREET	NNE (0.396 mi. / 2090 ft.)	E20	13
PARKING LOT ON SUDBU Release Tracking Number: 2-0019165 Current Status: PSNC	146 MAIN ST	NNE (0.396 mi. / 2090 ft.)	E21	13
FMR GAS STA Release Tracking Number: 2-0013032 Current Status: RAONR	149 MAIN ST	NNE (0.399 mi. / 2108 ft.)	C23	14
MILL AND MAIN NORTHE Release Tracking Number: 2-0018788 Current Status: TMPS	9 MILL AND MAIN PL	NW (0.438 mi. / 2315 ft.)	24	15
BUILDING #6 Release Tracking Number: 2-0019827 Current Status: RAONR	4 CLOCKTOWER PLACE	NNE (0.439 mi. / 2319 ft.)	F25	15
131-132 MAIN ST PROP Release Tracking Number: 2-0000314 Current Status: DEPND5	131-132 MAIN ST	NNE (0.448 mi. / 2368 ft.)	F26	16
RESIDENCE Release Tracking Number: 2-0012867 Current Status: RAO	42 GREAT RD	NW (0.469 mi. / 2474 ft.)	27	16
PIZZA EXPRESS Release Tracking Number: 2-0015326 Current Status: RAO	62 MAIN ST	NNE (0.517 mi. / 2729 ft.)	28	17
SOKOLOFF OFFICES Release Tracking Number: 2-0000902 Current Status: WCSPRM	16-20 NASON ST	NNE (0.537 mi. / 2834 ft.)	29	17
DUNN OIL CO Release Tracking Number: 2-0014634 Current Status: RAO	17 EUCLID ST	NNE (0.564 mi. / 2979 ft.)	30	18
INTERSECTION OF ROUT Release Tracking Number: 2-0012080 Current Status: RAO	24 MAIN ST	NNE (0.583 mi. / 3078 ft.)	G31	18
PROPERTY Release Tracking Number: 2-0018003 Current Status: RAO	4 MAIN STREET	NNE (0.621 mi. / 3281 ft.)	G32	19

Sites Sorted by Database

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FIVE WALTHAM ST INC Release Tracking Number: 2-0000388 Current Status: DEPNFA	5 WALTHAM ST	NE (0.625 mi. / 3300 ft.)	33	19
UST TEST FAILURE Release Tracking Number: 2-0020490 Current Status: PSNC	1 POWDERMILL RD	NE (0.661 mi. / 3489 ft.)	H34	19
NEAR POLE 8 ABBOT RD Release Tracking Number: 2-0014886 Current Status: RAO	8 ABBOT RD	NNW (0.677 mi. / 3572 ft.)	35	20
PROPERTY Release Tracking Number: 2-0001061 Release Tracking Number: 2-0010877 Current Status: RAO	3 POWDER MILL RD	NE (0.681 mi. / 3595 ft.)	H36	20
POLE MOUNTED TRANSFO Release Tracking Number: 2-0021495 Current Status: PSNC	9 OLD SUDBURY RD	NE (0.692 mi. / 3656 ft.)	H37	21
CUMBERLAND FARMS Release Tracking Number: 2-0010441 Current Status: RAO	52 ACTON ST	NNE (0.758 mi. / 4000 ft.)	I38	21
CUMBERLAND FARMS Release Tracking Number: 2-0013732 Release Tracking Number: 2-0014256 Release Tracking Number: 2-0016544 Current Status: RAO	54 ACTON ST	NNE (0.772 mi. / 4076 ft.)	I39	22
WETLAND BEHIND PROPE Release Tracking Number: 2-0013851 Current Status: RAO	15 WOODMAN PL	WNW (0.841 mi. / 4442 ft.)	40	22
SHORETTE AUTOBODY Release Tracking Number: 2-0000246 Current Status: LSPNFA	2 BROWN ST	NNE (0.899 mi. / 4747 ft.)	J41	23
RAIL TRAIL Release Tracking Number: 2-0020005 Current Status: TIERI	TRAIL BEHIND 13 BROW	NNE (0.904 mi. / 4774 ft.)	J42	23

Lists of state and tribal leaking storage tanks

LAST: Leaking Aboveground Storage Tank Sites

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LANDRY RESIDENCE Release Tracking Number / Current Status: 2-0012907 / RAO	4 OMOORE AVE	N (0.087 mi. / 462 ft.)	6	6
MAYNARD DPW Release Tracking Number / Current Status: 2-0017169 / RAONR	38 WINTER ST	W (0.319 mi. / 1683 ft.)	9	7
C.J. SUTHERLAND HEAT Release Tracking Number / Current Status: 2-0017804 / PSNC	241 REAR MAIN ST	NNW (0.388 mi. / 2049 ft.)	D16	11

Sites Sorted by Database

LUST: Leaking Underground Storage Tank Listing

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
JIMMY'S GARAGE INC Release Tracking Number / Current Status: 2-0014820 / RAO	170 MAIN STREET	NNW (0.290 mi. / 1532 ft.)	B7	6
MAYNARD DPW Release Tracking Number / Current Status: 2-0012751 / RAO	38 WINTER ST	W (0.319 mi. / 1683 ft.)	9	7
63 GREAT ROAD PARTNE Release Tracking Number / Current Status: 2-0010857 / RAO	63 GREAT RD	WNW (0.358 mi. / 1890 ft.)	10	8
GLOBAL MONTELLO GROU Release Tracking Number / Current Status: 2-0019285 / PSNC Release Tracking Number / Current Status: 2-0000801 / RAO Release Tracking Number / Current Status: 2-0021347 / UNCLSS	260 MAIN ST	NW (0.359 mi. / 1893 ft.)	11	9
MAIN ST AUTO SERVICE Release Tracking Number / Current Status: 2-0000709 / RAO	151 MAIN ST	N (0.387 mi. / 2045 ft.)	C15	10
DIGITAL EQUIPMENT CO Release Tracking Number / Current Status: 2-0000097 / WCSPRM	146 MAIN ST	NNE (0.396 mi. / 2090 ft.)	E18	12

Lists of state and tribal registered storage tanks

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
JF&P REALTY TRUST Tank Status: Tank Removed Facility Id: 10386	145 GREAT RD	ENE (0.032 mi. / 171 ft.)	A3	4

State and tribal institutional control / engineering control registries

INST CONTROL: Sites With Activity and Use Limitation

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MAYNARD DPW Release Tracking Number: 2-0012751	38 WINTER ST	W (0.319 mi. / 1683 ft.)	9	7
63 GREAT ROAD PARTNE Release Tracking Number: 2-0010857	63 GREAT RD	WNW (0.358 mi. / 1890 ft.)	10	8
FORMER BUILDING NO.1 Release Tracking Number: 2-0020017	146 MAIN STREET	NNE (0.396 mi. / 2090 ft.)	E20	13
MILL AND MAIN NORTHE Release Tracking Number: 2-0018788	9 MILL AND MAIN PL	NW (0.438 mi. / 2315 ft.)	24	15

Sites Sorted by Database

Lists of state and tribal brownfield sites

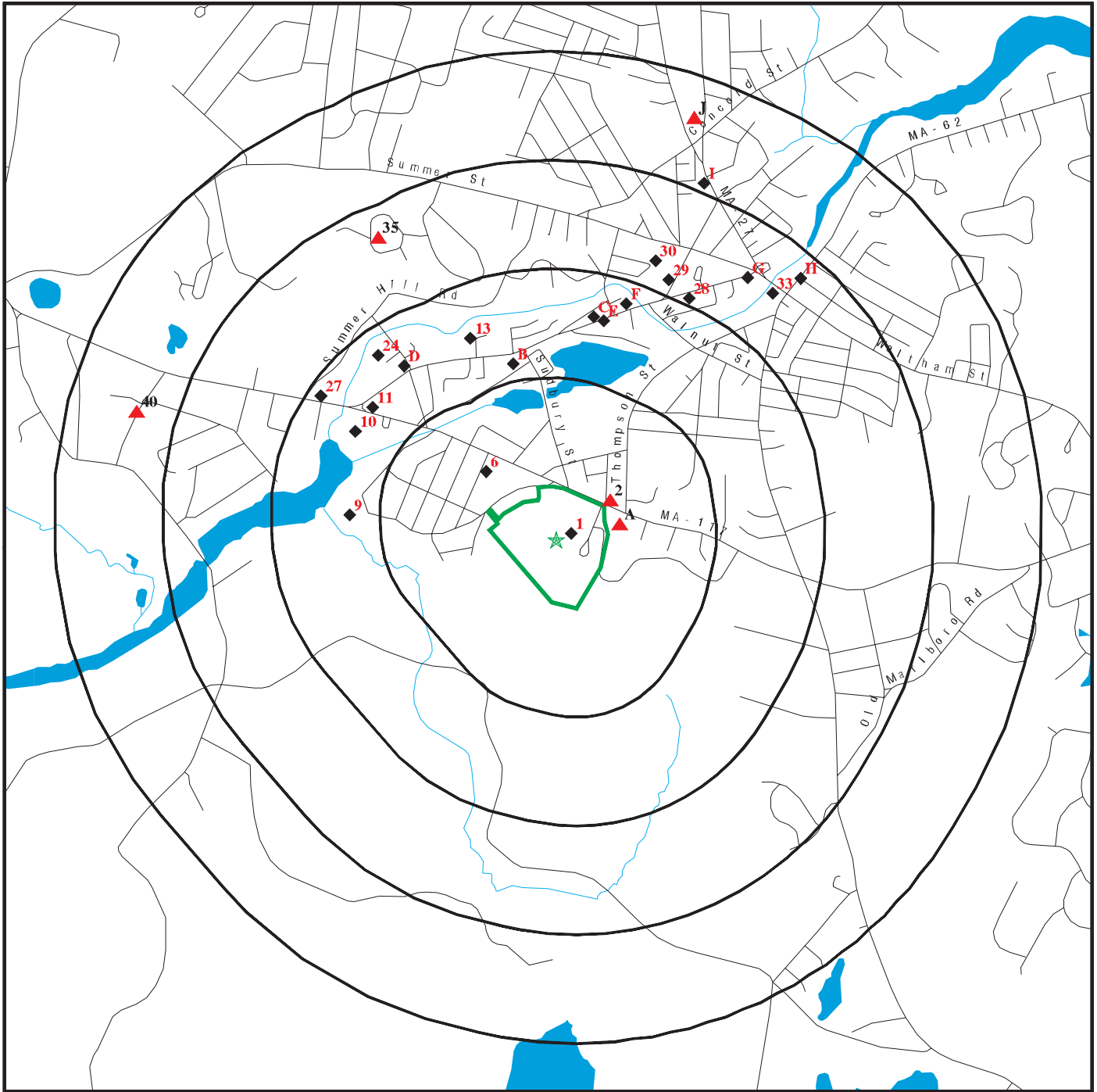
BROWNFIELDS: Completed Brownfields Covenants Listing

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
63 GREAT ROAD PARTNE MCP Status: RAO RTN: 2-0010857	63 GREAT RD	WNW (0.358 mi. / 1890 ft.)	10	8
GLOBAL MONTELLO GROU RTN: 2-0019285	260 MAIN ST	NW (0.359 mi. / 1893 ft.)	11	9
FUTUR ACACIA TENANT RTN: 2-0019805	150 MAIN STREET	N (0.370 mi. / 1952 ft.)	C12	9
MAIN ST AUTO SERVICE MCP Status: RAO RTN: 2-0000709	151 MAIN ST	N (0.387 mi. / 2045 ft.)	C15	10
FORMER DIGITAL EQUIP MCP Status: WCSPRM RTN: 2-0000097	146 MAIN STREET, /4	NNE (0.396 mi. / 2090 ft.)	E17	11
4 CLOCKTOWER PLACE, MCP Status: TIERI RTN: 2-0018788	146 MAIN STREET AND	NNE (0.396 mi. / 2090 ft.)	E22	14

Last Modified: 05/22/2024 at 12:20PM EDT

1.00 Mile Map

5 TIGER DRIVE MAYNARD, MA 01754



Last Modified: 05/22/2024 at 12:20PM EDT

Black Rings Represent Qtr. Mile Radius

- ★ Target Property (Latitude: 42.423908 Longitude: 71.458983)
- ▲ High or Equal Elevation Sites
- ◆ Low Elevation Sites
- ☒ National Priority List Sites

0.250 Mile Map

5 TIGER DRIVE MAYNARD, MA 01754



Last Modified: 05/22/2024 at 12:20PM EDT

Black Rings Represent Qtr. Mile Radius

- ★ Target Property (Latitude: 42.423908 Longitude: 71.458983)
- ▲ High or Equal Elevation Sites
- ◆ Low Elevation Sites
- ☒ National Priority List Sites

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S103811255 **DIST/DIR:** 0.000 **ELEVATION:** 206 **MAP ID:** 1

NAME: GREEN MEADOW SCHOOL
ADDRESS: GREAT RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0012298
Current Status: RAO

SHWS

EDR ID: S110303518 **DIST/DIR:** 0.021 NE **ELEVATION:** 208 **MAP ID:** 2

NAME: NEAR INTERSECTION GR
ADDRESS: 146 GREAT RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0017869
Current Status: RAO

SHWS, UST

EDR ID: U003000751 **DIST/DIR:** 0.032 ENE **ELEVATION:** 209 **MAP ID:** A3

NAME: JF&P REALTY TRUST
ADDRESS: 145 GREAT RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS, UST

EDR ID: U003000751 **DIST/DIR:** 0.032 ENE **ELEVATION:** 209 **MAP ID:** A3

NAME: JF&P REALTY TRUST
ADDRESS: 145 GREAT RD
MAYNARD, MA 01754

Release Tracking Number: 2-0017681
Current Status: RAO
UST
Facility Id: 10386
Tank Status: Tank Removed

SHWS

EDR ID: S113411638 **DIST/DIR:** 0.032 ENE **ELEVATION:** 209 **MAP ID:** A4

NAME: NO LOCATION AID
ADDRESS: 145 GREAT ROAD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0018818
Current Status: RAONR

RCRA-VSQG

EDR ID: 1000158672 **DIST/DIR:** 0.032 ENE **ELEVATION:** 209 **MAP ID:** A5

NAME: MAYNARD MOTORS INC
ADDRESS: 145 GREAT RD
MAYNARD, MA 01754
MIDDLESEX

[Click here for full text details](#)

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

RCRA-VSQG

EDR ID: 1000158672 **DIST/DIR:** 0.032 ENE **ELEVATION:** 209 **MAP ID:** A5

NAME: MAYNARD MOTORS INC
ADDRESS: 145 GREAT RD
MAYNARD, MA 01754
MIDDLESEX

RCRA-VSQG
EPA Id: MAD019476647

LAST

EDR ID: S104847297 **DIST/DIR:** 0.087 North **ELEVATION:** 199 **MAP ID:** 6

NAME: LANDRY RESIDENCE
ADDRESS: 4 OMOORE AVE
MAYNARD, MA 01754

[Click here for full text details](#)

LAST
Release Tracking Number / Current Status: 2-0012907 / RAO

LUST

EDR ID: U003654990 **DIST/DIR:** 0.290 NNW **ELEVATION:** 179 **MAP ID:** B7

NAME: JIMMY'S GARAGE INC
ADDRESS: 170 MAIN STREET
MAYNARD, MA 01754

[Click here for full text details](#)

LUST
Release Tracking Number / Current Status: 2-0014820 / RAO

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

LUST

EDR ID: U003654990 **DIST/DIR:** 0.290 NNW **ELEVATION:** 179 **MAP ID:** B7

NAME: JIMMY'S GARAGE INC
ADDRESS: 170 MAIN STREET
MAYNARD, MA 01754

[Click here to access the MA DEP site for this facility](#)

SHWS

EDR ID: S108034572 **DIST/DIR:** 0.295 NNW **ELEVATION:** 181 **MAP ID:** B8

NAME: PJ MURPHY TRANSPORTA
ADDRESS: 174 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0016189
Current Status: RAO

LAST, LUST, INST CONTROL

EDR ID: U003654989 **DIST/DIR:** 0.319 West **ELEVATION:** 183 **MAP ID:** 9

NAME: MAYNARD DPW
ADDRESS: 38 WINTER ST
MAYNARD, MA 01754

[Click here for full text details](#)

LAST

Release Tracking Number / Current Status: 2-0017169 / RAONR

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

LAST, LUST, INST CONTROL

EDR ID: U003654989 **DIST/DIR:** 0.319 West **ELEVATION:** 183 **MAP ID:** 9

NAME: MAYNARD DPW
ADDRESS: 38 WINTER ST
MAYNARD, MA 01754

LUST

Release Tracking Number / Current Status: 2-0012751 / RAO

[Click here to access the MA DEP site for this facility](#)

INST CONTROL

Release Tracking Number: 2-0012751

LUST, INST CONTROL, BROWNFIELDS

EDR ID: S102403457 **DIST/DIR:** 0.358 WNW **ELEVATION:** 177 **MAP ID:** 10

NAME: 63 GREAT ROAD PARTNE
ADDRESS: 63 GREAT RD
MAYNARD, MA 01754

[Click here for full text details](#)

LUST

Release Tracking Number / Current Status: 2-0010857 / RAO

[Click here to access the MA DEP site for this facility](#)

INST CONTROL

Release Tracking Number: 2-0010857

BROWNFIELDS

MCP Status: RAO
RTN: 2-0010857

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS, LUST, BROWNFIELDS

EDR ID: U004142044 **DIST/DIR:** 0.359 NW **ELEVATION:** 180 **MAP ID:** 11

NAME: GLOBAL MONTELLO GROU
ADDRESS: 260 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0019285
Current Status: PSNC

LUST

Release Tracking Number / Current Status: 2-0019285 / PSNC
Release Tracking Number / Current Status: 2-0000801 / RAO
Release Tracking Number / Current Status: 2-0021347 / UNCLSS

[Click here to access the MA DEP site for this facility](#)

BROWNFIELDS

RTN: 2-0019285

SHWS, BROWNFIELDS

EDR ID: S118562817 **DIST/DIR:** 0.370 North **ELEVATION:** 176 **MAP ID:** C12

NAME: FUTUR ACACIA TENANT
ADDRESS: 150 MAIN STREET
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0019805
Current Status: PSNC

BROWNFIELDS

RTN: 2-0019805

Last Modified: 05/22/2024 at 12:20PM EDT

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SEMS-ARCHIVE

EDR ID: 1015731258 **DIST/DIR:** 0.377 NNW **ELEVATION:** 162 **MAP ID:** 13

NAME: MARTIN STREET LAB PA
ADDRESS: 9 MARTIN STREET
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

EDR ID: S105124899 **DIST/DIR:** 0.384 NNW **ELEVATION:** 177 **MAP ID:** D14

NAME: AUTO MACHINE SERVICE
ADDRESS: 233 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0013893
Current Status: RAO

SHWS, LUST, BROWNFIELDS

EDR ID: U003000761 **DIST/DIR:** 0.387 North **ELEVATION:** 174 **MAP ID:** C15

NAME: MAIN ST AUTO SERVICE
ADDRESS: 151 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0017432
Current Status: RAONR

LUST

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS, LUST, BROWNFIELDS

EDR ID: U003000761 **DIST/DIR:** 0.387 North **ELEVATION:** 174 **MAP ID:** C15

NAME: MAIN ST AUTO SERVICE
ADDRESS: 151 MAIN ST
MAYNARD, MA 01754

Release Tracking Number / Current Status: 2-0000709 / RAO

[Click here to access the MA DEP site for this facility](#)

BROWNFIELDS

MCP Status: RAO
RTN: 2-0000709

LAST

EDR ID: S110303405 **DIST/DIR:** 0.388 NNW **ELEVATION:** 176 **MAP ID:** D16

NAME: C.J. SUTHERLAND HEAT
ADDRESS: 241 REAR MAIN ST
MAYNARD, MA

[Click here for full text details](#)

LAST

Release Tracking Number / Current Status: 2-0017804 / PSNC

BROWNFIELDS

EDR ID: S117552861 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E17

NAME: FORMER DIGITAL EQUIP
ADDRESS: 146 MAIN STREET, /4
MAYNARD, MA

[Click here for full text details](#)

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

BROWNFIELDS

EDR ID: S117552861 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E17

NAME: FORMER DIGITAL EQUIP
ADDRESS: 146 MAIN STREET, /4
MAYNARD, MA

BROWNFIELDS
MCP Status: WCSPRM
RTN: 2-0000097

LUST

EDR ID: S121826388 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E18

NAME: DIGITAL EQUIPMENT CO
ADDRESS: 146 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

LUST
Release Tracking Number / Current Status: 2-0000097 / WCSPRM

[Click here to access the MA DEP site for this facility](#)

SEMS-ARCHIVE

EDR ID: 1000264094 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E19

NAME: DIGITAL EQUIPMENT CO
ADDRESS: 146 MAIN ST.
MAYNARD, MA 01754
MIDDLESEX

[Click here for full text details](#)

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SEMS-ARCHIVE

EDR ID: 1000264094 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E19

NAME: DIGITAL EQUIPMENT CO
ADDRESS: 146 MAIN ST.
MAYNARD, MA 01754
MIDDLESEX

SEMS-ARCHIVE
Site ID: 0100387
EPA Id: MAD001038066

SHWS, INST CONTROL

EDR ID: S121826448 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E20

NAME: FORMER BUILDING NO.1
ADDRESS: 146 MAIN STREET
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0020017
Current Status: PSC
INST CONTROL
Release Tracking Number: 2-0020017

SHWS

EDR ID: S121826440 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E21

NAME: PARKING LOT ON SUDBU
ADDRESS: 146 MAIN ST
MAYNARD, MA

[Click here for full text details](#)

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S121826440 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E21

NAME: PARKING LOT ON SUDBU
ADDRESS: 146 MAIN ST
MAYNARD, MA

SHWS

Release Tracking Number: 2-0019165
Current Status: PSNC

BROWNFIELDS

EDR ID: S117552876 **DIST/DIR:** 0.396 NNE **ELEVATION:** 165 **MAP ID:** E22

NAME: 4 CLOCKTOWER PLACE,
ADDRESS: 146 MAIN STREET AND
MAYNARD, MA

[Click here for full text details](#)

BROWNFIELDS

MCP Status: TIER1
RTN: 2-0018788

SHWS

EDR ID: S104482172 **DIST/DIR:** 0.399 NNE **ELEVATION:** 170 **MAP ID:** C23

NAME: FMR GAS STA
ADDRESS: 149 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS							
EDR ID:	S104482172	DIST/DIR:	0.399 NNE	ELEVATION:	170	MAP ID:	C23
NAME:	FMR GAS STA						
ADDRESS:	149 MAIN ST MAYNARD, MA 01754						
Release Tracking Number: 2-0013032 Current Status: RAONR							

SHWS, INST CONTROL							
EDR ID:	S123541157	DIST/DIR:	0.438 NW	ELEVATION:	169	MAP ID:	24
NAME:	MILL AND MAIN NORTHE						
ADDRESS:	9 MILL AND MAIN PL MAYNARD, MA						
Click here for full text details							
SHWS Release Tracking Number: 2-0018788 Current Status: TMPS							
INST CONTROL Release Tracking Number: 2-0018788							

SHWS							
EDR ID:	S123541158	DIST/DIR:	0.439 NNE	ELEVATION:	152	MAP ID:	F25
NAME:	BUILDING #6						
ADDRESS:	4 CLOCKTOWER PLACE MAYNARD, MA						
Click here for full text details							
- Continued on next page -							

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS							
EDR ID:	S123541158	DIST/DIR:	0.439 NNE	ELEVATION:	152	MAP ID:	F25
NAME:	BUILDING #6						
ADDRESS:	4 CLOCKTOWER PLACE MAYNARD, MA						
SHWS Release Tracking Number: 2-0019827 Current Status: RAONR							

SHWS							
EDR ID:	S102082803	DIST/DIR:	0.448 NNE	ELEVATION:	153	MAP ID:	F26
NAME:	131-132 MAIN ST PROP						
ADDRESS:	131-132 MAIN ST MAYNARD, MA 01754						
Click here for full text details							
SHWS Release Tracking Number: 2-0000314 Current Status: DEPND5							

SHWS							
EDR ID:	S104179729	DIST/DIR:	0.469 NW	ELEVATION:	185	MAP ID:	27
NAME:	RESIDENCE						
ADDRESS:	42 GREAT RD MAYNARD, MA 01754						
Click here for full text details							
SHWS							
- Continued on next page -							

Last Modified: 05/22/2024 at 12:20PM EDT

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S104179729 **DIST/DIR:** 0.469 NW **ELEVATION:** 185 **MAP ID:** 27

NAME: RESIDENCE
ADDRESS: 42 GREAT RD
MAYNARD, MA 01754

Release Tracking Number: 2-0012867
Current Status: RAO

SHWS

EDR ID: S106617351 **DIST/DIR:** 0.517 NNE **ELEVATION:** 162 **MAP ID:** 28

NAME: PIZZA EXPRESS
ADDRESS: 62 MAIN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0015326
Current Status: RAO

SHWS

EDR ID: S100256888 **DIST/DIR:** 0.537 NNE **ELEVATION:** 167 **MAP ID:** 29

NAME: SOKOLOFF OFFICES
ADDRESS: 16-20 NASON ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0000902

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS							
EDR ID:	S100256888	DIST/DIR:	0.537 NNE	ELEVATION:	167	MAP ID:	29
NAME:	SOKOLOFF OFFICES						
ADDRESS:	16-20 NASON ST MAYNARD, MA 01754						
Current Status: WCSSPRM							

SHWS							
EDR ID:	S105810509	DIST/DIR:	0.564 NNE	ELEVATION:	180	MAP ID:	30
NAME:	DUNN OIL CO						
ADDRESS:	17 EUCLID ST MAYNARD, MA 01754						
Click here for full text details							
SHWS Release Tracking Number: 2-0014634 Current Status: RAO							

SHWS							
EDR ID:	S103545496	DIST/DIR:	0.583 NNE	ELEVATION:	162	MAP ID:	G31
NAME:	INTERSECTION OF ROUT						
ADDRESS:	24 MAIN ST MAYNARD, MA 01754						
Click here for full text details							
SHWS Release Tracking Number: 2-0012080 Current Status: RAO							

Last Modified: 05/22/2024 at 12:20PM EDT

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S110526289 **DIST/DIR:** 0.621 NNE **ELEVATION:** 161 **MAP ID:** G32

NAME: PROPERTY
ADDRESS: 4 MAIN STREET
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0018003
Current Status: RAO

SHWS

EDR ID: S100829143 **DIST/DIR:** 0.625 NE **ELEVATION:** 150 **MAP ID:** 33

NAME: FIVE WALTHAM ST INC
ADDRESS: 5 WALTHAM ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0000388
Current Status: DEPNFA

SHWS

EDR ID: S122424378 **DIST/DIR:** 0.661 NE **ELEVATION:** 156 **MAP ID:** H34

NAME: UST TEST FAILURE
ADDRESS: 1 POWDERMILL RD
MAYNARD, MA

[Click here for full text details](#)

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S122424378 **DIST/DIR:** 0.661 NE **ELEVATION:** 156 **MAP ID:** H34

NAME: UST TEST FAILURE
ADDRESS: 1 POWDERMILL RD
MAYNARD, MA

Release Tracking Number: 2-0020490
Current Status: PSNC

SHWS

EDR ID: S106029919 **DIST/DIR:** 0.677 NNW **ELEVATION:** 321 **MAP ID:** 35

NAME: NEAR POLE 8 ABBOT RD
ADDRESS: 8 ABBOT RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0014886
Current Status: RAO

SHWS

EDR ID: U003302538 **DIST/DIR:** 0.681 NE **ELEVATION:** 154 **MAP ID:** H36

NAME: PROPERTY
ADDRESS: 3 POWDER MILL RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0001061

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: U003302538 **DIST/DIR:** 0.681 NE **ELEVATION:** 154 **MAP ID:** H36

NAME: PROPERTY
ADDRESS: 3 POWDER MILL RD
MAYNARD, MA 01754

Release Tracking Number: 2-0010877
Current Status: RAO

SHWS

EDR ID: S127336030 **DIST/DIR:** 0.692 NE **ELEVATION:** 151 **MAP ID:** H37

NAME: POLE MOUNTED TRANSFO
ADDRESS: 9 OLD SUDBURY RD
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0021495
Current Status: PSNC

SHWS

EDR ID: S102084221 **DIST/DIR:** 0.758 NNE **ELEVATION:** 199 **MAP ID:** I38

NAME: CUMBERLAND FARMS
ADDRESS: 52 ACTON ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0010441

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S102084221 **DIST/DIR:** 0.758 NNE **ELEVATION:** 199 **MAP ID:** I38

NAME: CUMBERLAND FARMS
ADDRESS: 52 ACTON ST
MAYNARD, MA 01754

Current Status: RAO

SHWS

EDR ID: S106510292 **DIST/DIR:** 0.772 NNE **ELEVATION:** 202 **MAP ID:** I39

NAME: CUMBERLAND FARMS
ADDRESS: 54 ACTON ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS

Release Tracking Number: 2-0013732
Release Tracking Number: 2-0014256
Release Tracking Number: 2-0016544
Current Status: RAO

SHWS

EDR ID: S105124875 **DIST/DIR:** 0.841 WNW **ELEVATION:** 211 **MAP ID:** 40

NAME: WETLAND BEHIND PROPE
ADDRESS: 15 WOODMAN PL
STOW, MA 01775

[Click here for full text details](#)

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S105124875 **DIST/DIR:** 0.841 WNW **ELEVATION:** 211 **MAP ID:** 40

NAME: WETLAND BEHIND PROPE
ADDRESS: 15 WOODMAN PL
STOW, MA 01775

Release Tracking Number: 2-0013851
Current Status: RAO

SHWS

EDR ID: S100829144 **DIST/DIR:** 0.899 NNE **ELEVATION:** 206 **MAP ID:** J41

NAME: SHORETTE AUTOBODY
ADDRESS: 2 BROWN ST
MAYNARD, MA 01754

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0000246
Current Status: LSPNFA

SHWS

EDR ID: S118947383 **DIST/DIR:** 0.904 NNE **ELEVATION:** 207 **MAP ID:** J42

NAME: RAIL TRAIL
ADDRESS: TRAIL BEHIND 13 BROW
MAYNARD, MA

[Click here for full text details](#)

SHWS
Release Tracking Number: 2-0020005

- Continued on next page -

Mapped Sites Summary

Target Property: 5 TIGER DRIVE
MAYNARD, MA 01754

SHWS

EDR ID: S118947383 **DIST/DIR:** 0.904 NNE **ELEVATION:** 207 **MAP ID:** J42

NAME: RAIL TRAIL
ADDRESS: TRAIL BEHIND 13 BROW
MAYNARD, MA

Current Status: TIER1

Count: 1 records.

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
MAYNARD	S101032803	BURSAW GAS AND OIL	WINTER ST	01754	SHWS

Last Modified: 05/22/2024 at 12:20PM EDT

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl Date	Active Date	Last FDR Contact
MA	AST	Aboveground Storage Tank Database	06/07/2021	07/13/2021	10/01/2021	10/08/2021
MA	AST 2	Aboveground Storage Tanks	07/12/2021	07/15/2021	10/01/2021	10/11/2021
MA	BROWNFIELDS	Completed Brownfields Covenants Listing	04/05/2017	08/03/2017	10/10/2017	10/29/2021
MA	BROWNFIELDS 2	Potential Brownfields Listing	12/03/2019	01/29/2021	04/21/2021	10/29/2021
MA	INST CONTROL	Sites With Activity and Use Limitation	07/06/2021	07/07/2021	09/28/2021	10/05/2021
MA	LAST	Leaking Aboveground Storage Tank Sites	07/06/2021	07/07/2021	09/28/2021	10/05/2021
MA	LF PROFILES	Landfill Profiles Listing	07/01/2015	10/27/2015	12/14/2015	10/01/2021
MA	LUST	Leaking Underground Storage Tank Listing	07/06/2021	07/07/2021	09/28/2021	10/05/2021
MA	PFAS	PFAS Contaminated Sites Listing	06/24/2021	06/24/2021	09/17/2021	09/28/2021
MA	SHWS	Site Transition List	07/06/2021	07/07/2021	09/28/2021	10/05/2021
MA	SWF/LF	Solid Waste Facility Database/Transfer Stations	01/14/2020	04/03/2020	06/18/2020	09/28/2021
MA	UST	Summary Listing of all the Tanks Registered in the State of	11/03/2021	12/01/2021	12/07/2021	11/29/2021
US	BRS	Biennial Reporting System	12/31/2019	09/15/2021	12/14/2021	09/15/2021
US	CORRACTS	Corrective Action Report	09/13/2021	09/15/2021	10/12/2021	09/15/2021
US	Delisted NPL	National Priority List Deletions	10/20/2021	11/05/2021	11/29/2021	12/01/2021
US	ERNS	Emergency Response Notification System	09/13/2021	09/21/2021	12/15/2021	09/21/2021
US	FEDERAL FACILITY	Federal Facility Site Information listing	05/25/2021	06/24/2021	09/20/2021	10/01/2021
US	FEDLAND	Federal and Indian Lands	04/02/2018	04/11/2018	11/06/2019	10/05/2021
US	FEMA UST	Underground Storage Tank Listing	01/29/2021	02/17/2021	03/22/2021	11/01/2021
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	04/28/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	04/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	05/28/2021	06/22/2021	09/20/2021	11/15/2021
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	04/06/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	05/17/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	06/01/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	05/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	05/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	04/28/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	04/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	05/28/2021	06/22/2021	09/20/2021	11/15/2021
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	04/06/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	05/17/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	06/01/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	05/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	05/27/2021	06/11/2021	09/07/2021	11/15/2021
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	07/27/2015	09/29/2015	02/18/2016	12/14/2021
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	03/20/2008	04/22/2008	05/19/2008	07/08/2021
US	LUCIS	Land Use Control Information System	07/12/2021	08/06/2021	10/22/2021	11/08/2021
US	MINES MRDS	Mineral Resources Data System	04/06/2018	10/21/2019	10/24/2019	11/23/2021
US	NPL	National Priority List	10/20/2021	11/05/2021	11/29/2021	12/01/2021
US	NPL LIENS	Federal Superfund Liens	10/15/1991	02/02/1994	03/30/1994	08/15/2011
US	PCS	Permit Compliance System	07/14/2011	08/05/2011	09/29/2011	09/30/2021
US	PCS ENF	Enforcement data	12/31/2014	02/05/2015	03/06/2015	09/30/2021
US	PCS INACTIVE	Listing of Inactive PCS Permits	11/05/2014	01/06/2015	05/06/2015	09/30/2021
US	PRP	Potentially Responsible Parties	10/20/2021	11/05/2021	12/15/2021	12/01/2021
US	Proposed NPL	Proposed National Priority List Sites	10/20/2021	11/05/2021	11/29/2021	12/01/2021
US	RCRA-LQG	RCRA - Large Quantity Generators	09/13/2021	09/15/2021	10/12/2021	09/15/2021

Last Modified: 05/22/2024 at 12:20PM EDT

RECORDS SEARCHED / DATA CURRENCY TRACKING

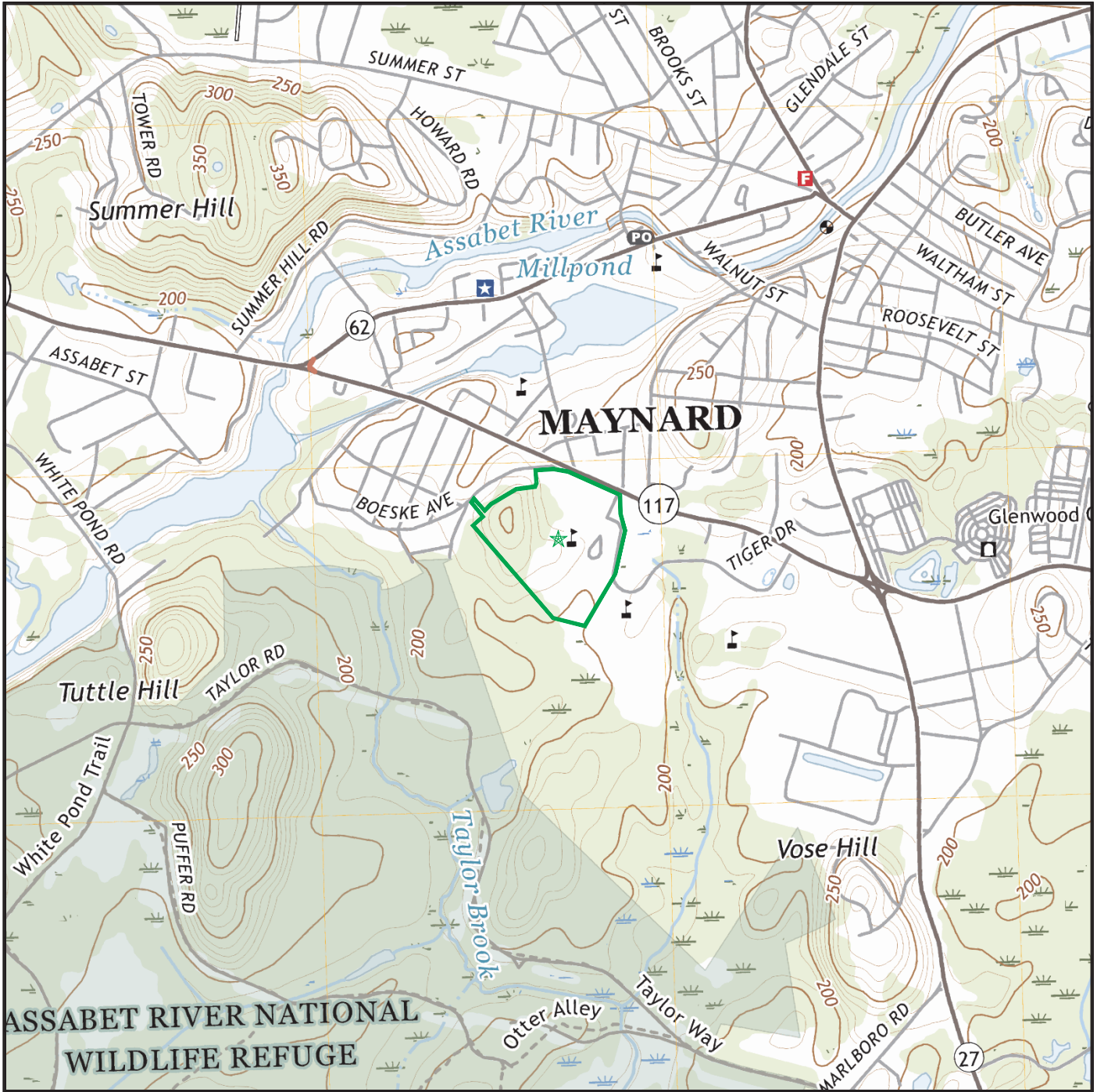
St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
US	RCRA-SQG	RCRA - Small Quantity Generators	09/13/2021	09/15/2021	10/12/2021	09/15/2021
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	09/13/2021	09/15/2021	10/12/2021	09/15/2021
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	09/13/2021	09/15/2021	10/12/2021	09/15/2021
US	SEMS	Superfund Enterprise Management System	10/20/2021	11/05/2021	11/29/2021	12/01/2021
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	10/20/2021	11/05/2021	11/29/2021	12/01/2021
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (10/12/2016	10/26/2016	02/03/2017	09/26/2017
US	US AIRS MINOR	Air Facility System Data	10/12/2016	10/26/2016	02/03/2017	09/26/2017
US	US ENG CONTROLS	Engineering Controls Sites List	08/23/2021	08/23/2021	11/12/2021	11/18/2021
US	US INST CONTROLS	Institutional Controls Sites List	08/23/2021	08/23/2021	11/12/2021	11/19/2021

STREET AND ADDRESS INFORMATION

Â© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

USGS 7.5 Minute Topographic Map

5 TIGER DRIVE MAYNARD, MA 01754



Last Modified: 05/22/2024 at 12:20PM EDT

Map Image Position: TP
Map Reference Code & Name: 11762179 Maynard
Map State(s): MA
Version Date: 2018

5 Tiger Drive

5 Tiger Drive

Maynard, MA 01754

Inquiry Number: 6791131.1

December 20, 2021

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

12/20/21

Site Name:

5 Tiger Drive
5 Tiger Drive
Maynard, MA 01754
EDR Inquiry # 6791131.1

Client Name:

Lord Environmental, Inc
1506 Providence Highway
Norwood, MA 02062
Contact: Katelyn Putt



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Lord Environmental, Inc were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # DF20-4B4F-80C8
PO # 3096
Project Green Meadow Elementary School
Maps Provided:
1955
1947
1931
1924



Sanborn® Library search results

Certification #: DF20-4B4F-80C8

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Lord Environmental, Inc (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice. Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Last Modified: 05/22/2024 at 12:20PM EDT

Sanborn Sheet Key

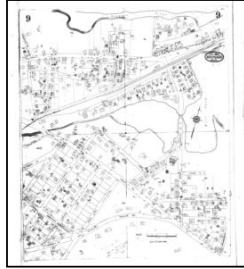
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.



1955 Source Sheets



Volume 1, Sheet 7
1955

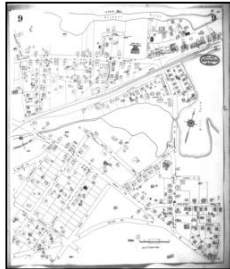


Volume 1, Sheet 9
1955

1947 Source Sheets

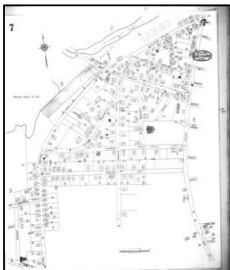


Volume 1, Sheet 7
1947

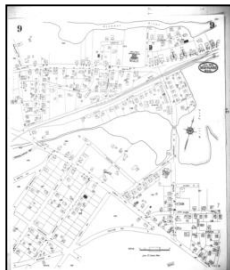


Volume 1, Sheet 9
1947

1931 Source Sheets



Volume 1, Sheet 7
1931

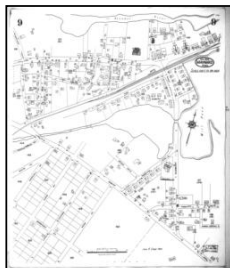


Volume 1, Sheet 9
1931

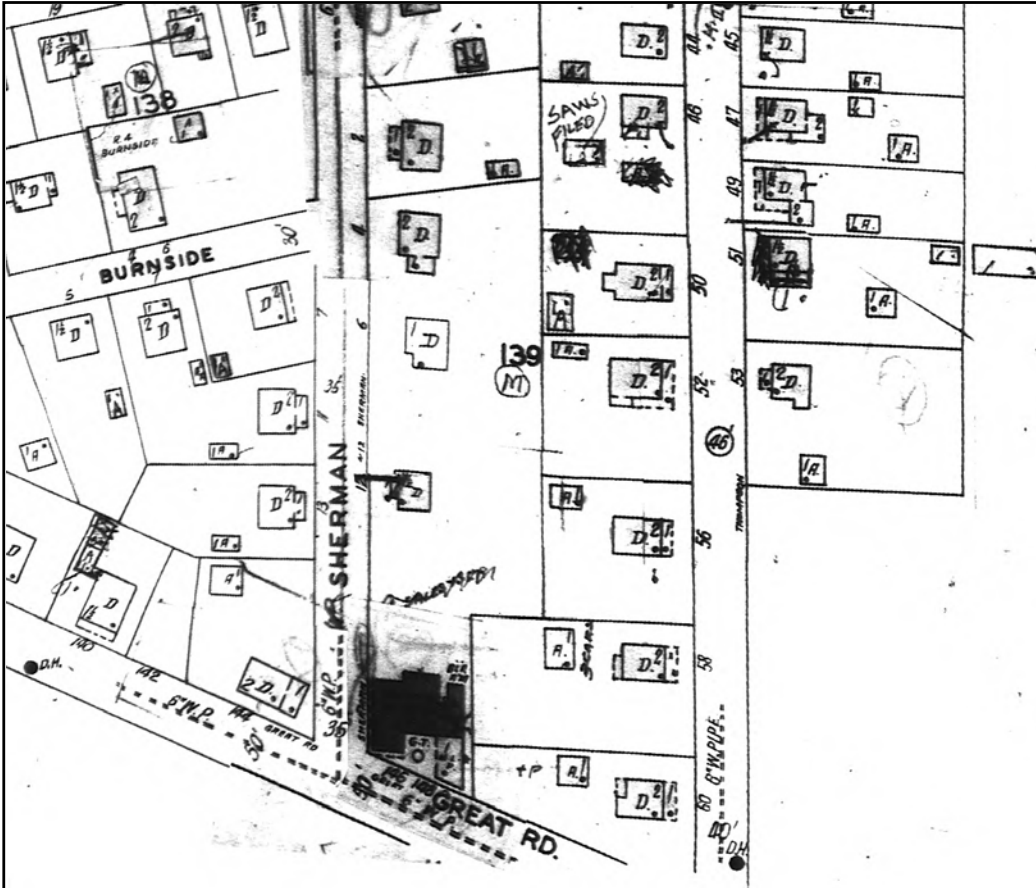
1924 Source Sheets



Volume 1, Sheet 7
1924



Volume 1, Sheet 9
1924



The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

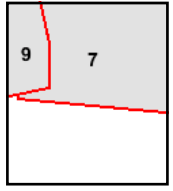
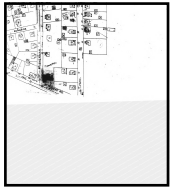
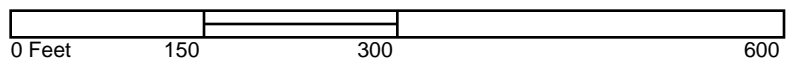
Last Modified: 05/22/2024 at 12:20PM EDT

Certification # DF20-4B4F-80C8

Site Name: 5 Tiger Drive
 Address: 5 Tiger Drive
 City, ST, ZIP: Maynard, MA 01754
 Client: Lord Environmental, Inc
 EDR Inquiry: 6791131.1
 Order Date: 12/20/2021
 Certification # DF20-4B4F-80C8
 Copyright 1955

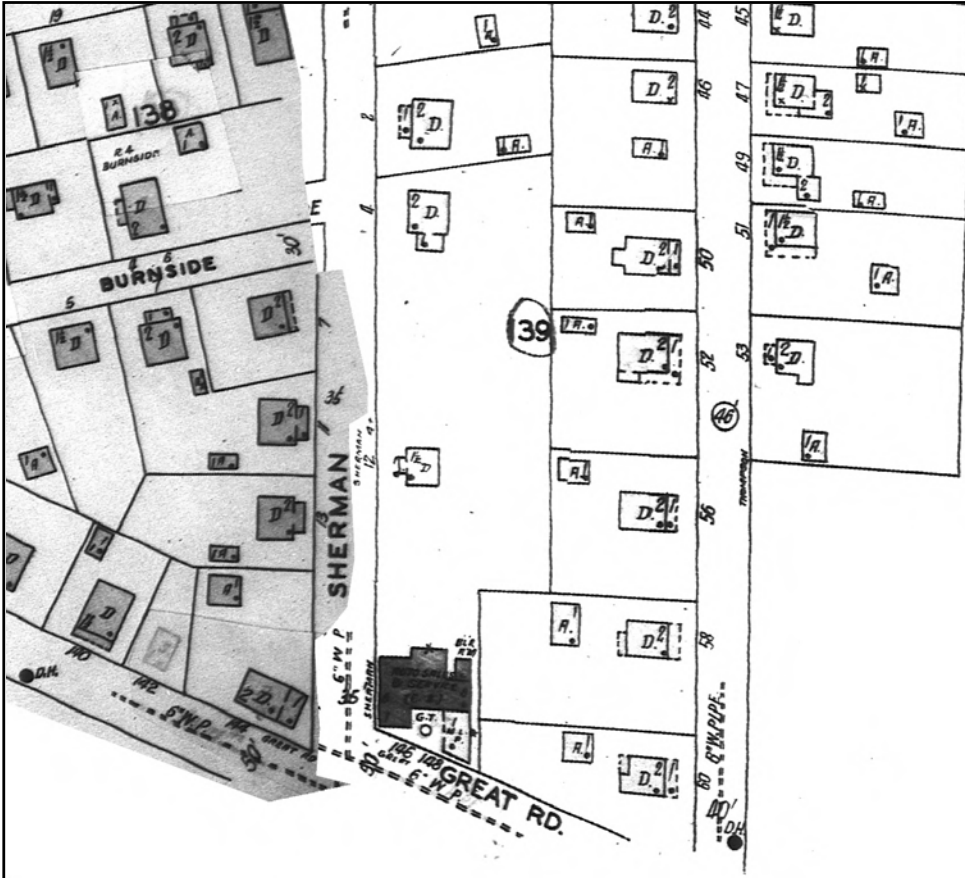


This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 9
 Volume 1, Sheet 7





The certified Sanborn Library search results in this report can be authenticated by visiting www.edr.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

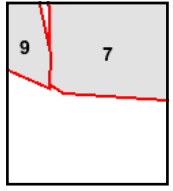
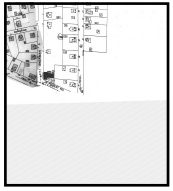
Last Modified: 05/22/2024 at 12:20PM EDT

Certification # DF20-4B4F-80C8

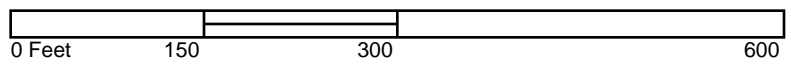
Site Name: 5 Tiger Drive
 Address: 5 Tiger Drive
 City, ST, ZIP: Maynard, MA 01754
 Client: Lord Environmental, Inc
 EDR Inquiry: 6791131.1
 Order Date: 12/20/2021
 Certification # DF20-4B4F-80C8
 Copyright 1947

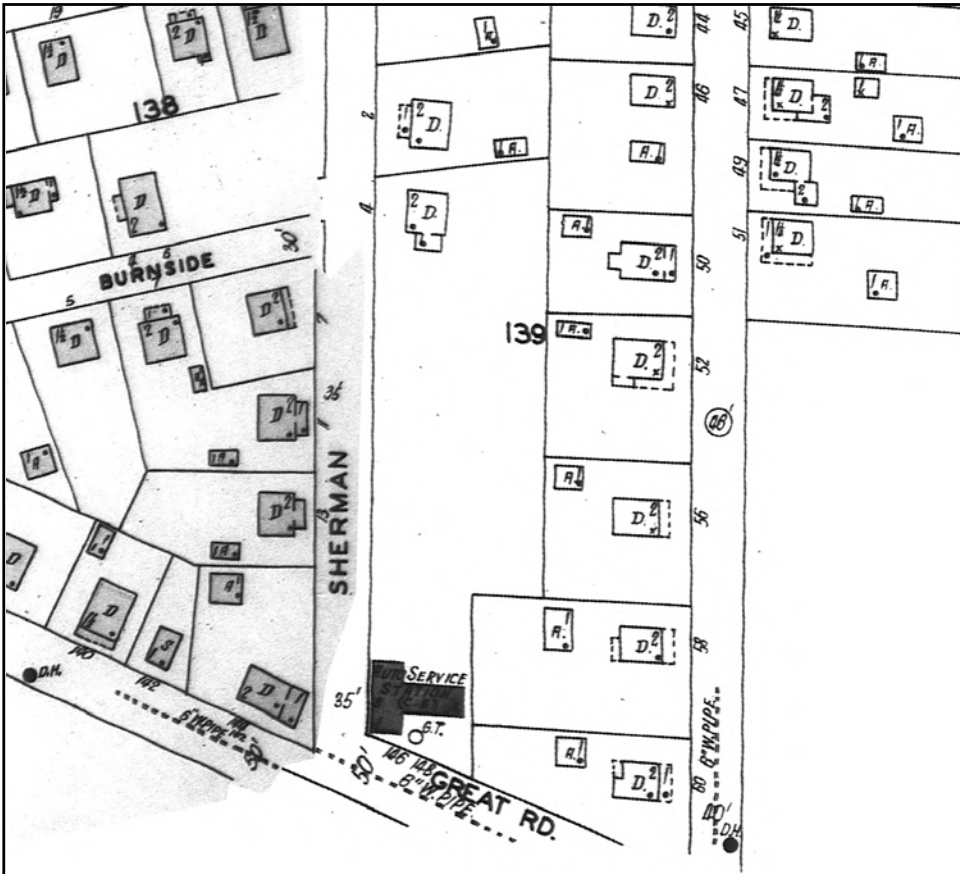


This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 9
 Volume 1, Sheet 7





The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

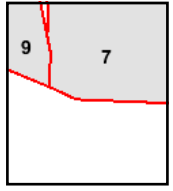
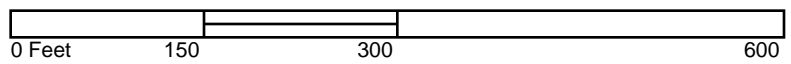
Last Modified: 05/22/2024 at 12:20PM EDT

Certification # DF20-4B4F-80C8

Site Name: 5 Tiger Drive
 Address: 5 Tiger Drive
 City, ST, ZIP: Maynard, MA 01754
 Client: Lord Environmental, Inc
 EDR Inquiry: 6791131.1
 Order Date: 12/20/2021
 Certification # DF20-4B4F-80C8
 Copyright 1931

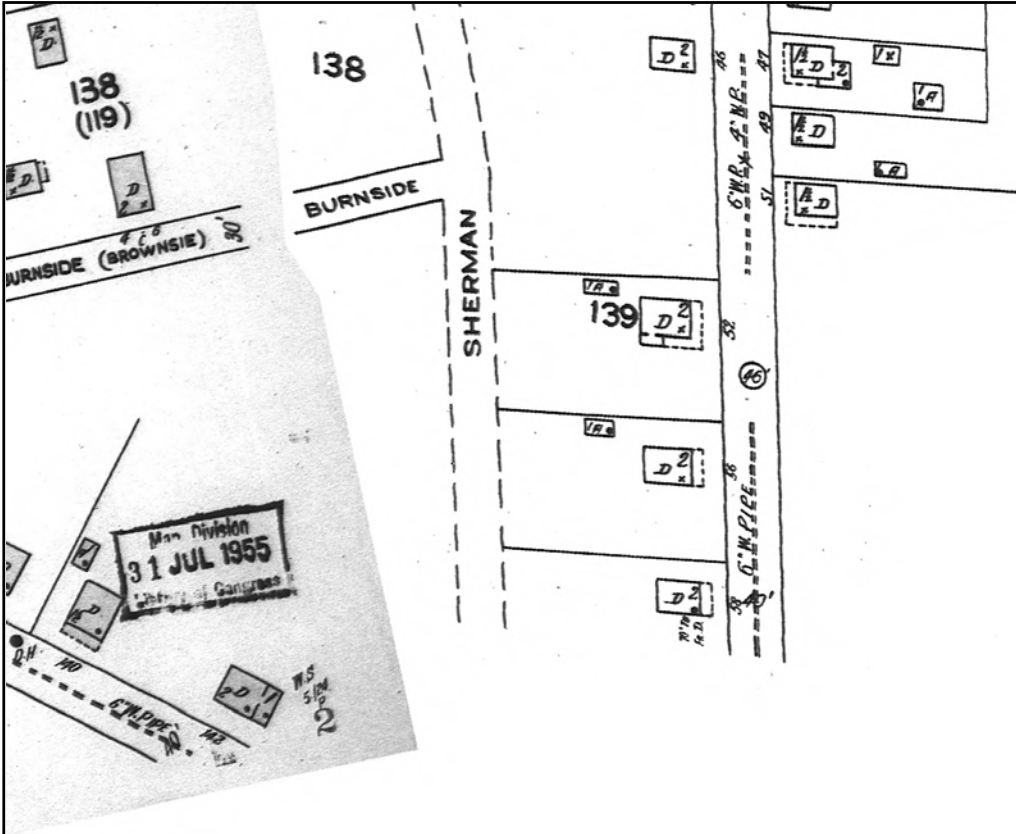


This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 9
 Volume 1, Sheet 7





The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

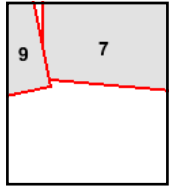
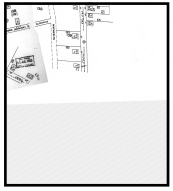
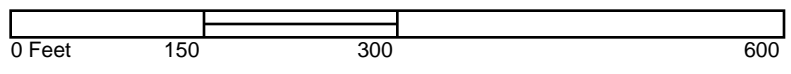
Last Modified: 05/22/2024 at 12:20PM EDT

Certification # DF20-4B4F-80C8

Site Name: 5 Tiger Drive
 Address: 5 Tiger Drive
 City, ST, ZIP: Maynard, MA 01754
 Client: Lord Environmental, Inc
 EDR Inquiry: 6791131.1
 Order Date: 12/20/2021
 Certification # DF20-4B4F-80C8
 Copyright 1924



This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 9
 Volume 1, Sheet 7



APPENDIX C

Assessment Field Card

Town of Maynard, Massachusetts



Parcel Information	
NO PHOTO AVAILABLE	<p>Address: 5 TIGER DR Map-Lot: 024.0-0000-0001.0 Patriot Account #: 3443 Owner: TOWN OF MAYNARD Co-Owner: SCHOOL DEPT/PARK & REC Mailing Address: 5 TIGER DR MAYNARD, MA 01754</p>
Building Exterior Details	General Information
<p>Building Type: CLASSROOM Year Built: 1956 Grade: A Frame Type: D Living Units: Building Condition: Average Roof Cover: TAR-GRAVEL Roof Type: NA Exterior Wall Type: BRICK-VENEER Pool: False</p>	<p>Total Acres: 18.775 Land Use Code: 903 Neighborhood Code: Owner Occupied: N Condo Name: Condo Unit: Zone: R1 Utility Code 1: PUBL Utility Code 2: SEWE Utility Code 3:</p>
Building Area	Sale Information
<p>Gross Area: 170000 sqft Finished Area: 85000 sqft Basement Area: 85000 sqft Garage Area: 0 sqft Detached Garage: sqft Basement Garage: 0 sqft</p>	<p>Sale Date: 6/18/1901 Sale Price: \$ 0 Book/Page: 2925-224 Grantor (Seller): EVELETH WILLIAM H</p>
Building Interior	Assessed Value
<p>No. Total Rooms: 0 No. Bedrooms: 0 No. Full Baths: 0 No. Half Baths: 15 Bath Rating: No. Kitchens: 1 Kitchen Rating: AVER Building Framing: D Interior Wall Type: DRYWALL Fireplaces: 0 Solar Hot Water: False Central Vac: False Floor Type: CARPET Heat Type: HOT-WATER Heat Fuel: OIL Percent A/C: 0</p>	<p>Assessed Yard Value: \$ 0 Assessed Land Value: \$ 571600 Assessed Bldg Value: \$5497500 Total Assessed Value: \$6069100</p>

Last Modified: 05/22/2024 at 12:20PM EDT



www.cai-tech.com

Data shown on this report 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 report.

Unsketched SubAreas :
FFL: 85000,
BMT: 85000.



www.cai-tech.com

Data shown on this report 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 report.

Unofficial Property Record Card - Maynard, MA

General Property Data

Parcel ID 024.0-0000-0001.0
Prior Parcel ID --
Property Owner TOWN OF MAYNARD
SCHOOL DEPT/PARK & REC
Mailing Address 5 TIGER DR

City MAYNARD
Mailing State MA Zip 01754
ParcelZoning R1

Account Number 3160

Property Location 5 TIGER DR
Property Use CTY-TWN-PROP
Most Recent Sale Date 6/18/1901
Legal Reference 2925-224
Grantor EVELETH WILLIAM H
Sale Price 0
Land Area 18.775 acres

Current Property Assessment

Card 1 Value Building Value 5,497,500 Xtra Features Value 46,000 Land Value 2,275,600 Total Value 7,819,100

Building Description

Building Style CLASSROOM
of Living Units 0
Year Built 1956
Building Grade AVERAGE
Building Condition Average
Finished Area (SF) 85000
Number Rooms 0
of 3/4 Baths 0

Foundation Type
Frame Type D
Roof Structure
Roof Cover TAR-GRAVEL
Siding BRICK-VENEER
Interior Walls DRYWALL
of Bedrooms 0
of 1/2 Baths 15

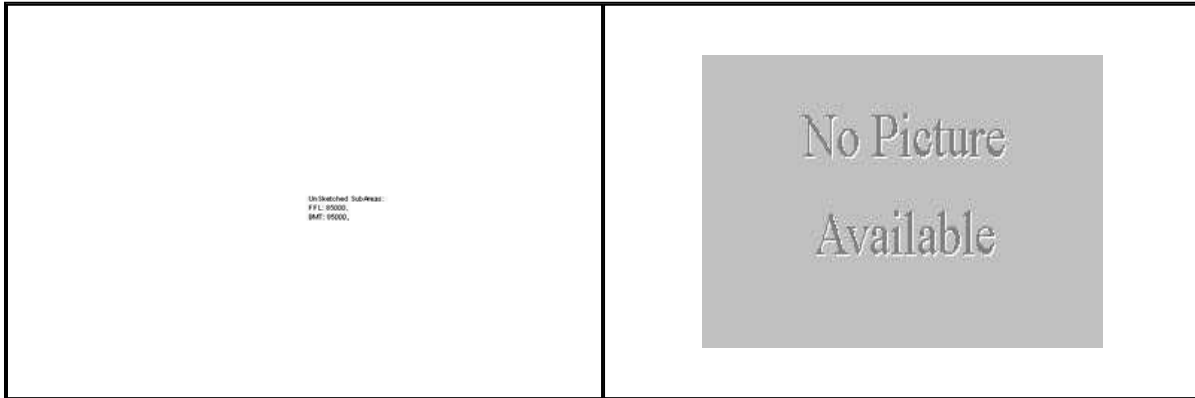
Flooring Type CARPET
Basement Floor N/A
Heating Type HOT-WATER
Heating Fuel OIL
Air Conditioning 0%
of Bsmt Garages 0
of Full Baths 0
of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 18.775 acres of land mainly classified as CTY-TWN-PROP with a(n) CLASSROOM style building, built about 1956 , having BRICK-VENEER exterior and TAR-GRAVEL roof cover, with 0 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 15 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

ID		3381
PropertyAddress	5 TIGER DR	
PropertyStreet	TIGER DR	
MapSheet		24
OwnerName	TOWN OF MAYNARD	
CoOwnerName	SCHOOL DEPT/PARK & REC	
OwnerAddress	5 TIGER DR	
OwnerAddress2	N/A	
OwnerCity	MAYNARD	
OwnerState	MA	
OwnerZip		1754
ParcelNumber	024.0-0000-0001.0	
GisFullNumber	024.0-0000-0001.0	
CamaFullNumber	024.0-0000-0001.0	
PID	N/A	
ACCT NUM		3443
PIN	024.0-0000-0001.0	
OLD PID		3160
STREET NUM		5
STR NUM2	N/A	
STR NAME	TIGER DR	
CONDO UNIT	N/A	
CONDO COMP	N/A	
OWNER NAME	TOWN OF MAYNARD	
OWNER NM2	SCHOOL DEPT/PARK & REC	
OWNER NM3	N/A	
MAILING AD	5 TIGER DR	
MAIL AD2	N/A	
MAILING CI	MAYNARD	
MAILING ST	MA	
MAILING ZI		1754
OWNER OCCU	N	
ZONING CODE	R1	
FLOOD HAZA	N/A	
CENSUS COD	N/A	
UTILITY CO	PUBL	
UTILITY 1	SEWE	
UTILITY 2	N/A	
TRAFFIC CO	HEAV	
PRIM LUC		903
YEAR BUILT		1956
EFFECTIVE	N/A	
TOTAL ACRE		18.775
GROSS BUILD		170000
BLDG TYPE	CLASSROOM	
BLDG TYP1	N/A	
BLDG TYP2	N/A	
FIN AREA		85000
NUM BLDGS		1
STORY HEIG		1
RENTAL LV	N/A	
NUM OF RMS	N/A	
BEDROOMS	N/A	
FULL BATH	N/A	
HALF BATH		15

STORY HEIG		1
RENTAL LV	N/A	
NUM OF RMS	N/A	
BEDROOMS	N/A	
FULL BATH	N/A	
HALF BATH		15
OTHER FIX	N/A	
BTH RATING	N/A	
KITCHENS		1
KIT RATING	AVER	
FIREPLACE	N/A	
WS FLUE	N/A	
SOLAR HOT		FALSE
CENTRAL VA		FALSE
HEAT TYPE	HOT-WATER	
HEAT FUEL	OIL	
PERCENT AC	N/A	
BMT AREA		85000
FIN BMT	N/A	
ROOF TYPE	NA	
ROOF COVER	TAR-GRAVEL	
EXT WALL	BRICK-VENEER	
INT WALL	DRYWALL	
ATT GAR	N/A	
DET GAR	N/A	
BMT GAR	N/A	
POOL		FALSE
BLDG FRAME	D	
FLOOR TYPE	CARPET	
BASE DEPRE		2021
BLDG GRADE	A	
BLDG COND	Average	
LEGAL REF	2925-224	
SALE DATE		6/18/1901
SALE PRICE	N/A	
NAL CODE	N/A	
GRANTOR	EVELETH WILLIAM H	
PREV LEGAL	N/A	
PREV SD	N/A	
PREV SALE	N/A	
PREV NAL	N/A	
PREV GRANT	N/A	
TOTAL LAND		571600
TOTAL YARD	N/A	
TOTAL BLDG		5497500
TOTAL ASSES		6069100
GIS LINK	M_203376_908155	
NBC	R1	
LUC DESC	CTY-TWN-PROP	
LEGAL	N/A	
CSZ	MAYNARD, MA 01754	
LOCATION	5 TIGER DR	
LOC2	5 TIGER DR	
LOC3	5 TIGER DR	
LAST INSP		6/1/2005

Primary Interior Walls	DRYWALL	Electric
Second Interior Walls		Insulation
Primary Floor Cover	CARPET	Heat Fuel OIL
Second Floor Cover	HARDWOOD	Heat Type HOT-WATER
Basement Floor		Fireplaces
# Basement Garages		Full Baths
Wood Stove Flues		Additional Full Bath
Solar Hot Water No		3/4 Bath
Central Vacuum No		Additional 3/4 Bath
Common Wall		1/2 Bath 5
Percent Sprinkled	100%	Additional 1/2 Bath 10
Heating Systems	1	Kitchens 1
Percent Heated	100%	Additional Kitchens
Air Conditioned	%	Other Fixtures

Card 1 of 1

Building Information

Building Type N/A	Frame N/A
Living Units N/A	House Color N/A
Primary Exterior Siding N/A	Grade N/A
Second Exterior Siding N/A	Story Height N/A
Roof Structure N/A	Year Built N/A
Roof Cover N/A	Foundation N/A

Condominium Information

Condo Complex Name N/A	Unit Number N/A
Unit Location N/A	Unit Ownership N/A

Sales

Sale Date	Sale Price	Legal Reference	Grantor Last Name	Land Use Code at Sale
6/18/1901	0	2925-224	EVELETH WILLIAM H	903

Lord Environmental, Inc.

Consulting & Licensed Site Professional Services

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

Voice: 781.255.5554
Fax: 781.255.5535
www.lordenv.com

December 20, 2021

Joanna Bilotta
Maynard Town Clerk
195 Main Street
Maynard, MA 01754

Re: Massachusetts Public Records Request
5 Tiger Drive, Maynard MA

Dear Ms. Bilotta:

Lord Environmental is in the process of conducting a Phase I Environmental Site Assessment of the referenced properties to identify current and historic potential environmental concerns. I am sending you a request for public records (Massachusetts Public Records Law (M. G. L. Chapter 66, Section 10)) regarding environmental concerns at the property. Specific environmental records include, but are not limited to, the following:

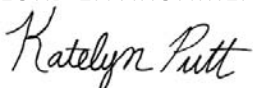
- Storage tanks (underground or aboveground)
- Storage of oil or other hazardous materials
- Release or spills of oil or other hazardous material
- Current or historic heating systems (natural gas, coal, oil)
- Previous environmental assessments

I know such records can be obtained through municipal offices such as the Fire Department, Board of Health, Clerk's office, Engineering Department, Conservation Commission, and Building Department. If you know of any other locations for such records, please let me know.

I recognize that there may be reasonable costs for copies of these records and personnel time needed for this request. Please contact me by email at your earliest convenience to confirm you have received this request. Thank you in advance.

Best,

LORD ENVIRONMENTAL, INC.



Katelyn Putt
Project Assistant

128

Town of Maynard
Office of Municipal Services
195 Main Street
Maynard, MA 01754



Bk: 69119 Pg: 150 Doc: ORD
Page: 1 of 12 04/10/2017 11:18 AM



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
and the Maynard Wetlands Administration Bylaw

Provided by MassDEP:
213-272
MassDEP File #
eDEP Transaction #
Maynard
City/Town

A. General Information

Please note:
this form has been modified with added space to accommodate the Registry of Deeds Requirements

1. From: Maynard Conservation Commission
Conservation Commission

2. This issuance is for (check one):
a. Order of Conditions b. Amended Order of Conditions

3. To: Applicant:

a. First Name Town of Maynard b. Last Name _____
c. Organization 195 Main Street
d. Mailing Address Maynard MA 01754
e. City/Town _____ f. State _____ g. Zip Code _____

4. Property Owner (if different from applicant):

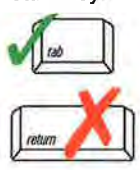
a. First Name Town of Maynard b. Last Name _____
c. Organization 195 Main
d. Mailing Address Maynard MA 01754
e. City/Town _____ f. State _____ g. Zip Code _____

5. Project Location:
5 Tiger Dr Maynard

a. Street Address 24 b. City/Town Lot 1
c. Assessors Map/Plat Number _____ d. Parcel/Lot Number _____

Latitude and Longitude, if known: 42 d 42 m 307 s 71 d 45 m 774 s
d. Latitude e. Longitude

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Last Modified: 05/22/2024 at 12:20PM EDT



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

Provided by MassDEP:

MassDEP File # 213-272

eDEP Transaction #
 Maynard
 City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Southern Middlesex

a. County

2925

c. Book

b. Certificate Number (if registered land)

224

d. Page

7. Dates: 1/16/2017

a. Date Notice of Intent Filed

b. Date Public Hearing Closed

3/7/2017

c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Proposed Playground at Green Meadow Elementary

a. Plan Title

VHB

Conor Nagle, PE

b. Prepared By

2/17/2017

c. Signed and Stamped by

1"=40'

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. <input type="checkbox"/> Public Water Supply | b. <input type="checkbox"/> Land Containing Shellfish | c. <input checked="" type="checkbox"/> Prevention of Pollution |
| d. <input checked="" type="checkbox"/> Private Water Supply | e. <input type="checkbox"/> Fisheries | f. <input checked="" type="checkbox"/> Protection of Wildlife Habitat |
| g. <input type="checkbox"/> Groundwater Supply | h. <input checked="" type="checkbox"/> Storm Damage Prevention | i. <input checked="" type="checkbox"/> 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:
 213-272
 MassDEP File #
 eDEP Transaction #
 Maynard
 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 50.00
 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. <input type="checkbox"/> Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. <input type="checkbox"/> Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input type="checkbox"/> 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

Last Modified: 05/22/2024 at 12:20PM EDT



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:
 213-272
 MassDEP File #
 eDEP Transaction #
 Maynard
 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. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	<u> </u> a. linear feet	<u> </u> b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	<u> </u> a. square feet	<u> </u> b. square feet		
17. <input type="checkbox"/> Salt Marshes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u> </u> a. c/y dredged	<u> </u> b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	<u> </u> a. square feet	<u> </u> b. square feet		
22. <input type="checkbox"/> 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

Last Modified: 05/22/2024 at 12:20PM EDT



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:
213-272
 MassDEP File # _____
 eDEP Transaction # _____
 Maynard
 City/Town

B. Findings (cont.)

* #22. 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.

22. <input type="checkbox"/> Restoration/Enhancement *:	0.00	0.00
	a. square feet of BVW	b. square feet of salt marsh
23. <input type="checkbox"/> Stream Crossing(s):	0	0
	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 3/7/2020 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.

Last Modified: 05/22/2024 at 12:20PM EDT



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:
 213-272
 MassDEP File #
 eDEP Transaction #
 Maynard
 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 213-272”
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.

Last Modified: 05/22/2024 at 12:20PM EDT



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:

213-272

MassDEP File #

eDEP Transaction #

Maynard

City/Town

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

Provided by MassDEP:
213-272
MassDEP File #
eDEP Transaction #
Maynard
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 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(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:

213-272
MassDEP File #

eDEP Transaction #

Maynard

City/Town

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 Pages Incorporated Herein and Made Part of This Order

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

Provided by MassDEP:
213-272
 MassDEP File #

eDEP Transaction #
 Maynard

City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
2. The Maynard Conservation Commission 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.

- a. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

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):

Last Modified: 05/22/2024 at 12:20PM EDT



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:
 213-272
 MassDEP File #

eDEP Transaction #
 Maynard
 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.

3/7/2017

Please indicate the number of members who will sign this form.

1. Date of Issuance

4

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.

Signatures:

Justina J. Plafie
Mr. John Sawyer
Jane Berth

Carolyn O'Connell

by hand delivery on

by certified mail, return receipt requested, on

3/8/2016

3/8/2017

Date

Date

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 of 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.

**ATTACHMENT TO MA DEP ORDER OF CONDITIONS
STANDARD CONDITIONS**

DEP FILE # 213-272

Project Address: 5 Tiger Dr

Recording Requirements

- 1- This Order of Conditions must be recorded in its entirety, after the 10 day appeal period has lapsed, at the Middlesex Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected
- 2- Recording information (Registry book and page numbers or Land Court certificate number) must be submitted to the Conservation Commission in writing, before any work approved in this Order commences.

It shall be understood by the Applicant that the issuance of this Order of Conditions shall apply to the Massachusetts Wetlands Protection Act, the Town of Maynard's Wetland Administration Bylaw, the MA DEP Stormwater Regulations and Under Massachusetts Law and Maynard Bylaws, members and agents of the Maynard Conservation Commission and Conservation Administrator have the right to enter and inspect the premises to evaluate compliance with the conditions

Continuing Project Conditions

- This Order shall apply to any successor in control or successor in interest of the property described in the Notice of Intent and accompanying plans. Within ten (10) calendar days inclusive of the transfer of ownership of the subject parcel, in whole or in part, including lots or buildings conveyed under individual deeds, the Conservation Commission shall be notified in writing of the name and address of the new owner. Within ten (10) calendar days inclusive of such transfer, a written, notarized affidavit shall be filed with the Conservation Commission by the new owner, stating that he or she has read and understood the Order of Conditions and all terms applicable to the project site and intends to comply with all provisions of the Order.
- This document and the approved plans shall be included in all construction contracts and subcontracts for the proposed work and shall supersede any conflicting contract requirements. It shall also be kept on file at the job site at all times during construction. The contractor employed to execute the activities within the Buffer Zone and/or Resource Area must be provided with a copy of this Order and thereafter will be held jointly responsible for any violation and the penalties under law for such violation. A copy of this Order and referenced plans and documents shall be onsite during all construction activities. Any other plans not consistent with this Order shall not be onsite.
- Any changes, additions or omissions, including those due to review by other boards, in the plans identified above, unless specified otherwise in this Order, shall require the Applicant to inquire of the Conservation Commission in writing whether the change is substantial enough to require the filing of a new Notice of Intent. Only those changes which have no potential adverse impact to the interests of the Act and those which will reduce direct alteration to the resource area will be considered.

Pre-Construction

- Field flags indicating the delineation of Bordering Vegetated Wetlands (BVW) must be in place and maintained for the duration of the project, until the Certificate of Compliance is issued. Applicant is responsible for wetland flags until Certificate of Compliance is issued. It is recommended that a Certificate of Compliance be applied for within three (3) years of the expiration of the Order of Conditions.
- Other than what is necessary to clear for erosion controls no clearing of vegetation, including trees or disturbance of soil shall occur prior to construction and placement of erosion controls. Minimal disturbance of shrubs and herbaceous plants shall be allowed prior to pre-construction if absolutely necessary in order to place sedimentation and erosion control barriers.

Last Modified: 05/22/2024 at 12:20PM EDT

Last Modified: 05/22/2024 at 12:20PM EDT

- Prior to the performance of any other site work, sedimentation and erosion control barriers documented by the approved plan shall be properly installed and adherence to plan verified by the Commission or its Agent. Typical installation of siltation fencing, hay bales, and/or wattles are shown in Figure 1. However, protection measures documented in the approved plan will supersede if providing equivalent or superior protection. The Commission's Agent is authorized to require the installation of any other erosion/sedimentation/work limit controls on the site as deemed necessary to protect the wetlands.
- Prior to the commencement of any work on site, the Applicant shall submit to the Conservation Commission for approval a detailed Sequence of Construction with a timetable and details, including but not limited to: placement of sediment and erosion controls, site preparation, removal of pavement and new paving, stockpiling locations, landscaping and stabilization of the site, installation of utilities, the construction of the drainage infrastructure, floodplain storage areas, retention/detention areas, replication area, and any re-vegetation to be completed before other work begins on site. The Applicant shall also include the name(s) and telephone number(s) of the person(s) responsible on site for compliance with this Order.
- Where feasible, permanent wetland markers identified by the approved plan must be placed prior to the commencement of construction and adherence to plan verified by the Conservation Commission or its agent. The permanent wetland markers should reflect the flag number such as Berntsen markers. Markers unable to be installed until during or after construction must be verified by the Conservation Commission or its agent. Said permanent markers must remain in place during and after construction, in perpetuity. This condition shall survive the expiration of this Order, and shall be included as a continuing condition in perpetuity on the Certificate of Compliance.
- The erosion controls required shall delineate the limits of disturbance. Heavy equipment shall not traverse the limits of disturbance, and vegetation shall not be removed from the area to remain undisturbed in perpetuity. The protected area is defined by the Maynard Conservation Commission as a "No Disturbance Zone" which includes the approved delineated wetland area, the Buffer Zone and other areas determined by the Commission. Limit of Work sign requirements: At 50ft the sign shall be visible with the wording "Do Not Disturb" - "Protected Wetland Area", and when necessary "Endangered Species Area".
- If the project involves the filling of Bordering Vegetated Wetland (BVW), the Applicant is served notice that a filing with the United States Army Corps of Engineers (USACOE 1-800-362-4367) relative to securing a Section 404 Permit under the Federal Clean Waters Act may be required and the issuance of a Water Quality Certificate from the MA Department of Environmental Protection (DEP) may be required BEFORE any FILLING commences. This Order of Conditions issued under MA General Law Ch. 131, s.40, as amended (MA Wetlands Protection Act) does not relieve the Applicant of his/her responsibilities to secure these additional permits/certificates or any other necessary local permits or licenses. The Applicant shall provide copies of the permit(s) and/or waivers prior to the commencement
- Prior to the commencement of work on any dock under this Order, the Applicant shall submit a copy of the Ch. 91 waterways license or permit for the dock or proof it is not needed. The dock is to be removed during the winter months and shall be stored up gradient of the water line.
- If applicable, prior to the commencement of activities, the Applicant shall provide the Commission with a copy of the NPDES Stormwater Prevention Pollution Plan ("SWPPP") as well as copies of written inspection reports required by EPA's Construction General Permit throughout the duration of construction activities for the record file.
- Prior to any work on site, the wetlands boundaries shall be clearly (survey) marked with flags and shall be confirmed by the Conservation Commission or its agent. Such markers shall be maintained until all construction activity is
- The Conservation Commission reserves the right to require additional erosion control or storm damage prevention controls if deemed necessary.
- There shall be no erosion or siltation of the wetlands. A row of straw bales, wattles and/or silt fence shall be butted and staked as shown on the plan. The straw bales or wattles and silt fence shall be in place prior to the commencement of work and shall remain in place until all disturbed areas have been properly stabilized.

During Construction

- All equipment shall be operated and maintained so as to comply with the Wetlands Protection Act, M.G.L. Ch. 131, §.40; and this Order of Conditions. Hazardous materials, including but not limited to gasoline, motor oil, hydraulic fluid, etc. shall not be stored nor shall heavy equipment be serviced or parked overnight within 100 feet of wetlands during construction. All construction equipment, including, but not limited to machinery, heavy equipment and vehicles shall be parked and stored more than 100 feet from any wetlands when not in use. All fuels, lubricants and hydraulic fluids shall be stored more than 100 feet from any wetlands. All refueling and maintenance involving transfer of oils and hydraulic fluids shall be performed more than 100 feet from any wetlands.
- Trucks/vehicles of any type shall not be washed out in any wetland resource or buffer zone area or into any drainage system. Vehicles should be washed in a separate designated wash area prior to work and when the work is completed. Any deposit of cement, concrete or lawn enhancing materials products into a buffer zone or wetland resource area shall be immediately removed.
- All excavate, fill, loam and any other earthen materials associated with the project shall be stored and stockpiled more than 100 feet from any wetlands. No excavate, fill, loam or other material shall be stockpiled against the sediment or erosion control feature. Excavated material shall not be stockpiled within the 100-foot Buffer Zone or Area Subject to Protection under the Act.
- No fill, excavate, construction debris or equipment or any other material shall be allowed to enter the wetlands; any such material entering the wetlands shall be removed immediately. No trees or shrubs shall be felled into or disposed of in the wetlands.
- Only clean fill shall be used for the project. Clean fill shall be free from contamination, trash, debris, asphalt, brick, concrete, metal, wood, recycled construction materials or other deleterious materials. No unsuitable material of any kind (stumps, roots, trash, debris, etc.) may be buried, placed or dispersed on the property.
- Wetland replication areas shall be created as the first stage of construction. Once the work associated with the wetland crossing and impacted areas has begun, the wetland replication area shall be completed within thirty (30) days or completed in another timeframe approved by the Conservation Commission.
- Top soil shall be removed from the wetlands to be filled and used in the replication wetlands in order to establish a wetland more closely resembling the one destroyed.
- The Stormwater detention basin(s) shall be completely constructed and functional prior to the start of earthmoving on other portions of the project which generate runoff to the basin(s). A temporary outlet riser pipe or other similar structure shall be installed to allow the basin to function as a sediment basin and shall remain in place through construction until the area draining to the basin(s) has been fully stabilized.
- Should the Applicant choose to mill existing pavement areas in preparation for placement of new asphalt surface. Said milled asphalt materials shall be removed from the site and properly disposed and milled area shall be swept to clean up asphalt particles. All waste asphalt from the project shall be removed to a proper disposal or recycling facility. No asphalt materials shall be stored on site.
- All existing and proposed catch basins and oil traps on the site or on the streets adjacent to the project shall be protected by Silt Sacks to prevent sediment from entering the drainage system. Silt Sacks shall be maintained and regularly cleaned of sediments until all areas associated with the work permitted by this Order have been permanently stabilized and the Commission or its agent has formerly approved their removal.
- Any de-watering of trenches or other excavations required during construction shall be conducted so as to prevent siltation of wetland resource areas. Any required de-watering shall be performed so as to direct water to an upland discharge point, as far away as possible from the wetlands and in such a fashion that said water is temporarily detained in a stilling pond, or other acceptable feature as may be approved by the Commission or its agent and overflow from said basin or feature shall flow back towards the wetlands through hay bale sediment traps, silt filter bags or other means approved by the Commission or its agent.

Last Modified: 05/22/2024 at 12:20PM EDT

- During construction of the new Stormwater drainage control system, care must be taken to prevent siltation from entering the system. Drainage pipes in open excavations shall not remain open overnight. All new catch basins, as well as the catch basin to be reused shall be installed with four-foot sumps, oil and gas hoods as shown in detail on the Plan of Record. Catch basins shall be set to binder grade until immediately prior to placement of the top course, at which time they will be set at final grade.
- Because site drainage conditions during construction may vary from the proposed post-development drainage conditions, it shall be the Owner's responsibility and priority to assure that all site drainage is controlled and that sufficient temporary controls are installed as necessary. It shall also be the Owner's responsibility and priority to control sediment flow on the site and assure that no sediment is discharged to wetland resource areas. Discharge of any sediment to a wetland resource area shall be considered a violation of this Order of Conditions.
- The builder and his employees and contractors shall make no changes or additions to any of the work or construction products shown on the approved plans without first having those changes reviewed and approved by the Commission or its agent.
- If the Commission feels that the Applicant does not understand the Order of Conditions, more frequent engineering reports may be required to be submitted by the Applicant.
- The areas of construction shall remain in stable condition at the close of each construction day. Erosion controls shall be monitored at this time and maintained or reinforced if necessary.
- Immediately upon completion of the dwelling foundation and prior to further construction activities, the Applicant shall complete a plan prepared by a Registered Professional Land Surveyor of the Commonwealth which accurately depicts the foundation location and its proximity to wetland resource areas as approved under this Order of Conditions. Said plan shall be submitted to the Conservation Commission or its agent for approval.

Post Construction

- Upon completion of the project, the Applicant shall submit the following to the Conservation Commission to receive a Certificate of Compliance.
 - a. A request for a Certificate of Compliance (DEP WPA Form 8A).
 - b. An as-built topographic plan signed and stamped by a registered land surveyor. The as-built plan should show all grading, construction, and resource area locations.
 - c. A written statement from a registered professional civil engineer or land surveyor of the Commonwealth certifying that the work has been completed in compliance with this Order of Conditions and the approved plans referenced herein (or approved revisions). A statement to the effect that the project is "substantially" compliant (or a similar statement) will not be sufficient. Any discrepancies shall be noted.
 - d. Silt fencing must be removed prior to applying for a Certificate of Compliance, providing the area is properly stabilized.
 - e. For work in wetlands only – a final report from a wetland scientist certifying the replication area meets the Wetlands Protection Act performance standards.
- Prior to issuance of a Certificate of Compliance, the proponent shall submit the first annual Stormwater report documenting actions undertaken to show compliance with the Stormwater operation and maintenance plan. This condition applies to all projects required to maintain a written Stormwater operation and maintenance plan. Annual reports shall be due 365 days from receipt of the previous submission.

Replication Area

- Prior to the commencement of any activity on this site, the Applicant or current landowner shall provide the Commission with the name of a qualified "Wetlands Specialist" (qualifications subject to approval of the Commission) experienced in wetland replication who shall be present on site to direct and supervise the replication

- The replication plant community shall reflect the complexity of the disturbed area unless an alternative is approved by the Conservation Commission. An in-kind plant community shall be established with plantings supplemental to natural vegetation as necessary to reach 75% of the surface area of the replacement area reestablished with indigenous wetland species within two growing seasons. Upon completion of the replication site, the replacement community shall approximate the same varieties in the same proportions as that of the disturbed area. A wetland scientist shall be on site at the time of the construction of the replication area. The replication site shall be monitored monthly during the first growing season and in June and September thereafter until a Certificate of Compliance is issued. Written reports, authored by a wetland scientist, shall be forwarded to the Commission within 30 days of the above inspection schedule. The Commission may require additional plantings to meet the
- The site of the proposed replication area shall be excavated prior to the disturbance of the wetland resource on the site. In the event that the fill excavated from the resource areas on the project is insufficient, the fill used in the proposed replication site shall be supplemented with a clean loam/peat mix at the base of the filling. The finished grade of the proposed replication site shall be continuous with the adjacent wetlands and be constructed such that it contains no less than 12" of wetland soils. If there is any delay in placing the excavated wetland soils in the replication area, care must be taken to assure that the soils are not allowed to dry out. There shall be no stockpiling of materials neither within the resource area itself nor in the 100-foot Buffer Zone unless pre-approved by the
- The burial of stumps and any other type of construction refuse or waste material is prohibited in the 100-foot Buffer Zone or Adjacent Upland Resource Area. The project and all associated activities shall be in full compliance with the State of Massachusetts Stormwater Management.

In Perpetuity

The following special conditions shall extend beyond the issuance of a Certificate of Compliance, in perpetuity, and shall be referred to in all future deeds to this property.

Snow shall not be stockpiled within 100 feet of wetland resource areas. OR there shall be no stockpiling of snow within the 100-foot Buffer Zone of wetland resource areas. Signs stating "No Snow Storage" shall be placed in these sensitive areas and shall be replaced as necessary in perpetuity. The "Snow Storage Areas" shall be cleaned in the spring of the following year of any accumulated sand or debris following melt off of all snow and reseeded as necessary for restoration of vegetative cover. Sand and debris shall be removed to a proper disposal location away from any wetlands.

Fertilizers utilized for landscaping and lawn care shall be organic and of low-nitrogen content, and shall be used in moderation. No spraying of herbicides or pesticides shall occur within 100 feet of the wetlands in perpetuity.

There shall be no yard waste, manure, or debris (including, but not limited to, leaves, grass clippings, slash, tree limbs, trash, vegetation, or fill) deposited in the resource area nor stockpiled in the 100-foot Buffer Zone of a resource area. Edge of lawn shall not encroach further into the buffer.

Area shall be kept clean and trash removed as necessary in perpetuity.

APPENDIX D

SCANNED

Response Action Outcome Statement

**Maynard Public School Department
Green Meadow School Soccer Field
Off Great Road
Maynard, Massachusetts**

Release Tracking Number 2-12298

Prepared for:
Maynard Public School Department

Prepared by:
Earth Tech, Inc.
196 Baker Avenue
Concord, MA 01742

July 1998



TABLE OF CONTENTS

SCANNED

	Page
EXECUTIVE SUMMARY	IV
1. INTRODUCTION	1-1
2. SITE DESCRIPTION	2-1
2.1 Location/Layout	2-1
2.2 Site History	2-1
3. SUMMARY OF PRELIMINARY INVESTIGATIONS	3-1
3.1 Summary of Soil Sampling Program	3-1
3.2 Summary of Groundwater Sampling Program	3-2
4. DISCUSSION OF RESULTS	4-1
4.1 Summary of Soil Analytical Results	4-1
4.1.1 QA/QC	4-2
4.2 Summary of Groundwater Analytical Results	4-2
4.2.1 QA/QC	4-2
4.3 Extent of Contamination	4-2
5. METHOD 1 RISK CHARACTERIZATION	5-1
5.1 Reasonably Foreseeable Site Activity and Use	5-1
5.2 Groundwater and Soil Categories	5-1
5.3 Exposure Point Concentrations	5-1
5.3.1 Exposure Point Concentrations in Groundwater	5-2
5.3.2 Exposure Point Concentrations in Soil	5-2
5.4 Comparison of Exposure Point Concentrations to the MCP Method 1 Standards	5-2
5.4.1 Comparison of Groundwater EPCs to the MCP Method 1 Standards	5-2
5.4.2 Comparison of Soil EPCs to the MCP Method 1 Standards	5-2
5.6 Characterization of Risk to Safety	5-3
6. CONCLUSIONS	6-1

Lasnik\officeid: 057226024\at 12:20:04W EDT

APPENDICES

Appendix A	Copy of the RAO Transmittal Form (DEP Form BWSC-104)
Appendix B	Soil Boring Logs and Well Construction Logs
Appendix C	Well Development Reports
Appendix D	Analytical Data Sheets for Soil Samples
Appendix E	Groundwater Sampling Reports
Appendix F	Analytical Data Sheets for Groundwater Samples

Last modified: 05/22/2004 at 12:20 PM EDT

LIST OF FIGURES

Figure 1 - Site Location Map

Figure 2 - Site Plan with Sample Locations

Figure 3 - MassGIS Data Layer Map

LIST OF TABLES

Table 1 - Summary of Soil Sample Analytical Results

Table 2 - Summary of Groundwater Analytical Results

Table 3 - Summary of Exposure Point Concentrations for Compounds of Concern

Lat: 42.057226024; Lon: -71.122914587

EXECUTIVE SUMMARY

This Response Action Outcome (RAO) Statement presents the information, data, findings, and conclusions gathered from the assessment-only Preliminary Response Actions conducted at the Green Meadow School soccer field located off Great Road, in Maynard, Massachusetts (the site). These response actions were performed to provide sufficient information to identify the source, nature, and extent of contamination detected at the site and to assess the potential risk to human health, safety, public welfare, and the environment posed by the site. Information obtained during these response actions was also used to complete Method 1 Risk Characterization and to achieve a Class B-1 RAO for the site in accordance with the Massachusetts Contingency Plan (MCP).

Background

In December 1997, Earth Tech was contracted by Maynard Public Schools to conduct an Environmental Site Assessment (ESA) of two parcels of land known as Parcels 2 and 13 on Sheet 24 of the Town of Maynard Assessors Map. A portion of this area is currently used as a soccer field (the site). As part of the ESA, MPS requested that Earth Tech conduct a preliminary environmental investigation consisting of the drilling of boreholes; the installation of groundwater monitoring wells; the collection of subsurface and surface soil samples; and the sampling of groundwater from the newly-installed monitoring wells.

During the completion of the ESA, Earth Tech identified a reportable condition under the MCP. Benzo (b) fluoranthene was detected in one soil sample (SF-2) collected from the soccer field above its applicable Reportable Concentration (RC) RCS-1. The exceedance of the RCS-1 threshold constituted a 120-day reporting condition. Maynard Public Schools obtained knowledge of the reportable condition on February 18, 1998. To further assess the site, Earth Tech completed additional soil sampling at the site in March 1998. On June 16, 1998, Maynard Public Schools submitted a Release Notification and Notification Retraction Form (BWSC-103) to the DEP notifying the DEP of the reportable condition. The DEP has assigned Release Tracking Number (RTN) 2-12298 to the site.

Response Actions

On March 5, 1998, Earth Tech collected additional shallow soil samples from the soccer field using a hand-driven spilt-spoon sampler. Nine soil samples were collected from the ground surface to an approximate depth of 1 foot. The nine soil samples were submitted to Toxikon Corporation (Toxikon) of Bedford, Massachusetts for extractable petroleum hydrocarbon (EPH) analysis by the DEP method.

Results

Maynard Public Schools has completed assessment-only Preliminary Response Actions to address benzo (b) fluoranthene-contaminated soil. The extent of PAHs, EPH and VPH in soil is limited to the area of the soccer field from the ground surface to a depth of approximately 1 foot. The areal extent of contamination is conservatively estimated at less than 9,600 square feet, based on the locations of soil borings and soil samples collected from within and around the soccer field. PAHs, the EPH C19-C36 and C11-C22 carbon ranges, and the VPH C9-C12 carbon ranges (the compounds of concern) were not detected in groundwater at the site.

The Preliminary Response Actions conducted at the site supports a condition of No Significant Risk of harm to human health, public welfare, safety, and the environment. A condition of No Significant Risk exists at the site and has been demonstrated by comparing Exposure Point Concentrations (EPCs) to the applicable MCP Method 1 cleanup standards, the absence of EPCs above their applicable Method 1, and by determining that the site does not pose a risk to safety.

Because remedial response actions have not been conducted at the site and a condition of No Significant Risk exists at this site for current and foreseeable site uses, a Class B Response Action Outcome is appropriate. A Class B-1 RAO, as outlined in the MCP, has been achieved for this site because a condition of No Significant Risk exists and no Activity and Use Limitation is necessary to ensure the existence or maintenance of a level of No Significant Risk. Therefore, Remedial Response Actions are not required.

Last Modified: 05/24/2004 at 12:29 AM EDT

1. INTRODUCTION

This report provides the documentation and results of the assessment-only Preliminary Response Actions conducted in support of a Response Action Outcome (RAO) for the presence of polynuclear aromatic hydrocarbons (PAHs) in soil at the Green Meadow School soccer field located off Great Road in Maynard, Massachusetts (the site). The RAO Statement is accompanied by the original RAO Statement Transmittal Form (Massachusetts Department of Environmental Protection [DEP] Form BWSC-104); a copy of this form is included as Appendix A. Earth Tech, Inc. (Earth Tech) is assisting the Maynard Public School Department by providing Licensed Site Professional (LSP) services for this matter.

Last Modified: 05/25/2004 at 12:20 PM EDT

2. SITE DESCRIPTION

2.1 Location/Layout

The general area surrounding the site is partially developed with commercial and municipal properties including an elementary school (the Green Meadow School); an auto dealership with repair facilities; the Maynard High School; single and multiple-family dwellings; and undeveloped land owned by the federal government and the Town of Maynard. The area is also bounded on the south by the former United States Army Fort Devens Annex and the Town of Maynard water supply wells, on the north by Route 117 (Great Road), on the west by undeveloped land and on the east by undeveloped land and a portion of the Maynard High School property.

The site is approximately $\frac{3}{4}$ acres in area. Figure 1 is a site locus map showing the site and surrounding area. Figure 2 is a site plan depicting site features and sample locations.

Based on information shown on the USGS topographic maps of the site area (Maynard Quad, 1987), the site is located at the edge of the Assabet River valley which bounds the general area of the site to the north. The surface water body nearest to the site is an unnamed tributary to Taylor Brook located approximately 400 feet to the south of the site. This stream flows in a southerly direction for approximately $\frac{1}{2}$ mile where it joins with Taylor Brook which in turn flows north to the Assabet River.

Figure 3, a Geographic Information System (GIS) Data Layer Map, presents information on regional environmental land uses and classifications in the area surrounding the site. Figure 3 was developed from databases obtained from the Massachusetts Executive Office of Environmental Affairs. According to information on the GIS Data Layer Map, the site lies within an area is designated as a "medium yield aquifer" (able to yield 100 to 300 gallons per minute). A portion of the site is located within the Interim Zone II Protection Area for a Town of Maynard water supply well.

A review of the Federal Emergency Management Agency (FEMA) for the area indicates that the Site does not lie within the 100-year flood plain of the Assabet River or other nearby streams.

The GIS map illustrates that the Site is located within one-half mile of the following mapped features:

- Interim Zone II Wellhead Protection Area
- High-Yield Aquifer Potentially Productive Aquifer (PPA)
- Medium-Yield Aquifer (PPA)
- Town-Owned Public Open Space
- Privately-Owned Open Space
- Natural Heritage Endangered Species Program (NHESP) Estimated Habitat for Rare Wetlands Wildlife

The GIS map also illustrates that the Site is not located within one-half mile of any of the following mapped features:

- Groundwater Supply
- Surface Water Supplies
- Distribution Reservoirs
- Closed Wells
- Proposed Wells
- Historic Wells
- Historic Surface Water Supplies
- Federal Open Space
- State-Owned Open Space
- County-Owned Open Space
- Non-Profit Owned Open Space
- DEP-Approved Zone II Wellhead Protection Area
- Medium-Yield Aquifer (NON-PPA)
- DEP-Permitted Solid Waste Facility
- Area of Critical Environmental Concern
- NHESP Priority Habitats for State-Listed Rare Species
- NHESP 1995 Massachusetts Certified Vernal Pools

Last Modified: 05/22/2004 at 12:20 PM EDT

2.2 Site History

Earth Tech reviewed readily available information, including historical information pertaining to the woolen mill operations, assessors maps, site plans, etc., and interviewed knowledgeable personnel at the Town of Maynard municipal offices to determine the historical use of the site. Based on the cumulative information, it appears that the most probable past site use was as a dumping area for mill wastes generated at the American Woolen Mills which operated mills in Maynard from circa 1850s to approximately 1950. There is no evidence that the site was occupied by any mill buildings or other structures. The most recent development in the area of the Green Meadow School and the Maynard High School, has occurred in the past 30 years.

Last Modified: 05/25/2004 at 12:20 PM EDT

3. SUMMARY OF PRELIMINARY INVESTIGATIONS

In December 1997, Earth Tech was contracted by Maynard Public Schools to conduct an Environmental Site Assessment (ESA) of two parcels of land known as Parcels 2 and 13 on Sheet 24 of the Town of Maynard Assessors Map. A portion of this area is currently used as a soccer field. As part of the ESA, MPS requested that Earth Tech conduct a preliminary environmental investigation consisting of the drilling of boreholes; the installation of groundwater monitoring wells; the collection of subsurface and surface soil samples; and the sampling of groundwater from the newly-installed monitoring wells.

During the completion of the ESA, Earth Tech identified a reportable condition under the MCP. Benzo (b) fluoranthene was detected in one soil sample (SF-2) collected from the soccer field above its applicable Reportable Concentration (RC) RCS-1. The exceedance of the RCS-1 threshold constituted a 120-day reporting condition. MPS obtained knowledge of the reportable condition on February 18, 1998. To further assess the site, Earth Tech completed additional soil sampling at the site in March 1998. On June 16, 1998, MPS submitted a Release Notification and Notification Retraction Form (BWSC-103) to the DEP notifying the DEP of the reportable condition. The DEP assigned RTN 2-12298 to the site.

Subsurface investigations performed as part of the Preliminary Response Actions have been summarized below.

3.1 Summary of Soil Sampling Program

During the investigation, Environmental Drilling, Inc. (EDI) of Sterling, Massachusetts drilled 3 boreholes, under the direction of Earth Tech using an all-terrain vehicle (ATV) mounted hollow-stem auger drill rig. Monitoring wells were installed approximately 10 feet below the water table, where possible. Standard penetration tests (SPT) were conducted and split-spoon soil samples were collected primarily at depth intervals of two feet to allow for visual classification of the soil conditions. Drilling and sampling were conducted in accordance with the appropriate ASTM procedures.

During borehole drilling, Earth Tech screened the headspace of each split-spoon soil sample using a photoionization detector (PID) meter and following DEP's recommended "Jar Headspace Method", monitored for the potential presence of volatile organic compounds (VOCs). Earth Tech then submitted the soil sample with the highest headspace reading from each borehole to American Environmental Network Laboratories (AEN) of North Billerica, Massachusetts for analysis of volatile petroleum hydrocarbons (VPH) using the DEP method for VPH. Where headspace readings were not detected above background, Earth Tech submitted the soil interval just above the water table (where encountered) for analysis. Headspace

Last Modified: 05/24/2004 at 12:20 PM EDT

screening results are presented on the soil boring logs in Appendix B and ranged from 1.03 per million per volume (ppm/v) to 40.43 ppm/v. PID readings below 10 ppm/v are not considered indicative of volatile OHM contamination and readings below 50 ppm/v are not considered definitive evidence of volatile OHM contamination. Soil samples collected from the 0-foot to 2-foot depth interval were submitted for analysis of physiologically available cyanide (PAC) by the DEP method, the 13 priority pollutant metals (PP 13 metals) [antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc] by EPA series 6000 and 7000 methods and extractable petroleum hydrocarbons (EPH) analysis, including the 17 target PAHs, by the DEP method.

On January 19, 1998, Earth Tech used a hand-driven split-spoon sampler to collect surface and shallow subsurface soil samples from the soccer field. Three soil samples were collected from the ground surface to an approximate depth of 1 foot. The three soil samples were submitted to AEN for EPH analyses.

On March 5, 1998, Earth Tech collected additional shallow soil samples from the soccer field using a hand-driven split spoon sampler. Nine soil samples were collected from the ground surface to an approximate depth of 1 foot. The nine soil samples were submitted to Toxikon Corporation (Toxikon) of Bedford, Massachusetts for EPH analyses.

3.2 Summary of Groundwater Sampling Program

As part of the preliminary environmental investigation, Earth Tech collected groundwater samples from the three newly installed wells on the site. Groundwater monitoring wells MW-1, MW-2 and MW-3 were sampled and samples were submitted to AEN under chain-of-custody for analyses of dissolved PP13 metals, EPH and VPH.

Before sampling of each well, Earth Tech measured the depth to the static water level and well depth to calculate the volume of water in each well. Depth to groundwater was recorded at 5.84 feet in well MW-1; 15.60 feet in well MW-2; and 14.40 feet in well MW-3. Earth Tech then used a dedicated disposable bailer to purge five well volumes of water from the well to remove the finer-grained material around the well screen to facilitate flow into the well, and to insure that a sample representative of aquifer conditions was collected. Well development reports are presented in Appendix C.

Log Modified: 05/25/2004 at 12:20 PM EDT

4. DISCUSSION OF RESULTS

4.1 Summary of Soil Analytical Results

A total of 18 surface and three subsurface soil samples were collected from the site and submitted for laboratory analysis. A summary of sample locations, depth intervals and analytical parameters is presented in the table below. Sample locations are presented on Figure 2.

Sample Location	Sample Depth	Analytical Parameter
MW-1, MW-2, MW-3	0'-2'	EPH, VPH, PAC, PP13 Metals
MW-1, MW-2, MW-3	4'-6' (MW-1 & MW-2) and 15'-17' (MW-3)	EPH, VPH, PP 13 Metals
SF-1, SF-2, SF-3	0'-1'	EPH and PP 13 Metals
SF-4 through SF-12	0'-1'	EPH

Note: PAC = Physiologically available cyanide.

PAC was not detected in any of the three samples submitted for PAC analysis. Antimony, thallium, selenium and silver were not detected in the nine soil samples submitted for PP 13 metals analyses. The other PP 13 metals were not detected above their applicable RC (RCS-1). The VPH C9-C12 carbon range was detected in one of six samples at a concentration of 1.5 mg/kg, below its applicable RC of 1,000 mg/kg. The other VPH carbon ranges and target analytes were not detected. The EPH C19-C36 carbon range was detected in two of 18 soil samples submitted for EPH analyses at concentrations of 26 mg/kg and 16 mg/kg. Both detections are below the applicable RC of 2,500 mg/kg. The EPH C11-C22 carbon range was detected in three of 18 soil samples submitted for EPH analyses at concentrations ranging between 32 mg/kg and 68 mg/kg. These detections are below the applicable RC of 200 mg/kg. Benzo (b) fluoranthene was detected in four of the 18 soil samples submitted for EPH analysis at concentrations ranging from 0.90 mg/kg to 1.10 mg/kg. The applicable RC for benzo (b) fluoranthene is 0.7 mg/kg. Fluoranthene was detected in four of the 18 soil samples submitted for EPH analysis at concentrations ranging from 0.73 mg/kg to 0.97 mg/kg. The applicable RC for fluoranthene is 1,000 mg/kg. Pyrene was detected in four of the 18 soil samples submitted for EPH analysis at concentrations ranging from 0.64 mg/kg to 0.83 mg/kg. The applicable RC for pyrene is 700 mg/kg. No other EPH target analytes were detected.

4.1.1 QA/QC

During the Preliminary Response Actions, the AEN and Toxikon laboratories followed QA/QC procedures, including the preparation and analysis of method blanks. These QA/QC blanks and samples were collected and analyzed to assure that the presence of compounds detected in the samples were not attributable to contamination introduced during the collection, transportation, and laboratory analysis of the samples. All samples were analyzed within the method holding times and no target compounds were detected in the method blanks. Surrogate Standard Recoveries were within the acceptable ranges (between 60% and 140%) with the exception of sample SF-3 which had surrogate recoveries of 40% and 41% for chloro-octadecane and ortho-terphenyl, respectively. However, based on the number of soil samples collected in close proximity to sample SF-3, and their similar results, we are of the opinion that this sample adequately represents soil conditions at the site. Soil analytical data are summarized in Table 1. Appendix D presents the laboratory data sheets for soil samples collected at the site.

4.2 Summary of Groundwater Analytical Results

The PP13 dissolved metals, EPH and VPH were not detected in groundwater samples collected from groundwater monitoring wells at the site. Groundwater analytical data are summarized in Table 2. Groundwater sampling reports are presented in Appendix E. Appendix F presents the laboratory data sheets for groundwater samples collected at the site.

4.2.1 QA/QC

During the Preliminary Response Actions, the AEN laboratory followed QA/QC procedures, including the preparation and analysis of method blanks. These QA/QC blanks and samples were collected and analyzed to assure that the presence of compounds detected in the samples were not attributable to contamination introduced during the collection, transportation, and laboratory analysis of the samples. All samples were analyzed within the method holding times and no target compounds were detected in the method blanks.

Based on the soil and groundwater conditions observed during the Preliminary Response Actions, we are of the opinion that this data adequately represents the condition of groundwater at the site.

4.3 Extent of Contamination

The extent of PAHs, EPH and VPH in soil is limited to the area of the soccer field from the ground surface to a depth of approximately 1 foot. The areal extent of contamination is conservatively estimated at less than 9,600 square feet, based on the positions of soil borings and soil samples collected from within and around the

soccer field. PAHs, the EPH C19-C36 and C11-C22 carbon ranges, and the VPH C9-C12 carbon ranges (the compounds of concern) were not detected in groundwater at the site.

Last Modified: 05/25/2004 at 12:20 PM EDT

5. METHOD 1 RISK CHARACTERIZATION

Method 1 Risk Characterizations has been selected to characterize the risk to human health, welfare and the environment. The assessment considers the reasonably foreseeable site activity and use, groundwater and soil categories, exposure point concentrations (EPCs), a comparison of EPCs to the MCP Method 1 Standards, and a characterization of risk to safety posed by the site.

5.1 Reasonably Foreseeable Site Activity and Use

The site is currently used as one of the Green Meadow School soccer fields. The soccer field will most likely continue to be used as a soccer field until construction of a new middle school tentatively begins in the summer of 1999. Activities currently conducted at the site, which include soccer and other ball sports, and walking, can be reasonably expected to continue until construction begins. After construction, the site will be covered by the footprint of the new middle school building.

5.2 Groundwater and Soil Categories

The soil at the site would be included in the MCP risk characterization category S-1 for the following reasons. The soil at the site is at the surface and is accessible soil (not under a paved area, less than 3 feet in depth). Children are present at the site and children could be expected to pass over the site on a daily basis (which is considered a high frequency of use). Non-passive activities such as soccer (which is considered high intensity of use) occur. Therefore, the soil on the site would be included in the MCP risk characterization category S-1.

The groundwater would be included in the MCP risk characterization category GW-3 for the entire site because all groundwater within the Commonwealth is considered to discharge to surface waters. Groundwater would not be classified as GW-2 because, while the groundwater at the site was encountered at depths less than fifteen feet below ground surface, the site does not lie within 30 feet of an occupied building. Groundwater at the site would also be classified as GW-1 because the groundwater at the site is located within a Current or Potential Drinking Water Source Area (Interim Zone II).

5.3 Exposure Point Concentrations

EPCs for compounds of concern detected in soil and groundwater were calculated as described below. EPCs were calculated for all compounds detected at the site with the exception of metals. Due to their common occurrence in soil and because they were not detected above reportable concentrations, none of the PP 13 metals were

considered as compounds of concern. Table 1 presents a summary of soil analytical data for compounds of concern used in calculating the EPCs.

5.3.1 Exposure Point Concentrations in Groundwater

The EPC for compounds detected in groundwater at sites are typically considered as the highest detected concentration of compounds from any groundwater sampling location. However, none of the compounds of concern were detected in groundwater.

5.3.2 Exposure Point Concentrations in Soil

The EPCs for compounds of concern detected in soil were calculated by averaging the concentrations in soil. The laboratory detection limit was used as a value in calculating the EPC for those samples collected from within the release area but where the compound was not detected.

5.4 Comparison of Exposure Point Concentrations to the MCP Method 1 Standards

5.4.1 Comparison of Groundwater EPCs to the MCP Method 1 Standards

The compounds of concern were not detected in groundwater. Therefore, a comparison cannot be made (and is not necessary) to the applicable MCP Method 1 GW-1 and GW-3 standards.

5.4.2 Comparison of Soil EPCs to the MCP Method 1 Standards

A comparison of the EPCs for the compounds of concern was made to the MCP Method 1 S-1/GW-1 and S-1/GW-3 cleanup standards to determine if an Activity and Use Limitation (AUL) was needed for the site.

The compounds detected which are considered as compounds of concern, and their calculated EPCs are as follows: The VPH C9-C12 aliphatic carbon range EPC is 0.85 mg/kg; the Method 1 S-1/GW-1 cleanup standard is 1,000 mg/kg. The EPH C-19-C36 carbon range EPC is 63.35; the S-1/GW-1 cleanup standard is 2,500 mg/kg. The EPH C11-C22 carbon range EPC is 69.44 mg/kg; the S-1/GW-1 cleanup standard is 200 mg/kg. The benzo (b) fluoranthene EPC is 0.68 mg/kg; the S-1/GW-1 cleanup standard is 0.7 mg/kg. The fluoranthene EPC is 0.65 mg/kg; the S-1/GW-1 cleanup standard is 1,000 mg/kg. The pyrene EPC is 0.62 mg/kg; the S-1/GW-1 cleanup standard is 700 mg/kg. The arsenic EPC is 5.62; the S-1/GW-3 cleanup standard is 30 mg/kg. The beryllium EPC is 0.43 mg/kg; the S-1/GW-1 cleanup standard is 0.7 mg/kg. The cadmium EPC is 1.22 mg/kg; the S-1/GW-1 cleanup standard is 30 mg/kg. The chromium EPC is 31.95; the S-1/GW-1 cleanup standard is 1,000 mg/kg. The lead EPC is 93.83 mg/kg; the S-1/GW-1 cleanup standard is 300 mg/kg. The mercury EPC is 0.16 mg/kg; the S-1/GW-1 cleanup standard is 20

mg/kg. The nickel EPC is 14.17 mg/kg; the S-1/GW-3 cleanup standard is 300 mg/kg. The zinc EPC is 83.75 mg/kg; the S-1/GW-1 cleanup standard is 2,500 mg/kg. None of the EPCs for compounds detected at the site and having MCP Method 1 cleanup standards exceed the MCP Method 1 S-1/GW-1 or S-1/GW-3 standards.

The copper EPC is 29.18 mg/kg. Copper does not have a MCP Method 1 S-1/GW-1 cleanup standard. However, the copper EPC of 29.18 mg/kg is well below the DEP Background Soil Concentration of 38 mg/kg, listed in Table 2.1 of "Guidance for Disposal Site Risk Characterization". Therefore, we are of the opinion that the presence of copper in soil at the site does not pose a risk to human health, safety or the environment. Table 3 presents the comparison of EPCs in soil to the applicable MCP Method 1 S-1/GW-1 and S-1/GW-3 cleanup standards.

5.6 Characterization of Risk to Safety

We have determined that No Significant Risk of harm to safety exists at the site because the conditions at the site do not currently, or will not in the foreseeable future, pose a threat of physical harm or bodily injury to people. The compounds of concern are no longer being released to the soil at the site. The source of compounds of concern in soil, suspected to be from historical dumping of woolen mill coal ash, has ceased. In addition, there are no known nuisance conditions, restrictions on the uses of other properties, or other factors contributing to the degradation of public or private resources directly related to the site contamination. There are no other conditions present at the site related to a release of oil or hazardous materials that may pose a threat of harm or injury to people.

Last Modified: 05/22/2004 at 12:20 PM EDT

6. CONCLUSIONS

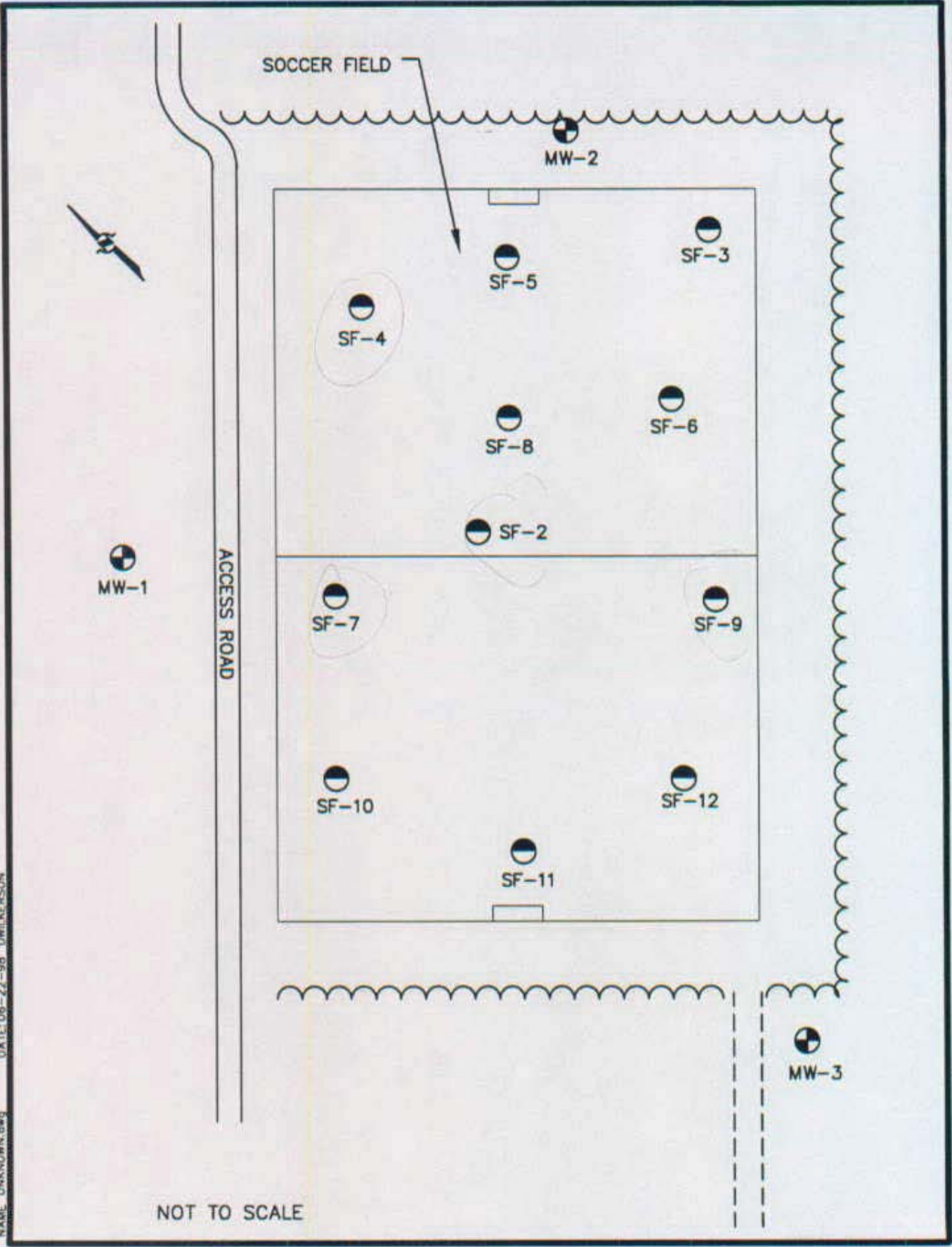
A condition of No Significant Risk exists at the site and has been demonstrated by comparing EPCs to the applicable MCP Method 1 cleanup standards, having no EPCs above its applicable Method 1, and by determining that the site does not pose a risk to safety.

Because remedial response actions have not been conducted at the site and a condition of No Significant Risk exists at this site for current and foreseeable site uses, a Class B Response Action Outcome is appropriate. A Class B-1 RAO, as outlined in the MCP, has been achieved for this site because a condition of No Significant Risk exists and no Activity and Use Limitation is necessary to ensure the existence or maintenance of a level of No Significant Risk. Therefore, Remedial Response Actions are not required.

Last Modified: 05/25/2004 at 12:20 PM EDT

Last Modified: 05/22/2024 at 12:20 PM EDT

NAME: UNKNOWN.dwg DATE: 06-22-98 DWILKERSON



NOT TO SCALE

FIGURE NO. 2
SITE PLAN
MAYNARD PUBLIC SCHOOLS

Table 1:
Summary of Soil Analytical Results
Green Meadow School Soccer Field
Off Great Road
Maynard, Massachusetts

Sample Identification (a)(b) Parameter/Compound	MCP(c) Method 1		MW-1 S1/0'-2'	MW-2 S1/0'-2'	MW-2 S3/4'-6'	MW-3 S1/0'-2'	MW-3 S4/15'-17'	SF-1	SF-2	SF-3	SF-4	SF-5
	S-1/GW-1	S-1/GW-3										
VPH (mg/kg)(d)												
C5-C8 Aliphatics	100	100	NT(i)	NT	ND (0.55)	ND (0.65)	NT	NT	NT	NT	NT	NT
C9-C12 Aliphatics	1000	1000	NT	NT	ND (0.55)	1.5	NT	NT	NT	NT	NT	NT
C9-C10 Aromatics	100	100	NT	NT	ND (0.55)	ND (0.65)	NT	NT	NT	NT	NT	NT
Total VPH Concentration	NA(h)	NA	NT	NT	ND (0.55)	1.5	NT	NT	NT	NT	NT	NT
Methyl-t-butyl ether	0.3	100	NT	NT	ND (0.275)	ND (0.325)	NT	NT	NT	NT	NT	NT
Benzene	10	40	NT	NT	ND (0.275)	ND (0.325)	NT	NT	NT	NT	NT	NT
Toluene	90	500	NT	NT	ND (0.275)	ND (0.325)	NT	NT	NT	NT	NT	NT
Ethylbenzene	80	500	NT	NT	ND (0.275)	ND (0.325)	NT	NT	NT	NT	NT	NT
Xylene (Total)	500	500	NT	NT	ND (0.275)	ND (0.325)	NT	NT	NT	NT	NT	NT
Naphthalene	4	100	NT	NT	ND (0.55)	ND (0.65)	NT	NT	NT	NT	NT	NT
EPH (mg/kg)(e)												
C9-C18 Aliphatics	1000	1000	NT	NT	ND (1.76)	ND (1.76)	NT	ND (2.72)	ND (2.88)	ND (1.92)	ND (100.0)	ND (100.0)
C19-C36 Aliphatics	2500	2500	NT	NT	ND (1.76)	ND (1.76)	NT	ND (2.72)	26	16	ND (100.0)	ND (100.0)
C11-C22 Aromatics	200	800	NT	NT	ND (1.76)	ND (1.76)	NT	32	68	36	ND (100.0)	ND (100.0)
Acenaphthene	20	1000	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Acenaphthylene	100	100	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Anthracene	1000	1000	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Benzo(a)anthracene	0.7	0.7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Benzo(a)pyrene	0.7	0.7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	0.90	ND (0.396)	0.93	ND (0.7)
Benzo(b)fluoranthene	0.7	0.7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Benzo(g,h,i)perylene	1000	1000	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Benzo(k)fluoranthene	7	7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Chrysene	7	7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Compounds Continued												
Dibenzo(a,h)anthracene	0.7	0.7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Fluoranthene	1000	1000	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	0.93	ND (0.396)	ND (0.7)	ND (0.7)
Fluorene	400	1000	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Indeno (1, 2, 3-cd) pyrene	0.7	0.7	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
2-Methylnaphthalene	4	500	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Naphthalene	4	100	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Phenanthrene	700	100	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	ND (0.594)	ND (0.396)	ND (0.7)	ND (0.7)
Pyrene	700	700	NT	NT	ND (0.363)	ND (0.363)	NT	ND (0.561)	0.64	ND (0.396)	ND (0.7)	0.75
Total Metals (mg/kg)(f)												
Antimony	10	10	ND (0.5)(g)	NT	NT	NT	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	NT	NT
Arsenic	30	30	4.36	NT	NT	4.41	6.14	7.04	7.34	4.44	NT	NT
Beryllium	0.7	0.7	ND (0.4)	NT	NT	ND (0.4)	0.45	0.49	0.45	ND (0.4)	NT	NT
Cadmium	30	30	ND (1)	NT	NT	ND (1)	ND (1)	1.6	1.7	ND (1)	NT	NT
Chromium	1000	1000	17.9	NT	NT	17.4	22.8	47.5	54.7	31.4	NT	NT
Copper	NA	NA	19.3	NT	NT	6.5	8.9	47.2	55.8	37.4	NT	NT
Lead	300	300	ND (10)	NT	NT	ND (10)	ND (10)	162	197	174	NT	NT
Mercury	20	20	ND (0.1)	NT	NT	ND (0.1)	ND (0.1)	0.21	0.26	0.16	NT	NT
Nickel	300	300	11.9	NT	NT	10.2	10.3	20.8	18.9	12.9	NT	NT
Selenium	400	400	ND (0.5)	NT	NT	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	NT	NT
Silver	100	100	ND (2)	NT	NT	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	NT	NT
Thallium	8	8	ND (0.5)	NT	NT	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	NT	NT
Zinc	2500	2500	17.4	NT	NT	18.2	22.9	148	176	120	NT	NT
Physiologically Avail. Cyanide(R)	100	100	ND (0.54)	NT	NT	ND (0.59)	ND (0.63)	ND (0.7)	ND (0.63)	ND (0.67)	NT	NT

Table 1:
Summary of Soil Analytical Results
Green Meadow School Soccer Field
Offt Great Road
Maynard, Massachusetts

Sample Identification (a)(b) Parameter/Compound	MCP(c) Method 1		SF-6	SF-7	SF-8	SF-9	SF-10	SF-11	SF-12
	S-1/GW-1	S-1/GW-3							
VPH (mg/kg)(d)									
C8-C18 Aliphatics	100	100	NT	NT	NT	NT	NT	NT	NT
C9-C12 Aliphatics	1000	1000	NT	NT	NT	NT	NT	NT	NT
C9-C10 Aromatics	100	100	NT	NT	NT	NT	NT	NT	NT
Total VPH Concentration	NA(h)	NA	NT	NT	NT	NT	NT	NT	NT
Methyl-t-butyl ether	0.3	100	NT	NT	NT	NT	NT	NT	NT
Benzene	10	40	NT	NT	NT	NT	NT	NT	NT
Toluene	90	500	NT	NT	NT	NT	NT	NT	NT
Ethylbenzene	80	500	NT	NT	NT	NT	NT	NT	NT
Xylene (Total)	500	500	NT	NT	NT	NT	NT	NT	NT
Naphthalene	4	100	NT	NT	NT	NT	NT	NT	NT
EPH (mg/kg)(c)									
C9-C18 Aliphatics	1000	1000	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)
C19-C36 Aliphatics	2500	2500	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)
C11-C22 Aromatics	200	800	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)	ND (100.0)
Acenaphthene	20	1000	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Acenaphthylene	100	100	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Anthracene	1000	1000	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Benzo(a)anthracene	0.7	0.7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Benzo(a)pyrene	0.7	0.7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Benzo(b)fluoranthene	0.7	0.7	ND (0.7)	1.03	ND (0.7)	1.10	ND (0.7)	ND (0.7)	ND (0.7)
Benzo(g,h,i)perylene	1000	1000	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Benzo(k)fluoranthene	7	7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Chrysene	7	7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Compounds Continued									
Dibenz(a,h)anthracene	0.7	0.7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Fluoranthene	1000	1000	ND (0.7)	0.73	ND (0.7)	0.81	ND (0.7)	0.97	ND (0.7)
Fluorene	400	1000	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Indeno (1,2,3-cd) pyrene	0.7	0.7	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
2-Methylnaphthalene	4	500	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Naphthalene	4	100	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Phenanthrene	700	100	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)	ND (0.7)
Pyrene	700	700	ND (0.7)	ND (0.7)	ND (0.7)	0.71	ND (0.7)	0.83	ND (0.7)
Total Metals (mg/kg)(f)									
Antimony	10	10	NT	NT	NT	NT	NT	NT	NT
Arsenic	30	30	NT	NT	NT	NT	NT	NT	NT
Beryllium	0.7	0.7	NT	NT	NT	NT	NT	NT	NT
Cadmium	30	30	NT	NT	NT	NT	NT	NT	NT
Chromium	1000	1000	NT	NT	NT	NT	NT	NT	NT
Copper	NA	NA	NT	NT	NT	NT	NT	NT	NT
Lead	300	300	NT	NT	NT	NT	NT	NT	NT
Mercury	20	20	NT	NT	NT	NT	NT	NT	NT
Nickel	300	300	NT	NT	NT	NT	NT	NT	NT
Selenium	400	400	NT	NT	NT	NT	NT	NT	NT
Silver	100	100	NT	NT	NT	NT	NT	NT	NT
Thallium	8	8	NT	NT	NT	NT	NT	NT	NT
Zinc	2500	2500	NT	NT	NT	NT	NT	NT	NT
Physiologically Avail. Cyanide(g)	100	100	NT	NT	NT	NT	NT	NT	NT

Table 1:
Summary of Soil Analytical Results
Green Meadow School Soccer Field
Off Great Road
Maynard, Massachusetts

- Notes:**
- a. Samples were collected by Earth Tech in January & March 1998.
 - b. Samples were analyzed by AEN and Toxikon, both certified Massachusetts laboratories located in Massachusetts.
 - c. MCP Reportable Concentrations standards for oil and hazardous material in soil classified as Method 1 - S-1/GW-1 and SI/GW-3.
 - d. VPH = Volatile Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
 - e. EPH = Extractable Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
 - f. Total metals analysis performed by EPA Methods 6010.7470/7471
 - g. Physiologically Available Cyanide by the Massachusetts DEP Method.
 - h. NA = Not applicable
 - i. NT = Not Tested
 - j. ND (0.5) = Not detected above the method detection limit. The method detection limits are shown in parentheses.

** All results, detection limits and Method 1 Standards are reported in mg/kg [parts per million (ppm)]

Summary of Groundwater Analytical Data
 Proposed Maynard Middle School
 Off Great Road
 Maynard, Massachusetts

Table 2:

Sample Identification (a)(b) Parameter/Compound	Method 1 Standards (ug/l) (f)			MW-1	MW-2	MW-3
	GW-1	GW-3	GW-3			
Dissolved Metals (ug/l) (c)						
Antimony	6	300	300	ND (5.0) (h)	ND (5.0)	ND (5.0)
Arsenic	50	400	400	ND (5.0)	ND (5.0)	ND (5.0)
Beryllium	4	50	50	ND (4.0)	ND (4.0)	ND (4.0)
Cadmium	5	10	10	ND (2.5)	ND (2.5)	ND (2.5)
Chromium	100	2,000	2,000	ND (30.0)	ND (30.0)	ND (30.0)
Copper	NA (g)	NA	NA	ND (5.0)	ND (5.0)	ND (5.0)
Lead	15	30	30	ND (5.0)	ND (5.0)	ND (5.0)
Mercury	2	1	1	ND (0.5)	ND (0.5)	ND (0.5)
Nickel	100	80	80	ND (30.0)	ND (30.0)	ND (30.0)
Selenium	50	80	80	ND (5.0)	ND (5.0)	ND (5.0)
Silver	40	7	7	ND (5.0)	ND (5.0)	ND (5.0)
Thallium	2	400	400	ND (1.3)	ND (1.3)	ND (1.3)
Zinc	2,000	900	900	ND (20.0)	ND (20.0)	ND (20.0)
VPII (ug/l) (d)						
C5-C8 Aliphatics	400	4,000	4,000	ND (10.0)	ND (10.0)	ND (10.0)
C9-C12 Aliphatics	4,000	20,000	20,000	ND (10.0)	ND (10.0)	ND (10.0)
C9-C10 Aromatics	200	4,000	4,000	ND (10.0)	ND (10.0)	ND (10.0)
Methyl-t-butyl ether	70	50,000	50,000	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	5	7,000	7,000	ND (5.0)	ND (5.0)	ND (5.0)
Toluene	1,000	50,000	50,000	ND (5.0)	ND (5.0)	ND (5.0)
Ethylbenzene	700	4,000	4,000	ND (5.0)	ND (5.0)	ND (5.0)
Xylene (Total)	10,000	50,000	50,000	ND (5.0)	ND (5.0)	ND (5.0)
Naphthalene	20	6,000	6,000	ND (10.0)	ND (10.0)	ND (10.0)
EPH (ug/l) (e)						
C9-C18 Aliphatics	4,000	20,000	20,000	ND (50.0)	ND (50.0)	ND (50.0)
C19-C36 Aliphatics	5,000	20,000	20,000	ND (50.0)	ND (50.0)	ND (50.0)
C11-C22 Aromatics	200	30,000	30,000	ND (50.0)	ND (50.0)	ND (50.0)
Total EPH Concentration	NA	NA	NA	ND (50.0)	ND (50.0)	ND (50.0)
Acenaphthene	20	5,000	5,000	ND (10.0)	ND (10.0)	ND (10.0)
Acenaphthylene	300	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Anthracene	2,000	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Benzo(a)anthracene	1	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Benzo(a)pyrene	0.2	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Benzo(b)fluoranthene	1	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Benzo(g,h,i)perylene	300	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Benzo(k)fluoranthene	1	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Chrysene	2	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Dibenzo(a,h)anthracene	0.5	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Fluoranthene	300	200	200	ND (10.0)	ND (10.0)	ND (10.0)
Fluorene	300	200	200	ND (10.0)	ND (10.0)	ND (10.0)
Indeno (1, 2, 3-cd) pyrene	0.5	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
2-Methylnaphthalene	10	3,000	3,000	ND (10.0)	ND (10.0)	ND (10.0)
Naphthalene	20	6,000	6,000	ND (10.0)	ND (10.0)	ND (10.0)
Phenanthrene	300	50	50	ND (10.0)	ND (10.0)	ND (10.0)
Pyrene	200	80	80	ND (10.0)	ND (10.0)	ND (10.0)

Table 2:
Summary of Groundwater Analytical Data
Proposed Maynard Middle School
Off Great Road
Maynard, Massachusetts

- Notes:**
- a. Samples were collected by Earth Tech in January 1998.
 - b. Samples were analyzed by AEN, Inc. a certified Massachusetts laboratory of located in Billerica, MA.
 - c. MCP Reportable Concentrations standards for oil and hazardous material in soil classified as Method 1 - S-1/GW-1 and S1/GW-3
 - d. VPH = Volatile Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
 - e. EPH = Extractable Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
 - f. Total metals analysis performed by EPA Methods 6010,7470/7471
 - g. Physiologically Available Cyanide by the Massachusetts DEP Method.
 - h. NA = Not applicable
 - i. NT = Not Tested
 - j. ND (0.5) = Not detected above the method detection limit. The method detection limits are shown in parentheses.
- ♦♦ All results, detection limits and Method 1 Standards are reported in mg/kg [parts per million (ppm)]

Table 3:
Summary of Exposure Point Concentrations for Compounds of Concern in Soil
 Green Meadow School Soccer Field
 Off Great Road
 Maynard, Massachusetts

Sample Identification (a)(b) Parameter/Compound	MCP Method 1 Soil Concentration Standards (c)		Exposure Point Concentration (h)
	S-1/GW-1	S-1/GW-3	
VPH (mg/kg)(d)	1000	1000	0.85
C9-C12 Aliphatics			
EPH (mg/kg)(e)			
C19-C36 Aliphatics	2500	2500	63.35
C11-C22 Aromatics	200	800	69.44
Benzof(b)flouranthene	0.7	0.7	0.68
Fluoranthene	1000	1000	0.65
Pyrene	700	700	0.62
Total Metals (mg/kg)(f)			
Arsenic	30	30	5.62
Beryllium	0.7	0.7	0.43
Cadmium	30	30	1.22
Chromium	1000	1000	31.95
Copper	NA(g)	NA	29.18
Lead	300	300	93.83
Mercury	20	20	0.16
Nickel	300	300	14.17
Zinc	2500	2500	83.75

Notes:

- a. Samples were collected by Earth Tech in January & March 1998.
- b. Samples were analyzed by AEN and Toxikon, both certified Massachusetts laboratories located in Massachusetts.
- c. MCP Reportable Concentrations standards for oil and hazardous material in soil classified as Method 1 - S-1/GW-1 and S1/GW-3.
- d. VPH = Volatile Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
- e. EPH = Extractable Petroleum Hydrocarbons analysis by Massachusetts DEP Draft 1.0.
- f. Total metals analysis performed by EPA Methods 6010,7470/7471
- g. NA = Not applicable
- h. EPC = Average of detected compounds. Where compounds were not detected, average of detection limit was used.

•• All results, detection limits and Method 1 Standards are reported in mg/kg [parts per million (ppm)]

EARTH TECH 196 Baker Avenue Concord, Massachusetts 01742	PROJECT: Maynard School ESA Maynard, Massachusetts	BORING NUMBER MW-1 SHEET 1 OF 1 PROJECT # 26412 FILE I:/HSW/26412/Copy of MW-1
---	---	--

BORING COMPANY Environmental Drilling, Inc. FOREMAN Duane Drew EARTH TECH INSPECTOR Patrick Armstrong	BORING LOCATION _____ GROUND ELEVATION _____ DATE STARTED 1-22-98 DATE ENDED 1-22-98
---	--

SIZE	CASING		TYPE	SAMPLER		OTHER:	GROUNDWATER READINGS			
	HSA	NA		2"	140 lbs.		DATE	DEPTH	CASING	STABILIZATION TIME
HAMMER	NA	NA	HAMMER	140 lbs.						
FALL	NA	NA	FALL	30"						

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING OVM (ppm)	EQUIPMENT OR WELL INSTALLED	
NO.	REC.	DEPTH	BLOWS						
5	S1	19'	0'-2'	25-40 42-20	Very dense, medium to coarse SAND and fine to medium Gravel.		S1: 15.92	See Well Construction Log	
	S2	18'	2'-4'	25-22 30-34			Very dense, rust brown fine to coarse SAND with little Silt, no petroleum odor or stain.		S2: 1.18
	S3	17'	4'-6'	17-17 14-14			Medium dense brown fine to coarse SAND with some Silt, moist at tip of spoon.		S3: 1.03
10	S4	24'	10'-12'	3-3	Loose, fine to coarse SAND with some Silt and little fine Gravel, brown and wet.		S4: 1.05		
			5-8						
15					Set monitoring well @ 14' below grade				
20									
25									

PROPORTIONS USED		PENETRATION RESISTANCE		WELL CONSTRUCTION LEGEND							
TRACE	0 TO 10%	140 LB WT FALLING 30" ON 2" O.D. SAMPLER		CONCRETE		BENTONITE		GROUT			
LITTLE	10 TO 20%	COHESIONLESS DENSITY		COHESIVE CONSISTENCY		SILICA SAND		NATURAL BACKFILL		BEDROCK	
SOME	20 TO 35%	0-4	VERY LOOSE	0-2	VERY SOFT						
AND	35 TO 50%	5-9	LOOSE	3-4	SOFT						
		10-29	MED. DENSE	5-8	M/STIFF						
		30-49	DENSE	9-15	STIFF						
		50+	VERY DENSE	16-30	V-STIFF						
				31+	HARD						

I:HSW/25691/Boring

Last Modified: 05/22/2004 at 12:00PM EDT

BORING COMPANY Environmental Drilling, Inc. **BORING LOCATION** _____
FOREMAN Duane Drew **GROUND ELEVATION** _____
EARTH TECH INSPECTOR Patrick Armstrong **DATE STARTED** 1-22-98 **DATE ENDED** 1-22-98

SIZE	CASING		TYPE	SAMPLER		OTHER:	DATE	GROUNDWATER READINGS		
	HSA	TYPE		2"	140 lbs.			DEPTH	CASING	STABILIZATION TIME
HAMMER	NA		HAMMER	140 lbs.						
FALL	NA		FALL	30"						

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING OVM (ppm)	EQUIPMENT OR WELL INSTALLED
NO.	REC.	DEPTH	BLOWS					
5	S1	17'	0'-2'	5-7 35-15	Dense, fine to medium SAND and little fine to medium gravel, some silt brown-black soil organic material top 6" of spoon.		S1: 12.41	See Well Construction Log
	S2	11'	2'-4'	18-17 17-19	Dense, fine to coarse SAND, little gravel, trace silt, light brown in color, no petroleum odor or stain.		S2: 17.05	
	S3	17'	4'-6'	20-16 11-9	Loose, fine to coarse SAND with little silt trace fine gravel, bottom 9" fine sand-silt—upper 6" of spoon gravel and medium to coarse sand.		S3: NT	
10	S4	12'	10'-12'	3-4 5-7	Loose, fine to coarse SAND, little medium-gray gravel, no petroleum odor or stain.		S4: 14.92	
15								
20								
25								
					Install monitoring well @ 25'			

WELL CONSTRUCTION LEGEND

PROPORTIONS USED	PENETRATION RESISTANCE 140 LB WT FALLING 30" ON 2" O.D. SAMPLER	CONCRETE	BENTONITE	GROUT
TRACE 0 TO 10%	COHESIONLESS DENSITY	SILICA SAND	NATURAL BACKFILL	BEDROCK
LITTLE 10 TO 20%	0-4 VERY LOOSE			
SOME 20 TO 35%	5-9 LOOSE			
AND 35 TO 50%	10-29 MED. DENSE			
	30-49 DENSE			
	50+ VERY DENSE			
	COHESIVE CONSISTENCY			
	0-2 VERY SOFT			
	3-4 SOFT			
	5-8 M/STIFF			
	9-15 STIFF			
	16-30 V-STIFF			
	31+ HARD			

Last Modified: 05/24/2004 at 12:29 PM EDT

BORING COMPANY Environmental Drilling, Inc. **BORING LOCATION**
FOREMAN Duane Drew **GROUND ELEVATION**
EARTH TECH INSPECTOR Patrick Armstrong **DATE STARTED** 1-22-98 **DATE ENDED** 1-22-98

SIZE	CASING		TYPE	SAMPLER		OTHER:	DATE	GROUNDWATER READINGS		
	HSA	NA		2"	140 lbs.			DEPTH	CASING	STABILIZATION TIME
HAMMER	NA	NA	HAMMER	140 lbs.						
FALL	NA	NA	FALL	30"						

SAMPLE NO.	REC.	DEPTH	BLOWS	SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING OVM (ppm)	EQUIPMENT OR WELL INSTALLED
5	S1	17'	0'-2'	1-1 1-2	Very loose, fine to medium SAND, little Silt, tan, top 6" organic soil, no petroleum odor or stain.	S1: 32.86	See Well Construction Log
	S2	9'	2'-4'	7-9 16-14	Medium dense, fine to coarse SAND, little fine to medium Gravel, no petroleum odor or stain	S2: 25.55	
	S3	21'	4'-6'	5-8 13-15	Medium dense, tan to rust brown fine to coarse SAND, trace Silt, brown fine to medium sand top 3" of spoon, no petroleum odor or stain present.	S3: 27.24	
10							
15	S4	12'	15'-17'	5-5 7-8	Medium dense brown to gray SAND and SILT, no petroleum odor or stain present, wet.	S4: 23.84	
20							
25							
Install monitoring well @ 25'							

PROPORTIONS USED		PENETRATION RESISTANCE		WELL CONSTRUCTION LEGEND			
		140 LB WT FALLING 30" ON 2" O.D. SAMPLER		CONCRETE	BENTONITE	GROUT	
TRACE	0 TO 10%	COHESIONLESS DENSITY	COHESIVE CONSISTENCY				
LITTLE	10 TO 20%	0-4	0-2				
SOME	20 TO 35%	5-9	3-4				
AND	35 TO 50%	10-29	5-8	SILICA SAND	NATURAL BACKFILL	BEDROCK	
		30-49	9-15				
		50+	16-30				
			31+				

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 31 10 00

SITE CLEARING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Section includes, without limitation, providing:
 - 1. The contractor shall provide all equipment and do all work necessary to demolish and/or remove the structures indicated and prepare the site as indicated on the Drawings.
- B. Extent: As shown, if not, as follows:
 - 1. Clearing and grubbing areas marked on the plans and as needed to install proposed features.
 - 2. Tree removal of trees in the areas noted on the plans. Includes clearing and grubbing all shrubs, cutting and removing trees. Removal of all stumps new or existing. Backfilling of holes with clean fill.
 - 3. Stripping and stockpiling topsoil.
 - 4. Tree pruning trees that are to remain.
 - 5. Removal of all rubbish, debris, and other materials to be disposed of as a result of the work of this section.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section includes, without limitation, providing:
 - 1. Section 01 57 12 - Temporary Erosion & Sedimentation Controls
 - 2. Section 31 21 00 - Site Preparation
 - 3. Section 31 21 01 - Site Utilities Preparation
 - 4. Section 31 20 00 - Earth Moving

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. American National Standards Institute (ANSI):Z133.1 Safety Requirements for Pruning, Trimming, Repairing, Maintaining and Removing Trees, and for Cutting Brush
 - 2. Commonwealth of Massachusetts Department of Transportation (MassDOT) Highway Division:
 - 3. Standard Specifications for Highways and Bridges latest edition as posted on the MassDOT website.

1.05 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.
- B. The following shall be submitted:
 - 1. Certificates of severance of utility services.
 - 2. Permit for transport and legal disposal of debris.
 - 3. Location plan of staging areas and schedule for moving staging equipment into those areas shall be submitted for Architect's approval prior to mobilization and related site preparation operations.
 - 4. After review of the site, Contractor shall submit proposed location for temporary access road around stormwater outfalls and existing utilities.
 - 5. Professional Arborist certification for review and approval by Architect or Owner's Representative.

- C. Submit schedule of existing trees to be pruned including extent of pruning.

1.06 PROTECTION

- A. Prevent movement, settlement or collapse of adjacent services and trees. Assume liability for such movement, settlement, or collapse. Promptly repair damage at no cost to the Owner.

1.07 EXISTING SERVICES

- A. Existing structures and utilities shall be suitably protected from damage.

1.08 MAINTAINING TRAFFIC

- B. Do not close or obstruct roadways without permits.
- C. Conduct operations with minimum interference to public or private roadways.
- D. The contractor shall maintain access to the existing Green Meadow Elementary School at all times.

1.09 QUALITY ASSURANCE

- E. Selective clearing methods shall conform to the applicable requirements of ANSI Z133.1
- F. Selective pruning methods shall conform to the applicable requirements of ANSI Z133.1.
 - 1. Work of this section shall be completed by a professional Certified Arborist with a minimum five years' experience, who has successfully completed a certification program equal to the Massachusetts Certified Arborist (MCA) program/examination sponsored by the Massachusetts Arborists Association, 8-D Pleasant Street, South Natick, MA 01760; (508) 653-3320; FAX: (508) 653-4112; E-mail: info@massarbor.org.

PART 2 - PRODUCTS

2.01 ARBORIST REPORT

- A. Arborist Report: Shall include tree type, size, health, and any special pruning or care recommendations for all trees within the project site and within 25' of limit of work.

PART 3 - EXECUTION

3.01 STRIPPING AND STOCKPILING TOPSOIL

- A. Remove sod and grass before stripping topsoil.
- B. Topsoil shall be stripped to full depth from areas to be excavated, filled, regraded, or resurfaced. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and non-soil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Topsoil shall be stockpiled on-site and protected with covering. No topsoil shall be removed from the site without the written permission of the Architect.
- D. Stockpiled topsoil which conforms to the specifications may be used for fill and finish grading within landscaped areas. Refer to Section 31 25 00 Erosion and Sediment Controls.
- E. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. If duration of stockpile is 3 months or less: Limit height of topsoil stockpiles to 72 inches.
 - 2. If duration of stockpile is greater than 3 months: Limit height of topsoil stockpiles to 40 inches.
 - 3. Do not stockpile topsoil within tree protection zones.

4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

- F. Stockpiled topsoil which conforms to the 31 25 00 Erosion and Sediment Controls specification may be used for within landscaped areas. Material which does not conform shall be deemed unsuitable and shall be removed from the site and legally disposed of by the contractor.

3.02 CLEARING AND GRUBBING

- A. Trees, shrubs, and other vegetation not indicated on the Drawings or designated in the field by the Architect to remain and required for execution of the Work shall be cleared and grubbed.
- B. Stumps shall be removed to their full depth. Roots 3 in. and larger shall be removed to a depth of 2 ft. below finished grade. Stumps shall be legally disposed of off-site.

3.03 TREE REMOVAL

- A. Unless otherwise indicated, trees and shrubs not indicated on the Drawings or designated in the field by the Architect to remain, and required for execution of the Work shall be removed.
- B. Trees shall be cut and stumps shall be removed to their full depth. Trees may be able to be pushed over exposing complete root system; dig entire root mass and completely remove.
 - 1. Roots 3 in. and larger shall be removed to a depth of 2 ft. below finished grade.
 - 2. Stumps and all debris from grubbing shall be legally disposed of off-site.
- C. Do not apply herbicide to remaining stumps or plant life to inhibit growth.
- D. Fill depressions caused by stump removal and clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated. Seed with temporary erosion control mixture as specified.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.
- E. At the Contractor's option:
 - 1. Felled trees, including stumps, may be legally disposed of off-site at a location selected by the Contractor; or
 - 2. Felled trees, not including stumps, may be chipped on-site and completely removed to a location selected by the Contractor.
 - 3. Felled trees, not including stumps, may be chipped off-site and removed to a location selected by the Contractor.
- F. Stumps: Contractor shall be required to haul stumps to and legally dispose of at an off-site location selected by the Contractor.
- G. Burning shall not be permitted on-site.

3.04 TREE PRUNING

- A. Tree pruning shall be "Class II Medium Pruning" conforming to NAA Ref. 1.
- B. Schedule of trees to be pruned and extent of pruning shall be as indicated on the Drawings. Tree pruning shall be as directed and approved by the Architect.

3.05 TREE CABLING AND GUYING

- A. Cabling and guying methods shall conform to ANSI A300, Best Management Practices Tree Support Systems: Cabling, Bracing, and Guying.
 - 1. Provide cabling and guying systems to accomplish structural support of the tree as scheduled on the Drawings.

3.06 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Protection of Existing Improvements: Provide protection necessary to prevent damage to existing improvements indicated to remain in place or outside of the limit of work. Protect improvements on adjoining properties and on User Agency's property.
 - 1. Restore improvements damaged by Contractor's clearing activities to their original condition, at no additional expense to the Commonwealth.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.

3.07 DEADWOOD AND BRUSH REMOVAL

- A. Deadwood and brush within the limits of work indicated on the Drawings shall be disposed of as follows:
 - 1. Brush, limbs, and other material less than 6 in. in diameter shall be chipped and stockpiled on-site in an area designated by the Architect.
 - 2. All deadwood shall be chipped and stockpiled as specified above.
 - 3. Limbs 6 in. and larger shall, at the Contractor's option, be disposed of as follows:
 - a. Material shall become the property of the Contractor and be disposed of off-site, or;
 - b. Material shall be cut to 4 ft. lengths and stacked in an on-site location designated by the Architect.
- B. All debris material not otherwise indicated shall be legally disposed of off-site.

3.08 RUBBISH REMOVAL

- A. The General Contractor shall remove and dispose daily all waste and debris in accordance with the requirements of Section 01 74 19 – Construction Waste Management and Disposal.
- B. Debris, rubbish, and other material shall be disposed of promptly and shall not be left until final cleanup of site.

END OF SECTION

SECTION 31 20 00

EARTH MOVING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General and Supplementary Conditions and Division 1 – General Requirements, apply to the Work of this Section.

1.02 SPECIAL INSTRUCTIONS

- A. The General Contractor shall become familiar with other Sections of the Specifications to determine the type and extent of work there under which affects the work of this section whether or not such work is specifically mentioned.
- B. Examine all drawings and all other Sections of the Specifications for the requirements therein affecting the work of this trade. Plans, surveys, measurements, and dimensions, under which the work is to be performed are believed to be correct to the best of the Architect's knowledge, but the Contractor shall have examined them for himself during the bidding period, as no allowance will be made for any errors or inaccuracies that may be found herein. The contractor shall reconcile all drawings.
- C. Where there is a conflict between drawings and these specifications, the stricter requirement and the interpretation that is most in favor of the owner shall be adopted at no additional cost to the owner.
- D. By submitting a bid, the Contractor affirms that he has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- E. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure a steady progress of work under this Contract.

1.03 DESCRIPTION OF WORK

- A. The Base Bid shall include but is not limited to the following:
 - 1. Removing and stacking topsoil within the limits noted in the drawings.
 - 2. Excavation of earth, and rock excavating to the elevations noted on the drawings or specified herein, whichever is deeper. Disposing of excavated material generated within the limit of excavation and installing structural fill within the footprint of the proposed building and within the influence zone starting from the natural sand and gravel or rock up to finish grade as shown on drawings.
 - 3. Removal and disposal of existing utilities as shown in the drawings.
Removal and disposal of asphalt and concrete pavement, retaining walls, fences, curbing, brush, trees and tree stumps to the limits as shown on drawings.
 - 4. Improving the existing fill within proposed paved areas.
- B. The Work of this Section includes, but is not limited to, furnishing and installation of the following:
 - 1. Do not commence any excavation or construction work until verification of the layout performed by the Engineer/Surveyor has been received and approved by the Architect.
 - 2. All materials, equipment, labor, and services required for all Earth Moving work, including all items incidental thereto, as specified herein and as shown on the Drawings:
 - 3. All excavated soil shall be removed from the site and disposed of.
 - 4. No burning on the site shall be permitted.

5. Removing unsuitable materials from within the proposed building footprint and the clearing limits noted on the drawings, including asphalt, existing fill, and organic matter, construction debris, remnants of existing foundations, and other deleterious matter.
6. Improving the subgrade of the proposed paved areas in the existing fill as described in these specifications.
7. Dewatering
8. Proof-rolling of exposed subgrade for fill, footings, foundations, slabs, walks, pavements, lawns and grasses, and exterior plants.
9. Performing test pits before the start of and during excavation as required by the Geotechnical Engineer;
10. Removing and/or improving the existing fill in accordance with the requirements of Section 3.02 of these specifications.
11. Amending the existing fill to meet the gradation requirements of Structural Fill and/or Ordinary Fill.
12. Fill slopes and site retaining walls.
13. Installing excavation support, shoring or bracing as necessary.
14. Protecting existing utilities during the different phases of the earthwork operations.
15. Disposing off-site of excess or unsuitable materials.
16. Placing bedding, sub-base and base course layers.
17. Stabilizing/mitigating saturated or otherwise disturbed materials.
18. Excavating and backfilling required for the installation of the building slab and footings, pavements, underground utilities including storm drainage, sanitary, electrical and water.
19. Pumping and/or bailing necessary to maintain excavated spaces free from water from any source whatsoever.
20. Preparation, submission of, and compliance with an approved, phased erosion control plan in accordance with DEP requirements for a SWPPP (Stormwater Pollution Prevention Plan) to include materials and measures required to control soil erosion resulting from construction operations for the duration of the project.
21. All temporary stormwater management controls shall be in accordance with the Town of Maynard Stormwater Drain System By-Laws Chapter 33, Stormwater Management By-Laws Chapter 34 latest addition and the Town of Maynard MS-4 permit. As enforced by the Town of Maynard (DPW) Department of Public Works or a DPW duly authorized representative.
22. Designation of an Erosion Control Supervisor and submission of weekly erosion control reports.
23. Coordination with Archaeological Monitor.
24. Sediment removal and disposal.
25. Maintenance of erosion control devices.
26. Removal of erosion control devices as directed.
27. Install temporary construction fencing and safety devices or controls as specified and as necessary.
28. Dust control and clean-up.
29. Performing material testing, and field density testing as needed.
30. Groundwater Control, dewatering, pumping, bailing, filtering, and control of groundwater and surface water for all work under this contract in accordance with item 1.13 of these specifications.
31. Refer to specification Section 31 21 01 Site Utilities Preparation for additional dewatering requirements.
32. Installing fencing and safety devices or controls as specified and as necessary.
33. Notifying all affected utility companies and Dig Safe before the start of work.
34. Processing and improving onsite marginal soil, as needed, including by crushing and blending, to meet the specifications herein.
35. Installing seismographs and monitoring vibration at the nearby existing buildings during construction. The cost of vibration monitoring shall be included in the base bid.

1.04 GENERAL REQUIREMENTS

- A. The Contractor shall furnish all labor, material, tools and equipment necessary to excavate materials; segregate, track, handle, sample, analyze, and test excavated materials, backfill, and re-grade as indicated on the Drawings.
- B. The Contractor shall use suitable, amended on-site soils and fill, and soil from off-site sources, as needed. Please note that most of the on-site materials will likely not be suitable for reuse without amendment, nor will all required material gradations be present on the site. The contractor shall avoid mixing the reusable soils with fine-grained and/or organic soils.
- C. Rock blasted or excavated from the excavation area shall not be used directly for backfill below footings or retaining walls unless the rock is processed to meet the gradations of the individual fill materials as noted herein.
- D. The Contractor shall make excavations in such a manner and to such widths that will provide suitable room for performing the Work and shall furnish and place all sheeting, bracing, and supports, if necessary. Excavation support is anticipated for this project.
- E. The Contractor shall provide labor and material for all pumping and draining, as necessary; and shall render the bottom of excavation firm and unyielding, and dry and in all respects acceptable. The Contractor shall collect and properly dispose of all discharge water from dewatering systems in accordance with Town of Maynard Bylaws noted herein and all State requirements, regulations and permits.
- F. The contractor shall provide a dewatering system for the discharge water used during the installation of the geothermal wells. Refer to Section 31 21 00 Site Utilities Preparation for requirements.
- G. The Contractor shall raise the Site to final grades and compact the subgrade and intermediate layers to the required criteria set forth within this Section.
- H. The contractor shall provide routine monitoring of in-place excavation support system.
- I. Contractor shall protect and moisture condition all onsite and imported materials for proper installation, compaction, and use. This includes covering, drying, and adding moisture in order to maintain suitable workability of the soil materials. Failure by the Contractor to follow this requirement shall not be cause for additional cost to the Owner.

1.05 LAWS AND REGULATIONS

- A. Work shall be accomplished in accordance with regulations of local, county, state and national agencies or utility company standards as they apply.
- B. Comply with the rules, regulations, laws and ordinances of the Town of Maynard, of the State of Massachusetts, appropriate agencies of the State of Massachusetts and all other authorities having jurisdiction. Coordinate all work done within Town and State rights of way with the appropriate agencies. Provide all required traffic control and safety measures, including uniformed police officers per Town and State requirements. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided without additional cost to the Owner.
- C. Comply with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc., the Commonwealth of Massachusetts Rules and Regulations For the Prevention of Accidents in Construction Operations, and the requirements of the Occupational Safety and Health Administration (OSHA), United States Department of Labor.
- D. The Contractor shall procure and pay for all permits and licenses required for the complete work specified herein and shown on the Drawings.

1.06 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all the Contract Documents for requirements that affect the Work of this Section.

- B. Other Specification Sections which directly relate to the Work of this section include, but are not limited to, the following Sections:

1. Section 31 09 00 – Subsurface Investigation
2. Section 31 10 00 - Site Clearing
3. Section 31 21 00 - Site Preparation
4. Section 31 21 01 - Site Utilities Preparation
5. Section 32 25 00 - Erosion & Sedimentation Controls
6. Section 32 16 00 – Wood Guard Rail
7. Section 32-31 70 – Chain Link Fences and Gates
8. Section 33 32 23 – Segmental Retaining Walls
9. Section 33 61 37 – Geothermal Ground -Source Heat Exchange System

1.07 LAWS AND REGULATIONS

- C. Work shall be accomplished in accordance with regulations of local, county, state and national agencies or utility company standards as they apply.
- D. Comply with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc., the Commonwealth of Massachusetts Rules and Regulations For the Prevention of Accidents in Construction Operations, and the requirements of the Occupational Safety and Health Administration (OSHA), United States Department of Labor.
- E. The Contractor shall procure and pay for all permits and licenses required for the complete work specified herein and shown on the Drawings.

1.08 REFERENCE SPECIFICATIONS

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements govern.
1. American Society for Testing and Materials (ASTM):
 - a. ASTM C136, Sieve Analysis of Fine and Coarse Aggregates.
 - b. ASTM D1556, Density of Soil In Place by the Sand-Cone Method
 - c. ASTM D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbs/ft.³ (2,700 kN-m/m³)).
 - d. ASTM D6938, Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
 - e. ASTM D6913, Particle Size Analysis of Soils.
 - f. ASTM D2487, Standard Test Method for Classification of Soils for Engineering Purposes.
 2. Commonwealth of Massachusetts:
 - a. Massachusetts Department of Transportation (MassDOT), “Standard Specifications for Highways and Bridges” latest edition.
 - b. Commonwealth of Massachusetts State Building Code.
 3. American Association of State Highway and Transportation Officials (AASHTO):
 - a. AASHTO T-11, Standard Method of Test for amount of material finer than 0.075 mm sieve in aggregate.
 - b. AASHTO T-27, Standard Method of Test for sieve analysis of fine and coarse aggregates.
 4. Occupational Safety and Health Act (OSHA) of 1970 (Public Law 91-596 of the United States, 29 USC Section 651 et seq.).
 5. Geotechnical Engineering Recommendations,
 6. Borings Logs and Test pits.

1.09 BENCH MARKS AND ENGINEERING

- A. Employ, with the Contract Price, a competent Civil Engineer or Land Surveyor, registered in Massachusetts, who shall perform the following work:
 - 1. All lines and grade work not presently established at the site shall be laid out by the Engineer/Surveyor in accordance with the Drawings and Specifications. Establish permanent benchmarks necessary for the work under this Contract. Maintain all established bounds and bench marks and replace as directed at no expense to the Owner any that are destroyed or disturbed.
 - 2. Establish all lines and grades for the work and verify all locations, property lines, work lines, and other dimensioned points indicated on the Contract Drawings for the existing site.
 - 3. Submit to the Architect, a written confirmation of locations of all lines, and any discrepancies between conditions and locations as they actually exist and those indicated on the Contract Drawings. Such confirmation shall bear the registration stamp of the Engineer/Surveyor.
- B. The General Contractor shall use GPS (Global Positioning System) to locate all horizontal and vertical data shown on the CAD drawings for all proposed site work.
- C. Do not commence any excavation or construction work until verification of the layout performed by the Engineer/Surveyor has been received and approved by the Architect.
- D. Do not commence any excavation or construction work until verification of the layout performed by the Engineer/Surveyor has been received and approved by the Architect.

1.10 SOIL REPORT

- A. DD Phase Geotechnical Report, Proposed Green Meadows Elementary School Maynard Massachusetts dated: April 27, 2024 prepared by Lahlaf Geotechnical Consulting, Inc. is attached hereto, and hereby made part of the Contract Documents.
- B. The Owner assumes no responsibility for the General Contractor's failure to make his own site investigation and makes no representation other than the soils reports regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work. The General Contractor shall refer to Section 31 09 00 - Subsurface Investigation, and attached soil Reports. Failure by the General Contractor to be aware of existing site conditions shall not be cause for additional cost to the Owner.
- C. The subsurface explorations and geotechnical report were performed primarily for use in preparing the foundation design and are included for the convenience of the contractor. Use and interpretation of these data for purposes of the work shall be the responsibility of the Contractor. Subsurface conditions and groundwater levels are not considered as accurate for any times or locations other than the specific time and location of each of the explorations.
- D. Interpretation of this data for purposes of construction is the responsibility of the Contractor. It is the Contractor's responsibility to make interpretations and draw conclusions with respect to the character of materials to be encountered and groundwater conditions at the site and their impact upon Contractor's work based on his expert knowledge of the area, construction dewatering methods, and support of excavation methods. Contractor may, at his own expense, conduct additional subsurface testing as required for his own information after approval by the Owner.
- E. Information on subsurface conditions is made available for the convenience of the Bidders. The Owner does not represent to the General Contractor that the information is either an accurate or a comprehensive indication of subsurface conditions. Bidders are invited to review the information to apprise themselves of the information available, and also to make additional investigations at their own expense.
- F. Test boring location as depicted on the Drawings are located by tape measurements from existing site features and structures and shall only be considered as accurate as the procedure utilized.
- G. The Contractor shall be aware that the ground surface elevation was interpolated to the nearest foot and are approximate.

- H. No claim for extra cost or extension of time resulting from reliance by the General Contractor on information presented herein shall be allowed, except as provided in the Contract Documents.

1.11 EXISTING UTILITIES

- A. Locate and mark underground utilities to remain in service before beginning the work. Active utilities existing on the site and work areas shall be carefully protected from damage and relocated or removed as necessitated by the work. When an active utility line is exposed during construction, its location and elevation shall be plotted on the record drawings as described in this Section and both Architect and Utility Owner notified in writing.
- B. Active utilities existing at the site and work areas shall be carefully protected from damage and relocated or removed as required by the work. When an active utility line is exposed during construction, its location and elevation shall be plotted on the record drawings as described in this Section and both Architect and Utility Owner notified in writing.
- C. Inactive or abandoned utilities encountered during construction shall be removed if within the building area or grouted, plugged, or capped. The location of such utilities shall be noted on the record drawings and reported in writing to the Architect.

1.12 SAMPLING AND TESTING

- A. The contractor shall submit two (2) 50-lbs samples of each type of fill material, in air-tight containers, proposed for use on-site in accordance with PART 2 - PRODUCTS, to the Owner's testing agency for preliminary compliance testing at least two (2) weeks prior to use. No fill material shall be delivered to the site or placed until the material has been preliminarily approved. The final review of the material will be based on a sample tested by the owner's testing agency upon delivery of the material to the site. The gradation curves shall fit entirely within the envelopes defined by the limits specified herein for the material to be approved for use at the site.
 - 1. Samples shall be delivered to the office of the Architect or as directed.
 - 2. Samples required in connection with compaction tests will be taken and transported by the Soils Representative.
 - 3. Additional tests, including grain-size analyses and laboratory compaction tests shall be performed on the material after it is delivered to the site.
 - 4. For on-site materials, submit representative samples, collected from each stockpile of excavated on-site material to be used, directly to the Owner's Geotechnical Consultant's office or as directed at least two (2) weeks in advance of use of these materials.
- B. Product Data: Submit location of pits for borrow material. Samples shall include name of source, name of material, sampling date, and intended use.
- C. Samples shall be representative of the source pit. If materials are found to vary once construction begins, the Contractor will be required to submit additional representative samples, for compliance testing, at his own cost.
- D. Compaction (Field Density) tests:
 - 1. Field density tests shall be performed at all bench and other site fixture pads.
 - 2. Compaction tests shall be performed on each lift of placed and compacted material and at every 100 feet within the same lift. Accordingly, it is the responsibility of the Contractor to provide ample notice to the testing agency to provide a field representative to perform field density tests.
- E. Materials imported to the site by the Contractor for on-site use shall not contain oil, hazardous waste, or deleterious materials.
 - 1. The Contractor shall be responsible for all costs incurred by the Owner as a result of the Contractor's action to import materials containing concentrations of oil and/or hazardous materials to the site, including the cost of removing the contaminated soil, the cost of remediation of onsite soils affected by the contamination, and the cost of replacement..

2. In the event that site characterization of off-site borrow sources indicates that soils are acceptable to the Architect or Engineer for use, then chemical testing will not be required. It is anticipated that chemical testing would not normally be required for material from customarily utilized commercial borrow sources.

No fill material from "urban areas" will be accepted for fill at the site, even if chemical testing indicates no exceedances of "Reportable Concentrations".

If requested by the Owner or Engineer, based on review of the borrow site characterization, the Contractor shall conduct testing on proposed fill material and submit results prior to delivery to the site, at no additional cost to the Owner. Testing shall be conducted by a DEP-certified testing laboratory and shall include, at a minimum, the following analytical test data.

 - a. Total Petroleum Hydrocarbons (EPA Method 418.1) every 100 yards
 - b. Volatile Organic Compounds (EPA Method 8420) every 500 yards
 - c. PCB and Pesticides (EPA Method 8080) every 500 yards
 - d. Total RCRA Metals (EPA Method 6000-7000 series) every 500 yards
 - e. Polynuclear Aromatic Hydrocarbons (EPA Method 8270) every 500 yards
 - f. TCLP for those total parameters which exceed twenty times the TCP criteria every 500 yards.
 - g. Total cyanide (EPA 9020)
3. All off-site material submitted for use on the project site shall conform to the S-1 Soils Standards contained in the Massachusetts Contingency Plan, dated October 1, 1993, Section 310 CMR 40.0975 or site soil background levels, whichever is lower. Samples will be chemically tested to determine their conformance with the S-1 Soils Standards and site soil background levels.
4. Testing parameters and testing frequencies may be reduced, as directed by the Soils Representative.
5. All sieve analyses for conformance of on-site and off-site fill materials to be used in the work shall be done by means of a mechanical wet sieve analysis and in accordance with ASTM D 6913.

1.13 QUALITY ASSURANCE

- A. The Owner may retain and pay for the services of an independent testing agency (Soils Representative) to monitor backfill operations, perform laboratory tests on soil samples, and to perform field density tests; and a Geotechnical Engineer to periodically observe the earthwork operations, observe the preparation of the subgrade for footings, slabs, and paved areas, and to review laboratory and field test data. The geotechnical engineer may from time to time request that the contractor excavate tests ahead of excavation to confirm subsurface conditions. Test pits shall be performed at no additional cost to the Owner.
- B. The Engineer's duties do not include the supervision or direction of the actual work by the Contractor, his employees, or agents. Neither the presence of the Engineer nor any observation and testing by the Engineer shall excuse the contractor from defects discovered in his Work at that time or subsequent to the testing.
- C. The services of the Soils representative may include but are not limited to monitoring and performing observations of the backfill operations and testing during placement of fills and backfills within the proposed building, parking area, underneath structures in general, and controlled fill areas.
- D. Subgrades shall be observed and approved by the geotechnical engineer before placing fill. The compaction and material composition shall be approved by the geotechnical engineer before placement. The by the Architect, and/or Geotechnical Engineer prior to placing subsequent lifts. If inspections indicate subgrade does not meet specified requirements, the unsuitable subgrade shall be excavated, the unsuitable material shall be removed, and replaced with approved structural backfill material and compacted at no additional cost to the owner or architect. The work shall be done in accordance with this specification.
- E. Costs related to retesting due to unacceptable quality of work and failures discovered by testing shall be paid for by the Contractor at no additional expense to Owner, and the costs thereof will be deducted by the Owner from the Contract Sum.

1. The Soils Representative’s presence or the Geotechnical Engineer does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Soils Representative, nor any observations and testing performed by him, nor any notice or failure to give notice shall excuse the Contractor from defects discovered in his work.
 2. The Owner reserves the right to modify the services of the Soils Representative or Geotechnical engineer.
- F. The contractor shall make provisions for allowing safe and timely observations and testing of Contractor’s Work by the Geotechnical Engineer and by the Soils Representative. The presence of the independent testing agency and/or the Geotechnical Engineer does not include supervision or direction of the actual work of the Contractor, his employees or agents. Neither the presence of the Soils Representative and/or the Geotechnical Engineer, nor any observations and testing performed by them, nor failure to give notice of defects shall excuse the Contractor from defects discovered in his work.
- G. Pre-excavation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
1. Before commencing earthwork, meet with representatives of the governing authorities, Owner, Architect, Engineer, consultants, Soils Representative, and other concerned entities. Review earthwork procedures and responsibilities including testing and inspection procedures and requirements. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.
- H. Testing: Compaction tests will be required by the Owner and will be paid for by the owner. No specific testing schedule has been established at this time. If tests indicate that density requirement have not been achieved, the contractor continue compacting the tested material. All retesting in these areas shall be paid for by the contractor.
- I. The Owner’s Testing Agency will perform water content, gradation tests on onsite and processed materials, and compaction tests at a frequency and at locations as required. The results of these tests will be submitted to the Architect, and a copy submitted to the Contractor, on a timely basis so that the Contractor can take such action as is required to remedy the indicated deficiencies.
- J. Contractor shall notify Architect when excavations have reached required subgrade and provide a minimum notice of 24 hours prior to placement of backfill on exposed subgrade. Density and Compaction Testing: The contractor is responsible to schedule compaction tests and allow adequate time for the proper execution of said tests. **This section also applies to instances when the General Contractor resumes earthwork operations after a period of pause in earthwork operations that require observations by the Geotechnical Engineer.**
- K. Testing frequency shall be as follows:

Material	Responsible Party	Situation	Test	Minimum Frequency
Structural Fill/ Ordinary Fill/ Processed Gravel for Subbase/	Contractor	Source Investigation	Grain Size	1 per source
	Owner	During	Moisture Density Relationship	1 per source
			Grain Size t	1 per source
Common Borrow/ Bedding Material/ Crushed Stone /		Placement	Moisture Density Relationship	1 per 100 tons

Pea Gravel	Owner	As-Placed	Dry Density and As-Placed Moisture	2 per lift per location or activity and no less than 1 every 500 sf
Loam Borrow	Contractor	During Placement	PH, Nitrogen, Phosphorous, Potassium, and USDA Classification	2 per Acre
Riprap	Contractor	Source Investigation	Source Material Certification	1 per source
			Specific Gravity	1 per source
	Contractor	During Placement	Source Material Certification	1 per 500 tons
			Specific Gravity	1 per 500 tons

The Owner reserves the right to modify the services of the Soils Representative or Geotechnical engineer.

1.14 PROTECTION

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section.
- B. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving, service utility lines, structures and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed and replaced.
- C. The work of this Section shall be performed in such a manner as to cause no interference with access by the abutters, Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.

1.15 DEFINITIONS

- A. MassDOT specifications shall mean “The Standard Specification for Highways and Bridges”, Commonwealth of Massachusetts, Massachusetts Department of Transportation, latest edition, including supplements.
- B. The words "finished grades" as used herein mean the required final grade elevations indicated on the Drawings and defined in this specification section. Where not otherwise indicated, areas outside of buildings shall be given uniform slopes between points, for which finished grades are shown, or between such points and existing grade except that vertical curves or rounding shall be provided at abrupt changes in slope.
- C. Excavation: Removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed. See EXECUTION section for directions for treatment of excavations in rock.
- D. Unauthorized Excavation: Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Architect. Unauthorized excavation, as well as remedial work directed by the Architect, shall be at the Contractor's expense. See EXECUTION section for instructions for treatment of unauthorized excavation.
- E. Additional Excavation: Excavation required beyond anticipated subgrade elevation. See EXECUTION section for procedures.
- F. Natural Subgrade: The undisturbed, inorganic native soil exposed below site fill and disturbed native soils at footing and/or structural fill bearing elevations; or Rock at least 12" below the footing bearing elevation, slabs on grade, or utilities.
- G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

- H. Structure: Buildings, foundations, slabs, tanks, curbs, or other man made stationary features occurring above or below ground surface.
- I. Structural Fill: Imported or approved on site aggregate or select soil meeting the physical properties described in Section 2.1 MATERIALS, and compacted in place to form a supportive bearing surface.
- J. Unsuitable material: On-site materials which are of improper gradation to allow adequate compaction, and/or defined as organically contaminated (including roots), uncontrolled fill material, disturbed native material, or otherwise identified as improper for the intended use by the Architect. Refer to the Supplemental info section of the Geotechnical Engineering Report.
- K. Rock: All materials which, in the opinion of the Architect, require blasting or special impact tools such as jack hammers, sledges, chisels or devices similar in purpose which are designed for use in cutting or breaking materials that have compressive strengths in excess of 300 pounds per square inch in their natural states. Boulders larger than 3 cubic yards in volume in open excavations and larger than 1 cubic yard in trenches are classified as Rock.
- L. Zone of Influence: The area bounded by a one horizontal to one vertical (1H:1V) line sloping downward and outward from the bottom, outer edge of the footings and foundations.
- M. The words "invert" or "invert elevation" as used herein shall be defined as the elevation at the inside bottom surface of the pipe or channel.
- N. The words "bottom of the pipe" as used herein shall be defined as the base of the pipe at its outer surface
- O. Trench shall be defined as an excavation of any length where the width is less than twice the depth and where the shortest distance between payment lines does not exceed ten (10') feet. All other excavations shall be defined as open excavations.
- P. Rock (Mass & Rock): Excavated material in beds, ledges, unstratified masses, and conglomerate deposits that cannot be removed by rock excavating equipment equivalent to the following size and performance ratings (Caterpillar 340), without systematic drilling, ram hammering, ripping, or blasting, when permitted.
- Q. Common Borrow: See MATERIALS Section.
- R. Structural Fill: See MATERIALS Section.
- S. Bedding Fill for Pipe and Other Utility Structures: See MATERIALS Section.
- T. Bedding Fill for geothermal pipe trenches: See MATERIALS Section.
- U. Gravel Base Course for Paved Areas: See MATERIALS Section.
- V. Trenching Fill: See MATERIALS Section.
- W. Loam Borrow: See MATERIALS Section.
- X. Filter Fabric: See MATERIALS Section.
- Y. Vapor Retarder: See MATERIALS Section.

1.16 SUBMITTALS

- A. Submit a detailed construction sequence plan for project excavation indicating temporary stockpile areas, side slopes of excavations, limits of required temporary excavation support and sequence and procedures for subgrade protection, excavation, concrete placement, moisture conditioning of on-site excavated soils used as fill, filling, backfill, and compaction.
- B. Submit Rock blasting plan shall be submitted at least 10 days before the start of blasting operations. This submittal shall include description of blasting operations, handling procedure and storage of explosives, blasting limits and depths, blasting sequence, measures to limit vibrations, as needed, measures to limit over-blast and rock heave to less than 2 feet, and measures to protect the existing building during blasting operations.

- C. Grain-size distribution analysis test data shall be delivered with the samples. The analysis shall be performed in accordance with ASTM D 6913 and shall at the minimum include the sieve sizes listed for the respective material in Part 2. The data shall include a plot of the gradation and the envelope of the specified material. A material shall be considered meeting the specifications when its gradation curve fits entirely within the specified envelope. Borrow materials with grain-size distribution curves that do not fall entirely within the specified envelope shall be deemed unacceptable.
- D. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures in accordance with requirements of the Contract Documents.
 - 1. Submit a detailed earthwork sequence plan for project excavation indicating temporary stockpile areas and procedures for subgrade protection.
- E. Submit a dewatering plan for review by the Architect at least two weeks before the start of construction. Dewatering and groundwater control systems shall be designed to keep excavations free of water and to avoid disturbance of the subgrade.
- F. Excavation and Excavation Support Plan: Submit at least 10 calendar days prior to the start of the work a detailed plan for the sequence of excavation, and methods to be used to shore roadways, sidewalks and other structures.
- G. Obtain required permits for discharge of dewatering effluent. Submit two copies of all permits obtained at least one week prior to system installation.
- H. Submit soil samples in accordance with Section 1.12 of these specifications.
- I. Submit representative samples of approved equivalent materials, such as Filter Fabric, for approval prior to delivery to the site.
- J. Submit gradations from suppliers of crushed stone for pipe bedding, structure bedding, and infiltration system encasement and bedding.
- K. Submit shop drawings and calculations for proprietary site retaining walls.

1.17 EXAMINATION OF SITE AND DOCUMENTS

- A. It is hereby understood that the General Contractor has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs shall be allowed because of a lack of knowledge of existing conditions as indicated in the Contract Documents, or obvious from observation of the site.
- B. Plans, surveys, measurements, and dimensions under which the work is to be performed are believed to be correct, but the General Contractor shall have examined them for himself during the bidding period and formed his own conclusions as to the full requirements of the work involved.

1.18 PROJECT COORDINATION

- A. Prior to start of earthwork, the General Contractor shall arrange an onsite meeting with the Architect and the Geotechnical Engineer for the purpose of establishing the General Contractor's schedule of operations, and scheduling observation and requirements. The Geotechnical Engineer may from time-to-time request that the General Contractor excavate test pits ahead of excavation to confirm subsurface conditions at no additional cost to the Owner.
- B. Protect all benchmarks, monuments, and property boundary pins. Replace if destroyed by General Contractor's operation.
- C. As construction proceeds, the Contractor shall be responsible for notifying the Geotechnical Engineer and the independent testing firm prior to the start of earthwork operations requiring observation and/or testing.

1.19 PROJECT CONDITIONS

- A. "GEOTECHNICAL ENGINEERING REPORT"
 - 1. The geotechnical engineering report prepared for this site (which includes subsurface exploration data and an exploration location plan) referenced in this section is included in the Supplemental information section and is

made available for the convenience and information to the Contractor only. It is expressly understood that the Owner will not be responsible for any interpretation, conclusions or generalizations made by the contractor based on the contractor's review of the report.

- B. Do not proceed with utility interruptions without Architect's written permission. Notify Architect not less than two days in advance of proposed utility interruptions.
- C. Contact utility-locator service for area where Project is located before excavating.
- D. Protect nearby structures from damage. All construction induced damage shall be repaired by the General Contractor at no additional expense to the Owner.
- E. The General Contractor shall obtain and pay for all permits and licenses required to complete the work of this Section.
- F. In case of conflict between regulations or between regulations and Specifications, the General Contractor shall comply with the strictest applicable codes, regulations, or Specifications at no additional cost to the owner.
- G. The General Contractor may perform additional test borings and other explorations at no cost to the Owner.
- H. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies and Town of New Bedford to shut off services if lines are active.

1.20 SEQUENCING AND SCHEDULING

- A. As construction proceeds, notify the Architect prior to the start of earthwork operations which require observations and testing. A minimum of 72 hours notification shall be provided for work that requires observation or testing

1.21 AS BUILT SURVEY

- A. At the completion of the specified work, a field survey shall be performed by a surveyor registered in Massachusetts of the as built building, ground elevations (spot elevations 50' on center and at edges of pavement and or curbing, top and bottom of walls and utility structures, floor elevations, utilities, fencing, walls and all site improvements, limit-of-work line, property lines, and tree line within the limit of work. The surveyed information shall be presented in a AutoCAD electronic file format (latest version) and submitted to the Architect in the form of a CD with PDF'S at a scale of 1"=30'.
- B. All field survey work and presentative of the surveyed information shall be completed and submitted to the Architect within four weeks of completion of the construction as specified and as shown on the drawings.

1.22 MEASUREMENTS

- A. Measurement of Unsuitable Soil over-excavation:
 - 1. Strip vegetation, topsoil, buried organic material and fill in accordance with drawings. Remove existing asphalt, curbing, cobbles, boulders, concrete, metal, woods, and above and below ground structures.
 - 2. Remove unsuitable soils to top of natural soil as shown on the Contract Documents or as directed in the field by the Owner's Geotechnical Engineer.
 - 3. Quantity of blasted rock shall be measured by calculating the volume between the pay lines for excavated rock and the top of the rock surface as defined by rock probes performed before the start of blasting. The probes shall be performed in a grid with a maximum spacing of 50 feet. The probes shall extend at least 10 feet in rock. The probes shall be observed by the Geotechnical Engineer.
 - 4. Employ a Registered Land Surveyor to survey to bottom of the excavation for unsuitable soils throughout the building footprint. Excavations shall be surveyed at the corners, high and low points, and a maximum spacing for survey points of 20 feet in each direction on a grid.

- 5. Quantities shall be measured in their original position to the limits of clearly defined vertical construction lines and to the depth required for the defined construction. Payment will be at the Contract Unit Rates.

1.23 UNIT PRICES

- A. The base bid shall include the excavating and disposing of excavated material generated within the limit of work and specified subgrades grades shown on the drawings or specified herein.
- B. Unit prices shall be provided for all items listed in Part 2- PRODUCTS. The unit rates shall include furnishing/processing, stockpiling, placing, and compacting the material).
- C. Provide unit rate for rock excavation in trenches and in open excavations, removed from the site, and any placement of fill required to bring excavated surface to specified subgrade.
- D. Provide unit rate for rock excavation as open excavation, removed from the site, and any placement of fill required to bring excavated surface to specified subgrade.

PART 2 – PRODUCTS

2.01 FILL MATERIAL

- A. Structural fill for support of Building foundations, floor slabs and base course for concrete sidewalks and pads shall be widely graded sand and gravel, free of clay, organic material, snow, ice, frozen soil or other deleterious materials, and conforming to the following gradation requirements. Soil finer than the No. 200 sieve shall be non-plastic. Structural Fill shall have a plastic index of less than 6 and shall be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within +/- 2 percentage points of the optimum moisture content.

U.S. Bureau of Standards Sieve Size and Number	Percent Passing	
	Minimum	Maximum
3- inches	100 percent	
1-1/2 inch	80 percent	100 percent
1/2 inch	50 percent	100 percent
No.4	30 percent	85 percent
No.20	15 percent	60 percent
No.60	5 percent	35 percent
No.200	0 percent	*10 percent

* 0–5 for the top 12 inches under sidewalks, exterior slabs, pads, and walkways

- 2. Material falling within the above Specifications, encountered during the excavation, shall be stored in segregated stockpiles for reuse as Compacted Structural Fill. All material shall be subject to approval by the Architect.
- B. Processed gravel for base course for bituminous concrete pavement shall be a processed material with angular particles meeting the requirements conforming to MassDOT Specifications Section M1.03.1.

U.S. Bureau of Standards Sieve Size and Number	Percent Passing	
	Minimum	Maximum
3-inches	100 percent	----
1-1/2 inch	70 percent	100 percent
No.3/4	50 percent	85 percent
No.4	30 percent	60 percent
No.200	3 percent	10 percent

- C. Ordinary Fill - Well-graded, natural inorganic soil approved by the Architect and meeting the following requirements to be used for general filling to subgrades in lawn areas and to the bottom of the subbase beneath pavements, sidewalks and

other than specified above, and conforming to the following graduation requirements. Soil finer than the No. 200 sieve shall be non-plastic. Ordinary Fill shall have a plastic index of less than 6 and shall be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within +/- 2 percentage points of the optimum moisture content.

U.S. Bureau of Standards Sieve Size and Number	Percent Passing	
	Minimum	Maximum
6-inches	100 percent	----
1 inch	50 percent	100 percent
No.4	20 percent	100 percent
No. 20	10 percent	70 percent
No.60	5 percent	45 percent
No.200	0 percent	20

1. It shall be free of organic or other weak or compressible materials, of frozen materials, trash or other deleterious materials and of stones larger than six (6) inches maximum dimension.
2. It shall be of such nature and character that it can be compacted to the specified densities in a reasonable length of time.
3. It shall be free of highly plastic clays, of all materials subject to decay, decomposition or dissolution and of cinders or other materials which shall corrode piping or other metal.
4. It shall have a maximum dry density of not less than one hundred (100) pounds per cubic foot.
5. Material from excavation on the site may be used as ordinary fill if it meets the above requirements.

D. COMMON BORROW

- a. Common Borrow material shall be soil containing no stone larger than 8 inches and shall be substantially free of organic loam, wood, trash, or other objectionable materials which may be decomposable, compressible or which cannot be properly compacted. Onsite and offsite Common Borrow materials shall not contain more than 30 and 20% percent by weight of silt and clay, respectively.
 - 1 No Common Borrow shall be imported until available onsite Ordinary Fill has been used or with prior written approval from the Architect.
 - 2 Common Borrow material from off-site borrow sources shall contain no detectable concentrations of asbestos.
 - 3 Crushed concrete can be used as Common Borrow provided it meet the requirements of these specifications.
 - 4 Common Borrow can be used beneath the topsoil in landscaped areas, and at depths greater than 3 feet in paved areas.

E. PROCESSED GRAVEL FOR SUBBASE

1. Processed Gravel for Subbase shall be onsite or imported material conforming to Item M1.03.1 of the MassDOT Standard Specifications. This material can be used as subbase in the top 12 inches beneath paved area.
2. Processed Gravel for Subbase may be anticipated to be onsite in limited quantities.
3. Crushed concrete cannot be used as Processed Gravel for Subbase.

F. DENSE GRADED CRUSHED STONE FOR SUBBASE

1. Dense graded Crushed Stone for subbase shall be imported material conforming to Item M2.01.7 of the MassDOT Standard Specifications. This material shall be used as an alternate to Processed Gravel for Subbase in the top 12 inches immediately beneath paved areas.
2. Crushed concrete cannot be used as Dense Graded Crushed Stone for Subbase.
3. Dense graded Crushed Stone for subbase are not anticipated to be present onsite.

G. CRUSHED STONE

1. Crushed stone shall consist of durable crushed rock or durable crushed gravel stone, free from ice and snow, sand, clay, loam, or other deleterious material, conforming to MassDOT specifications, Section M2.01.0 through M2.01.6 size as indicated on Drawings. Dense graded crushed stone shall be uniformly blended and conform to the following gradation requirements.
2. The crushed stone shall be reasonably free from clay, loam or deleterious material and not more than 1.0% of satisfactory material passing a No. 200 sieve will be allowed to adhere to the crushed stone. Where crushed stone is to be used for surfacing, this requirement shall be not more than 0.5% of satisfactory material passing a No. 200 sieve.

Sieve Size	Percent Passing By Weight		
	1/2-Inch Stone	3/4-Inch Stone	1.5-Inch Stone
2 inches	100	100	100
1 ½ inch	100	100	95-100
1 inch	100	100	35-70
¾ inch	100	90-100	0-25
5/8 inch	100	---	---
1/2 inch	85-100	10-50	---
3/8 inch	15-45	0-20	---
No. 4	0-15	0-5	---
No. 8	0-5	---	---

H. SAND

Sand shall consist of clean inert, hard, durable grains of quartz or other hard durable rock, free from clay, organics, surface coatings or other deleterious material, confirming to the MassDOT Specifications Section M1.04.1. Sand shall conform to the following gradation:

Sieve Size	Percent Passing by Weight
1/2-inch	100
3/8-inch	85-100
No. 4	60-100
No. 16	35-80
No. 50	10-55
No. 100	2-10

I. LOAM BORROW

Loam borrow shall meet the requirements of MassDOT Specifications for M1.05.0. Existing topsoil may also be excavated, stockpiled, screened and reused as loam on the project provided that the resultant material is consistent with the requirements of the MassDOT Specifications. All topsoil shall be screened free of roots, rocks and vegetative matter. The contractor shall amend and rehandle topsoil as needed to meet the standard specifications.

J. FILTER FABRIC

1. Conform to MassDOT Specifications for Type III Fabric Embankment or Subgrade Stabilization, Section M9.50.0, Mirafi 140 Filter Fabric, or approved equivalent.

K. VAPOR BARRIER

Vapor Retarder must have the following qualities:

1. WVTR less than or equal to 0.006 gr/ft²/hr as tested by ASTM E 96
2. ASTM E 1745 Class A (Plastics)
3. Vapor Retarder Products:
 1. Stego Wrap (15-mil) Vapor Barrier by Stego Industries, LLC, San Juan Capistrano, CA (877) 464-7834
www.stegoindustries.com, or approved equivalent.

Accessories:

1. Vapor Retarding Seam Tape must have the following qualities:
 - a. Water Vapor Transmission Rate of 0.3 perms or lower by ASTM E 96
2. Vapor Proofing Mastic have the following qualities:
 - a. Water Vapor Transmission Rate of 0.3 perms or lower by ASTM E 96
3. Pipe Boots:
 - a. Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

L. ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
1. Red: Electric
 2. Yellow: Gas
 3. Orange: Telephone and other communications.
 4. Blue: Water System
 5. Green: Sewer

L. UNDER-DRAINS

Under-slab drain pipes shall consist of 4" diameter Schedule 40 PVC with perforations in ¼ of the diameter and placed with the perforations down.

PART 3 - EXECUTION

3.01 EXCAVATION

A. Excavation of Subgrades

5. Topographic survey has been made of the project site following completion of the earthwork and this survey is included in the Bid Documents.

B. General

1. Excavate all materials to the elevations, dimensions and form as shown on the Drawings and as specified for the construction of the building, site walls, utility structures, utilities, paving, site improvements and other structures necessary for the completion of the building, utilities, and site work. All unsuitable materials within the indicated and specified limits shall be excavated and removed from the site. Unsuitable materials shall include the following:

- a. Pavements, utility structures, building foundations and other man-made structures.
 - b. Peat, organic silts, and other organic materials subject to decomposition, consolidation, or decay.
 - c. Miscellaneous fill including sand, gravel, cinders, ash, glass, wood, and metal.
 - d. Ledge or boulders except as specified for fills herein.
 - e. Material that contains more than 3 percent organic matter by weight.
2. All unsuitable materials within the indicated and specified limits shall be excavated and removed from the site. The removal shall vertically extend to the elevations of the bottom of existing fill and buried organic soil shown in the boring and test pit logs included in the Geotechnical Report or to the limits shown in the drawings, whichever is deeper. The excavation resulting from the removal of the unsuitable soils shall extend to the natural/native undisturbed soil. Horizontally, the removal shall extend to the limits of ZOI or 5 feet beyond the limits of the building and 2 feet outside the limits of footings of retaining walls, stairs, and ramps. The excavations shall be carried at least 12 inches beneath the bottom of footings and 12 inches beneath the bottom of slabs. The grades within the building and all footings shall be restored to the grades provided on the contract plans using compacted Structural Fill.
 3. Employ a Registered Land Surveyor to survey to bottom of the excavation for unsuitable soils throughout the building footprint. Excavations shall be surveyed at the corners, high and low points, and a maximum spacing for survey points of 20 feet in each direction on a grid.
 4. Control the grading so that ground is pitched to prevent water from running into excavated areas, damaging other structures, or adjacent properties.
 5. Where soil has been softened or eroded by flooding, equipment, traffic, or placement during unfavorable weather, or such other conditions, it shall be removed and replaced by the Contractor with suitable material at no cost to the Owner.
 6. The topsoil/subsoil layer, root balls, where encountered, organic soil, the existing fill, and other deleterious matter shall be entirely removed from within the proposed building footprint.
 7. Topsoil/subsoil, organic material, root balls, where encountered, and other deleterious material shall be entirely removed from within the gravel road and paved road limits, geothermal field limits and retaining wall installation limits.
 8. Cobbles and boulders shall be removed at least 6 inches from beneath footings and 18 inches from beneath the bottom of slabs within the entire building footprint, and 2 feet beneath the bottom of paved areas. The resulting excavations shall be backfilled with compacted Structural Fill under the building and with ordinary Fill under the subbase of paved areas.
 9. The contractor is cautioned that some of the natural sand at the site has silt contents higher than 20 percent. Such soils can be compacted at moisture contents within 2 percent of the optimum moisture content determined from the laboratory compaction test. Soils with more than 20 percent fine contents are generally very sensitive to moisture content variations and are susceptible to frost. Such soils are very difficult to compact at moisture contents that are much higher or much lower than the optimum moisture content determined from the laboratory compaction test. Therefore, strict moisture control shall be implemented during stockpiling, placement, and compaction of the onsite soils.
 10. Maintain all subgrades for site improvements in satisfactory condition, protected against traffic and properly drained, until the surface improvement is placed. In areas to receive pavement or other surface materials, at top and bottom of embankments, along swales and elsewhere, place sufficient grade stakes to facilitate checking the subgrade levels. Correct all irregularities, compacting thoroughly any fill materials.
 11. Minimum depth of excavation in rock shall be performed in accordance with the requirements in Section 3.04 E.
 12. The base of the footing excavations in the natural soil shall be compacted with a dynamic vibratory compactor weighing at least 200 pounds and imparting a minimum of 4 kips of force to the subgrade. All compaction shall be to specified levels.
 13. The subgrades of slabs and paved areas in the natural soil shall be compacted with a vibratory roller compactor imparting a dynamic effort of at least 40 kips. Where soft materials are encountered, they shall be removed and replaced with Structural Fill within the footprint of the proposed building and with Ordinary Fill within the proposed paved areas.

14. Where paved areas are located in existing fill areas, the existing fill shall be improved after the surficial topsoil and subsoil are removed by compacting the exposed subgrade in the fill using at least six (6) passes of a vibratory roller compactor imparting a dynamic effort of at least 40 kips. Where soft zones are revealed by the compaction effort and where organic soil is exposed, the soft materials or organic oil shall be removed and replaced with Ordinary Fill to the bottom of the subbase layer.
15. The Contractor shall obtain from the proper authority locations of all utilities within the scope of this work so that there will be no damage done to such utilities. Neither the Owner nor the Architect will be responsible for any such damage, and the Contractor shall restore any structure or utility so damaged without additional compensation. Written notifications to the appropriate utility agencies shall be made at least ten (10) days prior to the commencement of any work.
16. Excess Material - Suitable excavated material which is required for fill and backfill shall be separately stockpiled as directed by the Architect. All surplus fill other than that required to complete the intent of the Contract shall become the property of the Contractor and shall be disposed of off the property by the Contractor. All excavated materials which, in the opinion of the Architect, are not suitable for fill or backfill shall be removed and disposed of off the property.
17. Any unsanitary conditions encountered, such as broken sewer mains or uncovered garbage shall be corrected or removed entirely as directed by the Architect.
18. The Contractor shall remove materials beneath the existing building to 12 inches beneath bottom of proposed footings, 12 inches beneath bottom of proposed slab, or to the bottom of the unsuitable material, whichever is deeper. In proposed paved areas, the Contractor shall remove a minimum of 18 inches beneath the existing grades. Refer to quantities in item. Should quantities of certain materials or classes of work be increased or decreased from what is shown in the drawings and specified herein, the Contract Unit Rates listed below shall be the basis of payment to the Contractor, or credit to the Owner, for such increase or decrease in the work. The Contract Unit Rates shall represent the exact net amount, per unit, to be paid to the Contractor in the case of increase in the quantities, and the exact amount to be refunded to the Owner in the case of decreases in the quantities. No additional adjustment shall be allowed for overhead, profit, insurance, or other direct or indirect expenses by the Contractor. Contract Unit Rates of materials shall include hauling, storing, stockpiling, moving, importing, spreading, and compacting. Increases or decrease in the quantities shall be approved by the Owner.
19. Amending the existing fill free of organic matter by adding and blending with crushed stone shall be allowed. Blending shall produce a uniform, homogeneous mixture. Blending by pushing with a dozer shall not be allowed.
20. To reduce the potential for mixing of organic soil with blasted rock intended for crushing, the topsoil, roots, tree stumps, and vegetation shall be removed before blasting. The remainder of the overburden soils and excavatable weathered rock shall not be removed before blasting.
21. Excavation for Site Improvements
 1. Excavate to the lines and grades shown on the Drawings and as specified to obtain the subgrades for the following items of work:
 - a. Concrete slabs on grade
 - b. Bituminous concrete road and parking pavement
 - c. Gravel road limits
 - d. Concrete paving
 - e. Curbing Seeded areas
 - f. Retaining Walls
 - g. Unspecified improvements – to elevations noted on the drawings.
 2. Utilities and Utility Structures
 1. Construct surface subgrades including filling prior to excavation for utilities and utility structures. Excavate to the lines and grades shown on the Drawings and as specified herein to obtain the subgrade for the following items of work:
 - a. Utility structures - to grades shown on the Drawings in the building and outside the building. Remove by excavating all unsuitable materials; including buried organics, from under drainage structures and backfill with specified fills compacted in place to subgrades.

- b. Excavation for structures and other accessories shall have twelve (12) inch minimum and twenty-four (24) inch maximum clearance on all sides.
 - c. All utility lines - to 12 inches below bottom of utility lines or structures.
 - d. Trench for water pipe to provide a minimum of five feet of cover above top of pipe.
 - e. Unless otherwise shown, provide separate trenches for each utility. Lay all piping in open trenches except where tunneling is required. Excavation for structures and other accessories shall have 12 in. minimum and 24 in. maximum clearance on all sides.
 - f. Grade the bottom of trenches evenly to have a constant pitch in the direction of flow and to insure a uniform compacted thickness of selected material as called for.
2. Existing services and utilities encountered shall be immediately repaired, protected, and maintained in use until relocation of same has been completed or be cut and capped were directed or be prepared for connections when so required.
 3. Excavation Classification
 1. Classified Excavation - For the purposes of payment, materials shall be Classified except for those materials within the limits specified herein (these limits shall be part of the base bid and shall not be paid for using UNIT PROCES): 12 inches under footings, 12 inches under slabs, 2 feet outside the outer edge of footings, and 18 inches beneath the bottom of the pavement Excavation shall comprise and include the satisfactory excavation, removal, and disposal of all materials encountered within the lines and grades shown in the Drawings or limits specified herein, whichever is deeper, regardless of the nature of the materials, and shall be understood to include, but not be limited to, earth, topsoil, subsoil, hardpan, fill, foundations, pavements, curbs, piping, railroad track and ties, cobblestones, footings, bricks, concrete, abandoned drainage and utility structures, debris, and materials classified as unsuitable materials. All excavation and replacement, if applicable, with suitable material within the lines and grades shown in the Drawings or the limits specified herein, whichever is deeper, will be considered and bid as unclassified and shall be included in the Contractor's lump sum (i.e., shall not be paid for using Unit Rates).
 2. For bidding purposes, the limits of unclassified excavation (i.e., excavations included as part of the base bid and for which there will be no payment using Contract Unit Rates) to remove the existing fill and organic soil within the building, paved areas, and athletic fields shall be as follows:
 - cubic yards within the proposed building, paved areas and retaining wall excavation limits:
 - 12,000 cubic yards (not including rock) in cut areas, including 8,000 cubic yards cut is 12 inches (not reuseable).
 - 10,000 of fill, including 8,000 cubic yards from on-site materials, and 4,000 imported fill.
 - 20,000 cubic yards of blasted rock.
 3. All excavation and replacement, if applicable, with suitable material within the lines and grades shown in the drawings and in these specifications that are within the quantities listed in item 3.01.F.2 shall be considered and bid as unclassified and shall be included in the Contractor's lump sum (i.e., shall not be paid for using Contract Unit Rates). Excavations beyond these lines described herein and beyond the quantities listed in item 3.01.F.2 in the item shall be measured and paid for after approval of the measurements by the Architects as Classified Excavation using the Contract Unit Rates for respective classification in accordance with the allowance included in the contract documents. All quantities shall be measured in place. There shall be no swell, fluff, of expansion factor allowed. Measurements using truck loads shall not be allowed. Should quantities be less than those listed in item 3.01.F.2, the Contractor shall provide a credit to the Owner using the contract unit rates.
- A. Petroleum Contaminated Soil Allowance: The Contractor shall carry in the base bid an allowance of 100 cubic yards for removal of unanticipated as directed in Section 01 22 00 Unit prices, petroleum contaminated soil materials. Allowance shall cover removal and disposal of petroleum contaminated soil and furnishing imported suitable backfill materials compacted in place as directed herein. The base bid shall cover all costs related to such excavation, removal off site, disposal, and replacement with compacted fill of approved material, overhead, and profit. No amount other than that herein specified will be paid by the Owner for the work defined herein.
 1. If the total void volume of unanticipated petroleum contaminated material excavation, and its replacement with compacted fill exceeds the amount included in the Contract as listed above, the Owner shall pay the excess excavation and replacement at the Unit Rate submitted in the Bid Attachment – Unit Rates Schedule.

2. If the total quantity of unanticipated petroleum contaminated materials, and its replacement with compacted fill is less than the amount included in the Contract as listed above, the contract sum will be decreased by the difference in excavation and its replacement multiplied by the Unit Rate submitted in the Bid Attachment – Unit Rates Schedule.

3.02 FROST PROTECTION

- A. Protect excavation bottoms and sides against freezing. Provide protective insulating materials as necessary, including by means of heat blankets, and heating plant.
 3. A layer of fill shall not be left in an uncompacted state at the close of a day's operation when there is the potential for that layer to freeze.
 4. The Contractor shall not place any material on snow, ice, frozen soil, or soil that was permitted to freeze prior to compaction. Removal of these unsatisfactory materials will be at the Contractor's expense.
 5. Do not excavate to full indicated depth when freezing temperatures may be expected, unless work can be completed to subgrade, the materials installed, and the excavation backfilled the same day. Protect the excavation from frost if placing of materials or backfilling is delayed.
 6. The Contractor shall keep the operations under this Contract clear and free of accumulation of snow within the limits of Contract Lines as necessary to carry out the work.
 7. Frozen materials shall be installed on frozen ground. Fill materials shall be free of frost.
 8. The subgrade of footings and slabs shall be protected from frost before placing concrete. The subgrade on the sides of the footings shall be protected from frost after the footings are constructed until sufficient fill is placed to protect the bottom of footings from frost induced heave. Uninsulated slabs shall be covered with heat blankets until the slab areas are heated. The cover shall extend at least 4 feet beyond the limits of the slabs.

3.03 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION

- A. The Contractor shall take the necessary steps to avoid disturbance of subgrade and underlying natural soils/compacted fill during excavation and filling operations. Methods of excavation and filling operations shall be revised as necessary to avoid disturbance of the subgrade and underlying natural soils/compacted fill, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials. The Contractor shall coordinate with the Architect or Soils Representative to modify his operations as necessary to minimize disturbance and protect bearing soils, based on the Architect's or Soils Representative's observations.
 9. All excavated or filled areas disturbed during construction, all loose or saturated soil, and other areas that will not meet compaction requirements as specified herein shall be removed and replaced with compacted approved material in accordance with these Specifications. Fill that cannot be compacted within 48 hours because of its saturated condition shall be removed and replaced with compacted approved material in accordance with these Specifications. Costs of removal of disturbed material and replacement with approved material shall be borne by the Contractor.
 10. If requested by the Architect or Geotechnical Engineer, the Contractor shall place a six-inch layer of Crushed Stone or 12-inch layer of Granular Fill/Structural Fill over natural underlying soil to stabilize areas disturbed during construction.
 11. The placement of the Crushed Stone layer or Granular Fill/Structural Fill as well as material costs shall be borne by the Contractor. A geotextile fabric shall be used to separate the crushed stone from the natural soil and from the overlying fill when directed by the Geotechnical Engineer at no additional cost to the owner at no extra cost to the owner.
 12. Material that is above or below optimum moisture for compaction of the particular material in place as determined by the Architect or the Soils Representative and is disturbed by the Contractor during construction operations so that proper compaction cannot be reached shall be classified as unsuitable bearing materials. This material shall be removed and replaced with lean concrete, suitable/approved backfill material, or crushed stone as directed by the Geotechnical Engineer or Soils Representative at no additional cost to the Owner.

3.04 FILLS, BACKFILLS AND COMPACTION

A. Samples and Testing

1. All fill material and its placement shall be subject to quality control testing. A qualified laboratory will be selected by the Owner to perform tests on materials. All costs of testing will be paid for by the Owner. Test results and laboratory recommendations shall be available to the Architect.
2. Provide samples of each fill material from the proposed source of supply including on-site sources. Allow sufficient time for testing and evaluation of results before material is needed. Submit samples from alternate source if required.
3. Architect will be sole and final judge of suitability of all material.
4. The laboratory will determine maximum dry density and optimum water content in accordance with A.S.T.M. D-1557, Method D and the in-place density in accordance with A.S.T.M. D-1556.
5. Tests of material as delivered shall be made from time to time. Materials in question shall not be used, pending test results. Tests of compacted materials will be made regularly. Remove rejected materials and replace with approved material.
6. Cooperate with laboratory in obtaining field samples of in-place materials after compaction. Furnish incidental field labor in connection with these tests.
8. Placing Fills and Compacting
 1. Fill material shall be placed in horizontal layers not exceeding the maximum loose lift thickness with the minimum number of passes of compaction equipment as summarized on the table below. Each layer shall be compacted to the percentage of maximum dry density specified for the particular type of fill and at a water content equal to optimum water content plus or minus two (2) percent. The maximum dry density and optimum water content shall be as specified herein:

	Max. Loose Lift Thickness			Min. Number of Passes	
	Max Stone Size	Below Structures & Pavements	Less Critical Areas	Below Structures & Pavements	Less Critical Areas
Hand-operated vibratory plate or light roller in confined areas	4 in.	8 in.	8 in.	6	4
Hand-operated Vibratory drum rollers weighing at least 1,000# in confined areas	6 in.	8 in.	10 in.	6	4
Light vibratory drum Roller, minimum weight at drum 5,000#, minimum Dynamic force 10,000#	6 in.	10 in.	12 in.	6	4
Medium to heavy Vibratory drum roller, Minimum weight at Drum 10,000#, minimum Dynamic Force 20,000#	8 in.	12 in.	12 in.	6	4

2. Areas to be filled or backfilled shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when fill materials or layers below it are frozen.
3. Notify the Architect when excavation is ready for inspection. Filling and backfilling shall not be started until conditions have been approved by the Architect.
4. Before backfilling against walls, the permanent structures must be completed and sufficiently aged to attain strength required to resist backfill pressures without damage. Temporary bracing will not be permitted except by written permission from the Architect. When filling on both sides of a wall or pier, place fill simultaneously on each side. Correct any damage to the structure caused by backfilling operations at no cost to the Owner. Place no stones closer than 18 inches to wall surfaces.
5. In confined areas adjacent to footings and foundation walls and in utility trenches beneath floor slab, the fill shall be compacted with hand operated vibration tampers. The maximum lift thickness shall be four inches. The degree of compaction attained shall be equivalent to that attained in the adjacent open areas where heavy rolling equipment is used.
6. After the subgrade under concrete slabs and paved areas has been shaped to line, grade and cross-sections, it shall be rolled with an approved power roller weighing not less than six tons until thoroughly compacted. This operation shall include any reshaping, refilling or wetting required to obtain proper compaction. Any areas that subsequently settle shall be refilled to true subgrade and properly compacted.
7. In freezing weather, a layer of fill shall not be left in an un-compacted state at the close of a day's operations. Prior to terminating operations for the day, the final layer of fill, after compaction, shall be rolled with a smooth-wheeled roller to eliminate ridges of soil left by tractors, trucks and compaction equipment.
8. Placing Fills
 1. In the building footprint Structural Fill shall be placed under the concrete footings and slabs. Ordinary Fill shall be placed under Processed Gravel for Subbase in paved areas. The material shall be placed and compacted in layers as described in the above table and compacted to at least 95 percent of maximum dry density as determined by A.S.T.M. Test D1557, with moisture contents within ± 2 percentage points of optimal moisture content. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum coverages.
 2. Placement of structural fill should not be conducted when air temperatures are low enough to cause freezing of the moisture in the fill during or before placement, approximately 32 degrees F., or below. Fill materials should not be placed on snow, ice or un-compacted frozen soil. Structural fill should not be placed on frozen soil. No fill should be allowed to freeze prior to compaction. At the end of each day's operations, the last lift of fill, after compaction, should be rolled by a smooth-wheeled roller to eliminate ridges of un-compacted soil and protected from freezing.
 3. Deficiency of Fill Materials
 1. Provide required additional fill materials as specified if a sufficient quantity of suitable materials is not available from the required excavation on the project site at no additional cost to the Owner.
 2. Where water content of the fill must be adjusted to meet this Specification, the fill shall be thoroughly disked to ensure uniform distribution of any water added.
 3. Fill and Backfill for Utilities
 1. Backfill trenches only after pipe and leaching chambers have been inspected, tested and locations of pipes and appurtenances have been recorded.
 2. Each pipe section shall be laid on a 12 inches minimum bed of crushed stone as specified herein above. In addition, all underground utilities in the building and on the site including water lines, sanitary waste, vent piping, electrical conduit, mechanical piping, gas piping and storm drainage piping serving the roof drains and downspouts shall be set in a six inches bed of sand. Bed shall be shaped by means of hand shovels to give full and continuous support to the lower 1/3 of each pipe. Backfill by hand around pipe, until the crown of the pipe is covered by at least two (2) feet of sand for which there is a sieve analysis chart on page 8, paragraph 2.01D. Use sand or crushed stone and tamp firmly in layers not exceeding six inches in thickness. Take care not to disturb the pipe. Compact the remainder of the backfill thoroughly with a rammer of suitable weight or with an approved mechanical tamper to achieve compaction of 95 percent as specified.

3. Trenches and utility structures shall be backfilled with greatest care; fill materials required for backfilling to subgrades shall be Structural Fill or Ordinary Fill as specified. Backfill shall be compacted to 95 percent as specified. No mud, frozen earth or stone more than six inches in greatest diameter or other objectionable material shall be used for refilling. Any selected material required for filling shall be furnished and placed by the Contractor

3.05 ROCK EXCAVATION

A. Bedrock and boulders be encountered during excavation, the following shall apply:

1. When rock is encountered within the building footprint and its zone of influence and site improvements it shall be excavated or ripped with a hydraulic excavator. When it is demonstrated to the satisfaction of the Architect and the Geotechnical Engineer that this material can no longer be removed with a hydraulic excavator and requires drilling and blasting, this material shall be classified as Rock Excavation.
2. Intermittent drilling and ripping performed to increase production and not necessary to permit excavation of material.
3. Measurements:
 1. When, during the process of excavation, rock is encountered, it shall be uncovered and exposed in such a manner that the unbroken ledge surface is clearly visible, and the Architect shall be notified by the General Contractor, before proceeding further. The areas in question shall then be cross-sectioned as hereinafter specified.
 2. The General Contractor shall perform rock probes at the site in a grid pattern before the start of excavations. At a minimum, the results of the probes should include the ground surface elevation and the elevation of the top of the rock. The probes should extend at least 10 feet beyond the perceived top of rock to make sure that the perceived top of rock is not a boulder.
 3. Failure on the part of the General Contractor to perform the probes and identify the depth to top of the rock surface and to notify the Architect and proceeding by the General Contractor with the rock excavation before cross-sections are taken, shall forfeit the General Contractor right of claim towards the stated allowance or additional payment over and above the stated allowance at the quoted unit price.
 4. The General Contractor shall employ and pay for a licensed Registered Civil Engineer or Land Surveyor to take cross-sections of rock before removal and to make computations of volume of rock encountered within the Payment Lines. Cross-sections shall be taken in the presence of the Geotechnical Engineer and the computations approved by the Architect. The Owner has the option to perform independent cross-sections and computations of rock quantities.
 5. Where removal of boulder or ledge is required the extent of this removal and basis of payment shall be determined by the Architect with payment made as stated in Unit Prices.
6. Blasting
 1. Blasting: Obtain written permission and approval of method from local authorities before proceeding with rock excavation. Explosives shall be stored, handled, and employed in accordance with state and local regulations or, in the absence of such, in accordance with the provisions of the "Manual of Accident Prevention of Construction" of the Associated General Contractors of America, Inc.
 2. Notify the Architect at least 48 hours before any intended blasting and do no blasting without his specific approval of each blasting operation.
 1. General Contractor shall present evidence that his insurance includes coverage for blasting operations before doing any blasting work. A pre and post survey shall be performed for all buildings and utilities within 250 feet of the nearest blasting operations, conforming to the Municipal ordinance governing blasting and the Municipal Fire Department regulations.
 2. All rock blasting shall be well covered with heavy mats or timbers chained together and the General Contractor shall take great care to do no damage to existing structures, utility lines and trees to remain.
 3. Any damage caused by the work of this General Contractor shall be repaired to the full satisfaction of the Architect at no additional cost to the Owner.
 4. Any rock fragments or loose material from blasting operations shall be removed. All voids shall be filled with a leveling layer of Structural Fill

5. Additional blasting requirements:
 - a. Comply fully with National and Town of Maynard Regulations.
 - b. All documentation submitted with application for "Use and Handling" PERMIT. 527 CMR 13:04 (11) E-1 states "A Use and Handling" Permit may be suspended or revoked by the head of the Fire Department or the Marshal or their designees for any violation of 527 CMR 13:00, or MGL c. 148"
 - c. Meet all requirements of 527 CMR 13:00
 - d. Perform Pre-Blast Surveys completed per 527 CMR 13:00
 - e. Blasting shall be scheduled by the contractor to "not" occur on school days or during school hours. The existing school and school grounds shall be vacant during blasting.
 - f. No Blasting Saturdays, Sundays or Holidays.
 - g. All shots to be double matted unless approved in advance by the Town of Maynard Fire Chief.
 - h. Shot size limited to 500 lbs. unless approved in advance by the Town of Maynard Fire Chief.
 - i. Blast warning signals to be sounded in accordance with 527 CMR 13:00
 - j. 24 hours notification to the fire department of intent to blast.
 - k. The contractor shall schedule and pay for detail officers to block traffic on Tiger Drive at Great Road and at Fowler High School during the blast.
 - l. In or near residential areas, written notification must be distributed to homes advising of intent to blast at least three (3) days prior to blasting operations. Such written notification to include time frame of blasting operations and description of warning signals. The area of distribution shall be determined by the Fire Chief during pre-blast conference. A Fire Department detail shall be required unless waived by the Fire Chief.
 - m. Provide at least three (3) or more seismographs throughout construction.
 - n. All seismographs to be calibrated and certified according to manufactures specifications and 527 CMR 13:00
6. Rock should be cut at least 12 inches beneath the bottom of footings, 2 feet beneath the bottom of slabs, 18 inches beneath the bottom of paved areas, and 12 inches below the bottom of utilities. Laterally, the rock should be removed at least 1 foot beyond the limits of footings and 2 feet beyond the limits of walls. Rock should be cut a minimum of 12 inches outside utility structures and a minimum of 18 inches on each side of utility pipes.
7. Rock surfaces that heave due to blasting should be compacted with a vibratory roller that imparts a minimum of 40 kips to the rock surface. To reduce the magnitude of rock heave, drilling for blast holes should extend no more than 2 feet beneath proposed subgrades.
8. Complaints:
9. Report all blasting complaints to the Architect within 24 hours of receipt thereof. Include the name, address, date, time received, date and time of blast complained about, and a brief description of the alleged damages or other circumstances upon which the complaint is predicated. Assign each complaint a number, and number all complaints consecutively in order of receipt.
10. Submit a summary report to the Architect each week which indicates the date, time and name of person investigating the complaint, and the amount of damage, if any.
11. When settlement of a claim is made, furnish the Architect with a copy of the release of claim by the claimant.
12. Immediately notify the Architect, throughout the statutory period of liability, of any formal claim or demands made by attorneys on behalf of claimants, or of serving of any notice, summons, subpoena, or other legal documents incidental to litigation, and of any out-of-court settlement or court verdict resulting from litigation.
13. Immediately notify the Architect of any investigations, hearings, or orders received from any governmental agency, board or body claiming to have authority to regulate blasting operations.
14. Basis of Payment: The total amount of rock excavation shall be based upon the volume of rock excavated within and/or above the lines referred to in the next paragraph as "Payment Lines". The payment lines are only to be used as a basis of payment, and are not to be used as limits of excavation. Limits of excavation area as shown on the Drawings and as specified herein.

Payment Lines for Rock Excavation:

1. Payment lines for columns and footings within the building shall be a vertical line one foot from the toe of the footings; the depth shall be measured at 24 inches below the bottom elevations shown on the Drawings. Payment lines for walls to be damp-proofed shall be a vertical line two feet outside the walls.
2. Payment lines for manholes and catch basins shall be one foot outside of the outer wall and six inches below subgrade beneath the structure.
3. Payment lines for rock excavation under slabs on grade shall be six inches below the bottom elevation of the specified gravel base course outside of the building and 24 inches below subgrade for slabs within the building.
4. Payment lines for rock excavation at paved areas and lawns shall be 24 inches below respective subgrades.
5. Payment lines for rock excavation under pipes within the building and for utility trenches outside the building lines shall in no case be calculated as greater in width than the outside diameter of the pipe plus two feet for pipes up to 18 inches. For pipes 18 inches and larger payment lines shall in no case be calculated as greater in width than the outside diameter of the pipe plus three feet. Payment lines at bottom of all pipe and utility trenches shall be six (6) inches below subgrade.
6. Allowance for Rock Excavation: The Contractor shall carry in the Base Bid an allowance of 100 cubic yards for rock encountered in trench excavation removed from the site as directed in Section 01 22 00 Unit Prices. The Contractor shall also carry in the Base Bid an allowance of 100 cubic yards for open rock excavation removed from the site as directed in Section 01 22 00 Unit Prices. The Base Bid shall cover all costs relating to such rock excavation, including blasting, removal and placement of the excavated material, overhead and profit. No amount other than that herein specified will be paid by the Owner for excavation herein defined.
 1. Quantities shall be measured by the volume of void created using survey points of the excavated area. The fixed Unit Rate shall be applicable to variations in excess of the allowance quantity up to 100% of the allowance quantity.
 2. If the total quantity of Rock Excavation, open and/or trench, is less than the amount of Rock Excavation included in the Contract as listed above, the Contract sum will be decreased by the difference in Rock Excavation multiplied at the fixed Unit Rate. Quantities shall be measured by the volume of void created using survey points of the excavated area. The fixed Unit Rate shall be applicable to variations of the allowance quantity by decreases of 100% of the allowance quantity.
 3. Hoe ramming rock shall be paid for as rock excavation and shall not be paid for as time and material (T&M).

3.5 REUSE OF ONSITE MATERIALS AND PROCESSING OF ONSITE MATERIALS

- A. Based on the borings and test pits, the existing fill contains up to 45 percent fines and the natural soil layer contains up to 45 percent fines. Subgrade support capacities may deteriorate when such soils become wet and/or disturbed. The Contractor shall keep exposed subgrades properly drained and free of ponded water. Subgrades shall be protected from machine and foot traffic to reduce disturbance. Placed onsite material that becomes soft and unsuitable to support additional lifts of fill shall be removed and replaced at no additional cost to the owner. The contractor shall not make claims due to difficulty handling the onsite material. The Fill and natural soil layer also contained up to 30 percent of cobbles and boulders ranging up to about 7 feet in diameter.
- B. Organic soils cannot be reused for backfill except as directed by the landscape architect in slopes of 4H:1V or flatter.
- C. Should onsite materials be encountered that are suitable for reuse in accordance with the requirements for these specifications, the Owner shall receive a credit from the contractor for the quantity of reused onsite material. The credit shall be based on the difference in unit rates between imported and onsite material for the particular soil designation. The contractor shall provide Unit Rates for these materials in his base bid.
- D. Excavated onsite soils which are suitable for re-use at the time of excavation but become frozen or too wet for re-use due to poor material handling practices shall be disposed of off-site and replaced as necessary at no additional cost to the Owner.

- E. The processing of the existing building concrete and brick materials into Ordinary Fill shall be allowed.
- F. The Contractor must inspect all existing stockpiles on site including soil testing for each stockpiled material.
- G. The Contractor must amend the existing stockpiles if testing determines that the stockpiles do not meet the specifications for their intended use. The Contractor shall provide third party sampling and testing for all soils amended on-site.
- H. The Contractor shall be allowed to mobilize a rock crusher to the site to process cobbles, boulders, blasted rock, and imported rock by blending these materials with the existing fill and natural soil and crushing them to produce a well graded materials, provided that these materials are maintained at suitable moisture contents for proper compaction processed material obtained by crushing blasted rock, boulders, and soil shall meet the gradation requirements of Ordinary Fill and Structural Fill. Material produced by the crushing operation shall be well graded so as to reduce the potential for formation of honeycombs during its placement and compaction. The Contractor shall be allowed to transport the material offsite to perform the operations described in this item offsite and bring back the processed material provided that the processing offsite does is separate from other operations and provided that the work is approved by the project environmental professional.
- I. The Contractor shall protect, and moisture condition all onsite and imported materials for proper installation, compaction, and use. This includes covering, drying, and adding moisture in order to maintain suitable workability of the soil materials. The contractor shall protect stockpiled unprocessed and processed materials from exposure to moisture using tarps. The tarps shall be secured so as not to be moved by wind or other action. No claim shall be made by the contractor, due to failure to comply with this requirement.
- J. When processing the blasted rock, the Contractor shall mix the blasted rock with onsite soil free of organic soil to produce a well graded processed material meeting the specification of the material for which it is intended for use.
- K. Before blasted rock, cobbles, and boulders that are crushed and processed onsite are reused, they shall be observed and approved by the geotechnical engineer. At the start of the crushing operations, the soil to rock proportions placed into the crusher shall be varied until the processed material meets the appropriate gradation requirements. The soil to rock proportion thus achieved shall be maintained throughout the duration of the project.
- L. The material placed into the crusher shall be free of organics, wood, and other deleterious matter.
- M. The jaws of the crusher shall be adjusted periodically to maintain the crushing gradation.
- N. Excess blasted rock, processed or unprocessed, not used on site shall be the property of the Contractor and shall be removed offsite at no additional cost to the Owner.

3.06 OFF-SITE DISPOSAL OF SOILS

- A. All off-site disposal of soils shall meet the minimum requirements of the following as applicable:
 - 1. DEP Policy #Comm-97-001: Reuse and Disposal of Contaminated Soil at Massachusetts Landfills.
 - 2. DEP Policy #WSC-13-500: Similar Soils Provision Guidance
 - 3. The Contractor is responsible for any and all disposal characterization sampling and analysis and preparation of disposal applications as required by the facility to be used. Copies of all applications and approvals.

3.07 TEMPORARY STEEL SHEETING

- A. An excavation support system will be required to construct the proposed foundations near roadways and sidewalks as referenced in the Drawings. The contractor is responsible for the adequacy of the excavation support system and shall retain the services of a Professional Engineer registered in the Commonwealth of Massachusetts to design the required excavation support systems. The contractor's Professional Engineer shall practice in a discipline applicable to excavation work, shall have experience in the design of excavation support system and shall design in conformance

with OSHA requirements. The contractor's Professional Engineer shall provide sufficient on-site inspection and supervision to assure that the excavation support system is installed and functions in accordance with his design. Criteria listed here in defining the responsibilities of the construction manager's Professional Engineer are minimum requirements.

4. The contractor shall submit the attached Certificate of Design completed and signed by the contractor and the Professional Engineer, identifying the Contractor's Professional Engineer who will be responsible for design of the excavation support system, and including, for record purposes only:
 1. An overall time schedule for construction of the braced excavation system.
 2. A description of the anticipated sequence of construction.
 3. Submit three (3) copies to the Architect of:
 - a. Complete details of braced excavation methods, equipment and sizes and lengths of materials proposed to be used.
 - b. Details of vibration monitoring devices and reports.
 - c. Details of the means and methods that will be used in monitoring the integrity of the support system during its entire period of use to insure the safety of the excavation.
 - d. Complete computations of the design of the braced excavation system bearing the seal of the responsible Registered Professional Engineer duly registered licensed to practice within a discipline applicable to excavation work, in the state where the project is located.
 - e. Any other pertinent data required for record purposes by the Engineer.
 4. Receipt of the information by the Architect will not relieve the contractor of the sole responsibility for the adequacy of the braces excavation system, and for assuring that there will be no resulting damage to adjacent existing pavement, utilities, or structures, and for providing safe conditions within the sheeted areas.
 5. Further for the record, upon completion of the work of this section, the contractor shall submit three copies of all records of survey, vibration monitoring and inspection of existing structures to the Architect.
 6. Work shall not be started until all materials and equipment necessary for construction are either on the site of the work or satisfactorily available for immediate use as required.
 7. The sheeting shall be sufficiently tight to minimize any resulting lowering of the groundwater level outside the excavation.
 8. The sheeting shall be driven by approved means to the design elevation. No ends or edges of sheeting shall be left exposed in a manner, which could create a possible had to safety of the public or a hindrance to traffic of any kind.
 9. The satisfactory construction and maintenance of the excavation support system, complete in place, shall be the responsibility of the contractor.

3.08 SUBGRADE PREPARATION

- A. Bring all areas to required subgrade levels as specified and as determined from the Drawings.
 10. Maintain all subgrades for site improvements in satisfactory condition, protected against traffic and properly drained, until the surface improvement is placed. In areas to receive pavement or other surface materials, at top and bottom of embankments, along swales and elsewhere, place sufficient grade stakes to facilitate checking the subgrade levels. Correct all irregularities, compacting thoroughly any fill materials.
 11. Check all manhole covers, grates, valve boxes and similar structures for correct elevation and position and make, or have made any necessary adjustments in such structures.
 12. All subgrades must be inspected and approved by the Architect before site improvements are made.
 13. The asphalt, topsoil/subsoil, root balls, organic soil, existing fill, and other deleterious matter shall be entirely removed from within the proposed building footprint.
 14. Topsoil/subsoil, asphalt, organic material, root balls, and other deleterious material shall be entirely removed from within the paved areas.

15. Tree stumps, root balls, and roots larger than ½ inch in diameter shall be removed and the cavities shall be filled with Structural Fill within the building footprint and Ordinary Fill beneath the subbase layer within paved areas.
16. The base of the footing excavations in the natural soil shall be compacted with a dynamic vibratory compactor weighing at least 200 pounds and imparting a minimum of 4 kips of force to the subgrade, before placing concrete.
17. The subgrades of slabs and paved areas in the natural soil shall be compacted with a heavy vibratory roller compactor imparting a dynamic effort of at least 40 kips.
18. Where soft zones are revealed by the compaction effort and where organic soil is exposed, the soft materials or organic soil should be removed and replaced with Structural Fill within the building and with Ordinary Fill beneath the subbase of paved areas
19. Due to the high susceptibility of the natural soil for disturbance under foot and vehicular traffic, a minimum of 12 inches of Structural Fill shall be placed under footings on top of the natural soil to provide a firm working surface during placement of formwork and rebar.
20. Fill placed within the footprint of the proposed building shall meet the gradation and compaction requirements of Structural Fill.
21. Fill placed under the subbase of paved areas, shall meet the gradation and compaction requirements of Ordinary Fill.
22. Fill placed in the top 12 inches beneath sidewalks shall consist of Structural Fill with less than 5 percent fines.
23. When crushed stone is required in the drawings or it is used for the convenience of the contractor, it shall be wrapped in a geotextile fabric for separation.

3.09 PROTECTION, SHORING AND DEWATERING

- A. Protect open excavations with steel plates, fencing, warning lights and other suitable safeguards.
24. Provide all pumps and pumping facilities to keep all excavations free from water from whatever source at all times, when work is in progress.
 25. The contractor shall comply with the Town of Maynard Stormwater Management Bylaws, Drainage System Bylaws and MS-4 General Permit requirements as enforced by the Maynard Department of Public Works.
 26. The Contractor shall control the grading in areas under construction on the site so that the surface of the ground will properly slope to prevent accumulation of groundwater and surface water in excavated areas and adjacent properties.
 27. The Contractor shall provide, at his own expense, adequate pumping and drainage facilities to maintain the excavated area sufficiently dry from groundwater and/or surface runoff so as not to adversely affect construction procedures nor cause excessive disturbance of underlying natural ground. The flows of all water resulting from pumping shall be managed so as not to cause erosion, siltation of drainage systems, or damage to adjacent property.
 28. The groundwater level shall be maintained at 12 inches beneath the bottom of excavation or deeper until the excavation is backfilled to at least 2 feet above the groundwater level.
 29. Damage resulting from the failure of the dewatering operations of the Contractor, and damage resulting from the failure of the Contractor to maintain all the areas of work in a suitable dry condition, shall be repaired by the Contractor, as directed by the Engineer, at no additional expense to the Owner. The Contractor's pumping and dewatering operations shall be carried out in such a manner as to prevent damage to the Contract work and so that no loss of ground will result from these operations. Precautions shall be taken to protect new work from flooding during storms or from other causes. Pumping shall be continuous to protect the work and/or to maintain satisfactory progress.
 30. All pipelines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected. Water from the trenches, excavations, and stormwater management operations shall be disposed of in such a manner as to avoid public nuisance, injury to public health or the environment, damage to public or private property, or damage to the work completed or in progress.

31. The Contractor shall excavate interceptor swales and ditches, as necessary, prior to the start of major earthmoving operations to reduce the potential for erosion and to keep areas as free from surface and ponded water as possible. All piping exposed above ground surface for this use, shall be properly covered to allow foot traffic and vehicles to pass without obstruction.
32. Should surface, rain or groundwater be encountered during the operations, the Contractor shall furnish and operate pumps or other equipment and provide all necessary piping to keep all excavations clear of water at all times and shall be responsible for any damage to work or adjacent properties for such water. All piping exposed above ground surface for this use, shall be properly covered to allow foot traffic and vehicles to pass without obstruction.
33. The presence of groundwater or stormwater in soil will not constitute a condition for which an increase in the contract price may be made. Under no circumstances place concrete fill, lay piping or install appurtenances in excavation containing free water. Keep utility trenches free of water until pipe joint material has hardened and backfilled to prevent flotation

3.10 DUST CONTROL

- A. Comply with 310 CMR 7.09 "Dust, Odor, Construction and Demolition" of the Commonwealth of Massachusetts.
 34. Maintain all excavations, embankments, stockpiles, haul roads, permanent access roads, plant sites, waste areas, borrow areas, and all other work areas free from dust which would cause the standards of air pollution to be exceeded or cause a hazard or nuisance to others.
 35. Take necessary measures to control dust resulting from construction operations and do prevent spillage of material on public roads and streets.
 36. Provide wet machine sweeping of street surfaces after each workday or as needed to minimize dust and sediment.

3.11 MAINTENANCE

- A. Protection of graded areas: protect newly graded areas from traffic and erosion. Keep free of trash and debris.
 37. Repair and reestablish grades in settled, eroded, and rutted areas to specified tolerances.
 38. Reconditioning compacted areas: where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.
 39. Settling: where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add fill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.
 40. Unless directed otherwise by the Town of Maynard Department of Public Works, erosion control measures shall be maintained, inspected, repaired as required by the Architect or Department of Public Works representative and left in place.

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

3.12 RUBBISH REMOVAL

- A. The General Contractor shall remove all waste and debris and dispose daily in accordance with requirements of Section 01 74 19 – Construction Waste Management and Disposal.

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 31 21 00

SITE PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Section includes, without limitation, providing:
 - 1. The contractor shall provide all equipment and do all work necessary to demolish and/or remove the structures indicated and prepare the site as indicated on the Drawings.
- B. Extent: As shown, if not, as follows:
 - 1. As shown on the drawings and as specified.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 10 00 - Site Clearing
 - 2. Section 31 21 01 - Site Utilities Preparation
 - 3. Section 31 20 00 - Earth Moving
 - Section 31 25 00 –Erosion & Sedimentation Controls

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.
- B. The following shall be submitted and approved before work begins:
 - 1. Permits and notices authorizing building construction.
 - 2. Permits required by Maynard Department of Public Works for utility disconnections or temporary connections.
 - 3. Contractor's base schedule.
 - 4. Street Cut permit.
 - 5. Certificates of severance of utility services.
 - 6. Permit for transport and legal disposal off-site of demolition material and debris.
 - 7. Plan showing the contractor's temporary site layout, including the location of field trailers, staging areas, construction fencing limits and gate locations.
 - 8. A list of all site operations and programs to be accommodated during the construction period.
- C. Pre-pavement and site demolition photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by site clearing operations. Submit before the Work begins.

1.05 QUALITY ASSURANCE

- A. Pre-Construction Conference:
- B. Review requirements of site clearing work to be performed.
- C. Review areas where existing materials and conditions are to remain and which elements require protection.

1.06 PROTECTION

- A. Do not interfere with use of adjacent buildings. Maintain free and safe passage to and from accessible entrances, delivery and garbage areas, and for emergency vehicles.
- B. Prevent movement or settlement of adjacent structures. Provide and place bracing or shoring and be responsible for safety and support of structures. Assume liability for such movement, settlement, damage, or injury.
- C. Cease operations and notify Architect immediately if safety of adjacent structures appears to be endangered. Take precautions to properly support structures. Do not resume operations until safety is restored.
- D. Prevent movement, settlement or collapse of adjacent services, sidewalks, driveways and trees. Assume liability for such movement, settlement, or collapse. Promptly repair damage at no cost to the Owner.
- E. Maintain street, sidewalk access, install signing, provide traffic channeling devices as required to protect general public, workers, and adjoining property.

1.07 EXISTING CONDITIONS

- A. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Disconnect and stub off. Notify the affected utility company in advance and obtain approval before starting this work.
- B. Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents.

1.08 MAINTAINING TRAFFIC

- A. Do not close or obstruct roadways without permits, adequate notice to Town Departments and Town approved detours and traffic management plans.
- B. Conduct operations with minimum interference to public or private roadways.
- C. The contractor shall not interfere with the existing Green Meadows School day to day operations.

1.09 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. See plans for plaques, sculpture, and decorative light covers that shall be stockpiled, cataloged, cleaned, and either re-installed, or transported to owner appointed location.
- C. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.10 WARRANTY

- D. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.01 SALVAGING

- A. Materials indicated on the Drawings or designated in the field by the Owner to be salvaged shall be carefully removed and delivered to a secure location on site.
- B. Storage requirements during construction. - storage site/location to be determined by the Contractor and reviewed by Architect and Owner.

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Backfill areas excavated as a result of site demolition. Use backfill material specified in Section 31 20 00, EARTH MOVING.
- B. Rough grade areas affected by demolition and leave areas level, maintaining grades and contours of site based on the proposed site plan provided.
- C. Site Access and Temporary Controls: Conduct demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

3.02 ABANDONED PIPES - DRAINS AND SEWERS

- A. Contractor shall arrange with appropriate utility company for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Drain and sewer pipes indicated to be abandoned shall be completely filled with an 8 in. thick mortar jointed masonry bulkhead. If a pipe indicated to be abandoned and plugged appears to be in active service, it shall not be plugged, and the Architect shall be notified.
- C. All pipes designated to be removed or disconnected from a structure shall be removed completely and the structure shall be repaired with a solid 8 in. masonry plug and coated with hydraulic cement.
- D. Other utility pipes shall be cut and capped outside the excavation and abandoned piping and structures shall be removed from the site.
- E. Frames, grates, covers, traps, and other castings shall be removed and disposed of by the contractor.

3.03 REMOVALS

- A. Materials indicated on the Drawings or designated by the Architect in the field to be removed shall be dismantled, removed, and legally disposed of off-site or stockpiled as indicated on the Drawings.
- B. Areas formerly occupied by structures shall be regraded to conform with the grading plan provide following demolition and removal.

3.04 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Existing memorials, fences, stone walls, catch basins, structures and utilities shall be suitably protected from damage.

3.05 PAVEMENT AND CURB REMOVAL

- A. Where pavement and/or curb to be removed abuts pavement and curb to remain, a neat, straight saw cut shall be made with a concrete power saw.
 - 1. Pavement and/or curb removal shall include removal of subbase as required to accommodate proposed construction materials.

3.06 SITE RESTORATION

- A. Below-Grade Areas: Grade below-grade areas ready for further excavation or new construction. Backfill footings of all structures removed as per Section 31 21 00 EARTH MOVING.
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades. Grading shall conform to the grading plan provided. Access roads and laydown areas shall be constructed as per the plans.

3.07 PROTECTION OF PROPERTY TO REMAIN

- A. The Contractor's attention is directed to Section 31 20 00, EARTH MOVING for protection of utilities to remain, Refer to 31 10 00 SITE CLEARING for the protection of existing trees, fences, etc.

3.08 DISPOSAL OF MATERIALS

- A. Material resulting from demolition and not scheduled for salvaging shall become the property of the Contractor and shall be suitably disposed of off-site. Disposal shall be performed as promptly as possible and not left until the final clean up.
- B. Debris, rubbish, and other material shall be disposed of promptly and shall not be left until final cleanup of site.

END OF SECTION

SECTION 31 21 01

SITE UTILITIES PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Related documents: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. This section consists of providing all materials labor and equipment including but not limited to laying out and preparing for and completing excavation and trenching for pipelines and all associated handling and storage of materials, dewatering as necessary, and subgrade preparation and surface restoration of the trench. Providing trench protection for workers and protection of the trench work. Obtaining permits required to perform the installation of each utility. The work includes preparing trenches including excavating and backfilling for utilities to be installed or completed by others.
- B. The work includes the removal of the existing electrical transformer currently servicing the existing Green Meadow School and relocating the transformer, primary power feed and secondary power feed as needed to maintain operation of the existing building without interfering with the normal operation of the school.
- C. Install portions of the conduits to be used for electrical power in locations as noted on the plan.
- D. Provide excavation, trenching, and backfill for the geothermal piping that extends from the geothermal wells to the vault used to gather the piping.
- E. Provide excavation and backfill for the utility vault used to gather the well piping.
 - 1. The extent of work is as shown on the geothermal drawings and as specified in the relative specification sections.
 - 2. Remove and dispose of all unused soil excavated from the trenching operation.

1.03 RELATED WORK AS SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 10 00 - Site Clearing
 - 2. Section 31 20 00 – Earth Moving
 - 3. Section 31 21 00 - Site Preparation
 - 4. Section 31 25 00 – Erosion and Sedimentation Controls
 - 5. Section 33 61 37 – Geothermal Ground-Source Heat Exchange System

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS

- 1.01 Provide and install sand to backfill the geothermal piping field trenches per Section 33 61 37 – Geothermal Ground-Source Heat Exchange System specifications.

PART 3 - EXECUTION

3.01 DIG SAFE COORDINATION

- A. Contractor shall coordinate with DIG SAFE (811) and request a full mark out of all utilities on site and in public ways. The contractor shall mark out dig safe limits to coincide with the project utility limits and keep the dig safe limit marks visible by remarking the limits throughout the project construction. An electronic copy of the dig safe ticket shall be sent to the architect and the various Town Departments upon request. The contractor is required to renew the dig safe ticket at the intervals required by Dig Safe and call Dig Safe for remarks as needed.

3.02 UTILITY MARK OUT LIMITS

- A. Before excavation establish the route of proposed utility alignments in the field by marking out locations for review by the architect and confirm that the routes will be obtainable when compared with the dig safe marks labeled by various utility companies.
- B. Trench limits in pavement may be jack cut for temporary patching and shall be saw cut with power driven saws for final patching.
- C. Coordinate and mark out the locations of the geothermal trenches before excavation work begins for review by the Architect.

3.03 TEST PITS FOR CONFIRMATION

- A. Exposure of buried utilities that might interfere with alignment or grade shall be accomplished by Exploratory Excavation (test pits) prior to construction. If any existing utility interferes with the proposed work in either alignment or grade and has to be moved, such work shall be done by or arranged for by the CONTRACTOR.
- B. Exploratory Excavation via test pits performed by the contractor may be required either prior to or during construction to verify location(s) of the utilities or underground facilities when there are discrepancies with surface "locates" or discrepancies with how the utilities are identified on the drawings in relation to their true underground location.
- C. The CONTRACTOR shall communicate to the ENGINEER and they shall agree on the appropriateness to proceed with Exploratory Excavation prior to commencing with the work.

3.04 UTILITY EXCAVATION

- A. During excavation, materials suitable for backfilling shall be piled in an orderly manner and a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. Excavated material shall be piled on one side of the trench only, to permit ready access to existing fire hydrants, valves, manholes and other appurtenances. Surface drainage of adjoining areas shall be unobstructed.
- B. All excavated materials not required or suitable for backfill shall be removed from the site and disposed of in a manner and/or by methods acceptable to OWNER. The architect will require certification of proper disposal procedures copies of dump slips, etc.
- C. The contractor shall grade or provide temporary dikes as necessary to prevent surface water from flowing into excavations, and any other water accumulating therein shall be promptly removed. Under no circumstances shall water be permitted to rise in un-backfilled trenches until after the pipe has been placed, tested and covered to final grade with backfill. Any pipe having its alignment or grade changed as a result of a flooded trench shall be re-laid at no additional cost to the OWNER.
- D. Adequate provisions shall be made for maintaining the flow of sewers, drains and water courses encountered during construction. Culverts, ditches, fences, crossings and structures that are disturbed by this construction, shall be satisfactorily restored to their original condition upon completion of the work.

3.05 SAFE SITE CONDITIONS

- A. The CONTRACTOR or a CONTRACTOR DESIGNATED COMPETENT PERSON under his/her employment shall be responsible for enforcing safety and maintaining safe working conditions and all trenching and shoring to conform to OSHA regulations.
- B. The CONTRACTOR shall employ qualified, properly trained personnel to design shoring, perform safety inspections of the trenches, and other operations involving safety procedures, as prescribed by OSHA.
- C. The CONTRACTOR shall do all shoring, bracing and tight sheeting required to prevent caving and to protect his workmen, in accordance with Occupational Safety and Health (OSHA) Regulation Requirements, and to protect adjacent property and structures.

3.06 STRUCTURES ENCOUNTERED

- A. The CONTRACTOR shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the OWNER.

3.07 OVERHEAD UTILITIES

- A. The CONTRACTOR shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities such as power lines, streetlights, telephone lines, television lines, poles or other appurtenances during the course of construction of the Project.

3.08 SURVEY MARKERS AND MONUMENTS

- A. The CONTRACTOR shall use every care and precaution to protect and not disturb any survey markers or monuments, such as those that might be located at lot or block corners, property pins, street intersection monuments or addition line demarcation. Such protection shall include marking with flagged high stakes and markers and field coordination with operators and other workers and close supervision. No monument shall be disturbed without prior approval of the OWNER and ENGINEER. Any survey marker or monument that is disturbed or destroyed by the CONTRACTOR without approval during construction of the Project shall be replaced at no cost to the OWNER by a licensed land surveyor.

3.10 DEWATERING TRENCHES AND DRILLING

- A. Where ground water is encountered in the excavation, it shall be removed to avoid interfering with pipe laying, footing placement and other construction operations. The contractor shall provide all dewatering design and equipment.
- B. Dewatering shall be considered a cost paid for as part of the contractor's utility installation and excavation work. No separate payment will be made for dewatering utility trenches or handling water generated by drilling operations.
- C. Discharge from dewatering operations shall be directed to storm sewers and into catch basins only based on the approval received from the Town DPW.
- D. All discharge dewatering systems shall control silt and any turbidity from entering the Town drainage system or adjacent wetlands. The use of silt sacks is required in Section 31 25 00 Temporary Erosion & Sediment Controls. All silt sacks shall be in place, inspected and approved before any excavation work shall commence.
- E. Discharge from dewatering operations shall be treated in accordance with rules and regulations established by the Massachusetts Department of Environmental Protection (MDEP). These activities require coverage under the Town of Maynard MS-4 permit.
- F. For general trench dewatering the contractor shall use silt bags fitted on all dewatering hoses. The silt bags shall be adequately sized to eliminate silt and turbidity from the dewatering discharge. The Town of Maynard has the right to inspect the contractor's dewatering equipment and stop the contractor's work if it is found that the contractor is in violation of the Town's MS-4 Permit or any of the Town's By-Laws.
- G. To mitigate/remove fines from the slurry generated by the geothermal well drilling the contractor shall employ a pump and filtering system with frac tanks or other containment features as needed to eliminate the silt and fines generated by

the drilling operation. The materials, equipment, and design of this type of dewatering system shall be designed by a person competent in the assembly, operation, and maintenance of the filtering system.

- H. All water exiting the contractor's pumping and sedimentation/filtration equipment shall be clear and free of turbidity. The contractor's filter system and containment system shall be adequately sized to manage the water generated by the dewatering operation without overtopping or overflowing.
- I. All silt, fines or other waste generated by filtering and settling operations shall be legally disposed of by the contractor. The costs associated with disposing of the silt, fines and other waste material generated by dewatering shall be included as part of the cost of the utility and drilling installation. No separate payment will be made for dewatering of any kind.

3.11 GENERAL EXCAVATION OPERATIONS

- A. The CONTRACTOR shall excavate as necessary at the locations shown on the drawings, staked in the field or otherwise specified for the installation of the structure, service pipelines and other utilities as noted on the drawings or as required.
- B. The CONTRACTOR shall take precautions and protect all adjoining private and public property and facilities, including underground and overhead utilities, curbs, sidewalks, driveways, structures, trees, and fences. Any disturbed or damaged facilities will be suitably restored or replaced by the CONTRACTOR at no cost to the owner.
- C. Crossing under sidewalks or curbs may be made by tunneling is not allowed. If the CONTRACTOR elects to remove a portion of the sidewalk or curb, he must use a concrete saw for making neat joints corresponding to existing joints, compact the backfill as specified, and install a new concrete sidewalk or curb section.
- D. Excavations for manholes, hydrants, structures, and other appurtenances shall be sufficient to leave clearance adequate for proper compaction efforts on all sides. The depth, provisions for removing water, and other applicable portions of these specifications shall apply to excavation for appurtenances.

3.12 TRENCH DIMENSIONS

- A. Trench dimensions shall be as specified below:
 - 1. Trench width from the trench bottom to a point one foot (12 inches) above the top of the pipe shall be no less than the outside diameter of the pipe plus twenty-four (24) inches plus the shoring on each side of the trench. The width of the trench from the bottom of the trench to the existing ground surface shall be adequate to allow proper compaction effort along both sides of the pipe.
 - 2. Depth of Trench. Trench depth shall be as required for the invert grade or pipe bury depth shown on the plans. Care shall be taken not to excavate below the required depth.
 - 3. When soft or unstable material or rock is encountered at the subgrade, which will not uniformly support the pipe, such material shall be excavated to an additional depth as necessary and backfilled with Gravel Pipe Bedding Material per Section 31 20 00 Earth Moving.
 - 4. Were trench depths exceed 20 feet, the contractor shall provide trenching protection designed by a Registered Professional Engineer per OSHA standards.

3.13 TRENCH BOTTOM

- A. The bottom of the trenches shall be accurately graded to the line and grade show on the drawings or shall provide the cover depth required by the utility owner. Bedding material shall provide uniform bearing and support for each section of the pipe at every point along its entire length. Bell holes and depressions for joints shall be dug after the trench bedding has been graded, and shall be only of such length, depth and width as required for properly making the particular joint type. Unauthorized over depths shall be backfilled with bedding material at the CONTRACTOR's expense.

3.14 TIME OF OPEN TRENCHES

- A. The CONTRACTOR will be required to conduct his work so that trenches will remain open a minimum possible time.

- B. No trench excavating shall begin until approved compaction equipment is at the site where the excavating is to take place. All backfill and compacting shall be completed in all trenching and structural excavations within a maximum distance based on the work that can be accomplished in a day.
- C. The contractor shall provide road plates to cover trenches that are not backfilled and compacted at the end of a workday. The plates shall be shimmed and wedged with temporary bituminous when placed across roadways.
- D. No trenches are to be left plated over holiday weekends. Trenches shall be backfilled as soon as the utility is inspected and approved.

3.15 EQUIPMENT

- A. The use of trench digging machinery will be permitted except in places where its operation will cause damage to existing structures or features, in which case hand methods shall be employed.
- B. Any equipment on tracks, or that have outriggers which are to be used on pavement, shall be equipped with suitable pads to prevent damage to the pavement. All pavement damaged during construction by the CONTRACTOR's equipment shall be replaced to its original condition by the CONTRACTOR.

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

SUMMARY

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- B. Section includes, without limitation, providing:
 - 1. Installation and maintenance of straw wattles and sedimentation fence, silt sacks over catch basins, and construction entrance treatment.
 - 2. Slope stabilization with loam and seeding.
 - 3. Loaming and Seeding areas disturbed by excavation around retaining walls, over the geothermal wells and pipe trenches.
 - 4. Sediment removal and disposal.
 - 5. Periodic sweeping of roadway and paved surfaces with mechanical sweepers with water sprays.
 - 6. Removal and disposal of erosion control devices.
 - 7. Final Cleanup
- C. Extent: As shown, if not, as follows:
 - 1. Furnish all labor, materials, equipment and other incidentals required to complete all sedimentation and erosion control work as shown or specified.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 10 00 - Site Clearing
 - 2. Section 31 20 00 - Earth Moving
 - 3. Section 31 21 00 - Site Preparation
 - 4. Section 31 21 01 – Site Utilities Preparation
 - 5. Section 33 32 23 – Segmental Retaining Walls

1.04 PERFORMANCE REQUIREMENTS

- A. The Contractor shall be responsible for the timely installation and maintenance of all sedimentation control and dewatering devices necessary to prevent the movement of sediment from the construction site to off site areas or into adjacent properties, wetlands, or other drainage systems. Measures in addition to those shown on the contract plans necessary to prevent the movement of sediment off site including temporary sedimentations basins trenches and check dams shall be installed, maintained, removed and cleaned up at the expense of the Contractor. No additional charges to the owner shall be considered.
- B. Sedimentation and erosion control measures shall conform to the requirements of the Town of Maynard Drainage System By-Law and Stormwater Management By-Law requirements and as shown on the drawings.
- C. Sedimentation fencing and straw wattles shall be subject to inspection of the Town of Maynard DPW, Conservation Commission or their appointed representative. The contractor shall comply with any changes and modifications made by the Town representative.
- D. All Soil Erosion and Sediment Control practices are to be installed, inspected, and approved prior to any major soil disturbance, and maintained until permanent protection against soil erosion is established.

- E. Any disturbed areas that will be left exposed for more than thirty (30) days, and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw or equivalent material, at the rate of two (2) tons per acre, according to MassDOT Standards.
- F. Immediately following initial disturbance, all critical areas subject to erosion (i.e. steep slopes and roadway embankments) will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at the rate of two (2) tons per acre, according to MassDOT Standards.
- G. Permanent slopes shall finish seeded with 6 inches of loam and hydroseeded as specified.
- H. Any steep slopes receiving pipeline installation will be backfilled and stabilized daily, as the installation continues (i.e. slopes greater than 3:1).
- I. A subbase course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas.
- J. Unfiltered dewatering is not permitted. Take all necessary precautions during all dewatering operations to eliminate sediment transfer. The contractor shall employ the use of silt bags frac tanks or other sediment removal controls during dewatering operations. The discharge from the contractor's dewatering activities shall be clear and free of turbidity. Refer to Section 31 21 01 Site Utilities Preparation for additional dewatering requirements.
- K. All soil washed, dropped, spilled, or tracked outside the limit of disturbance or onto public rights-of-way will be removed immediately. The paved surface, including sidewalks and roadways shall be swept clean.
- L. The property owner shall not be responsible for any erosion or sedimentation that may occur below storm water outfalls or offsite as a result of construction of the project.
- M. Provide permanent loaming and seeding of all exposed non paved areas within ten (10) days after final grading. Hay mulching is required on all seeding. When hydro-seeding, mulch shall not be included in the tank with the seed.

1.05 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - MATERIALS

2.01 SEDIMENTATION FENCE

- A. Sedimentation fence shall be biodegradable burlap silt fence with stakes pre attached. Prefabricated silt fence shall be as manufactured by Environmental Research Corps., Amoco Fabrics, DGI Industries or approved equivalent.
- B. Stakes shall be spaced in accordance with the contract plans. All stakes shall be wood or steel, supplied with sharp machined tips to the required length.

2.02 STRAW WATTLES

- A. Straw wattles are a HDPE photodegradable netting filled with an organic fill media consisting of agricultural straw. Each wattle will be 25' in length and secures with hog ring staples or tied at each end. Wattle netting will consist of HDPE netting with a diamond shaped aperture measuring .5 inches x .5 inches, weighing .5 ounces per foot when fully expanded. Fill material will be 100% chopped agricultural straw weighing approximately 2 lbs. per foot.
- B. Physical Specifications:
 - Diameter 12 inches (22.86cm)
 - Length 25.00 feet (7.62 meters)
 - Weight 50 pounds (22kilograms)

Last Modified: 05/22/2024 at 12:20PM EDT

2.03 STRAW WATTLE STAKES

- A. Wood stakes for straw wattles shall be two inch (2") square by thirty-two inches (32") long, hardwood stakes.

2.04 SILT SACKS

- A. Silt sacks shall be made from biodegradable burlap similar to the material used in sedimentation fencing and shall be as manufactured by Environmental Research Corps., Amoco Fabrics, DGI Industries or approved equivalent.
- B. All silt sacks shall be larger than the catch basin grate to allow removal. Refer to products section for silt sack requirements.
- C. Silt sacks shall be provided with sleeves attached along each side and lifting chains or cables to allow removal when the sacks are full. The contractor shall inspect the sacks weekly and after storm events to check the accumulated level inside the sack. When the sacks are approximately 1/3 full the contractor shall remove, clean, and reinstall the sack or replace the sack with a new one.

2.05 CONSTRUCTION ENTRANCE

- A. Materials provided will be as indicated on Construction documents. All construction entrances shall be comprised of crushed stone as detailed or approved track out matting material.
- B. Construction entrances shall be inspected and cleaned periodically in frequency with the use of the entrance. Daily during excavation and backfill operations and weekly once the building construction is underway. The contractor is responsible for dust and debris being tracked out of the site and onto the roadway and shall provide wet machine sweeping daily if needed or directed to clean the road surface.

2.06 LOAMING AND SEEDING DISTURBED AREAS

- A. Loam for disturbed areas, shall be topsoil excavated and stacked from the site or imported loam.
- B. Topsoil excavated and stacked in accordance with 31 10 00 Site Clearing shall be screened and covered until ready for re-use. The contractor shall have the screened topsoil tested for comparison with the MassDOT standard M1.05.0 loam specifications. The contractor will amend the topsoil as needed to bring the soil into compliance with the M1.05.0 specification and retest the amended soil for proof of compliance
- C. Loam imported for use on site shall meet MassDOT standard specifications for Loam M1.05.0 only. Impervious soil borrow shall not be used.
- D. Submit samples, and testing results of the loam from the supplier to the Architect for comparison to the MassDOT Standard Specification for approval before hauling any material to the site.
- E. Seeding shall be by hydroseed method only. All areas to be loamed and seeded shall be seeded using seed in compliance with MassDOT Standard Specifications meeting: Table M6.03.0-1 Grass Seed Requirements for Lawn Grass Areas only.

PART 3 - EXECUTION

3.01 SEDIMENTATION FENCE AND STRAW WATTLE INSTALLATION

- A. Sedimentation fences and Straw Wattles shall be positioned as indicated on the contract plans and as necessary to prevent off site movement of sediment produced by construction activities as directed by the engineer and as shown on the plans.
- B. Dig trench approximately six inches (6") wide and six inches (6") deep along proposed fence lines.
- C. Install silt fence in accordance with manufacturer's requirements and as detailed on the contract plans.
- D. Backfill trench with excavated material and install a single row of straw wattles, as indicated on the plans, against the sedimentation fence and stake with hardwood stakes 4 feet on center. Use additional stakes at overlapping ends.

- E. Furnish, place and maintain sedimentation fence and straw wattles as specified and as shown on the plans. Remove upon completion of all work, clean out, rake, and seed disturbed areas.

3.02 SILT SACK INSTALLATION

- A. Silt Sacks shall be installed as indicated on the contract plans and as necessary to prevent off-site movement of sediment produced by construction activities as directed by the engineer.

3.03 CONSTRUCTION ENTRANCE INSTALLATION

- A. The Construction Entrance shall be located as indicated on the contract plans and as necessary to prevent off-site movement of sediment produced by construction activities as directed by the engineer.

3.04 LOAM AND SEED

- A. Before topsoil or loam is spread, the contractor shall prepare the subgrade.
- B. All areas to receive topsoil or loam shall be free of construction debris, refuse, compressible or decayable materials and standing water. The area upon which the above materials are to be placed shall be raked, harrowed, or dragged to form a smooth surface. All stones, undesirable growth and debris larger than 2 in. in diameter shall be removed from the area and disposed of by the Contractor outside the location.
- C. Loam shall not be handled or placed when the ground or the loam is frozen or saturated, i.e., when squeezed sample shows any sign of free moisture.
- D. Loam shall be placed in lifts not to exceed 4 in. After each lift, the soil shall be thoroughly mixed into the soil layer beneath it. Compaction of each lift shall be minimal, sufficient only to achieve the required grades. Over-compaction of existing soils or fills that would be detrimental to planting objectives shall be corrected by tilling or other means at no additional cost.
- E. On steep slopes as noted on the drawings, the contractor shall install jute mesh to prevent erosion and rutting of the loam and seed.
- F. Seeding shall be applied directly following the top soil/loam placement and grading is completed. If the graded areas have become matted, excessively compacted, rutted or uneven, the contractor shall rake and scarify the surface to the approval of the Architect before applying the seed.
- G. The application of limestone as necessary, fertilizer as necessary and grass seed shall be accomplished in one operation by the using an approved hydroseed machine. The materials shall be mixed with water in the machine and kept in an agitated state in order that the materials may be uniformly suspended in the water. The spraying equipment shall be so designed that when the solution is sprayed over an area the resulting deposits of limestone, fertilizer and grass seed shall be equal in quantity.
- H. All grassed areas shall be kept watered until the seed has germinated and the grass has grown and filled in. Repair any bald areas by raking the surface and reapplying the approved seed mixture.

3.05 MAINTENANCE AND INSPECTIONS

- A. Inspections:
 - 1. The contractor shall make a visual inspection of all sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off site areas Contractor shall promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.

B. Maintenance:

1. Sedimentation Fences and Straw Wattles

- a. Remove accumulated sediment once it builds up to one-half (1/3) of the height of the straw wattle.
- b. Replace damaged fabric, or patch with a two foot (2') minimum overlap. Reset wattles that have raised above ground elevation and remove accumulated silts.
- c. Make other repairs as necessary to ensure that the fence is filtering all runoff directed to the fence.
- d. Replace straw wattles when saturated with silt or otherwise damaged.

3.06 RUBBISH REMOVAL

- A. Once the site has been fully stabilized against erosion, remove all sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner. Grade all areas disturbed during this process and stabilize against erosion with surfacing materials and erosion control devices as directed by the Engineer until vegetation has sufficiently developed.
- B. The General Contractor shall remove and dispose daily of all waste and debris in accordance with the requirements of Section 01 74 19 – Construction Waste Management and Disposal.

END OF SECTION

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 32 16 00

WOOD BEAM GUARD RAIL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Section includes, without limitation, providing:
 - 1. The contractor shall provide all equipment and do all work necessary to demolish and/or remove the structures indicated and prepare the site as indicated on the Drawings.
- B. Extent: As shown, if not, as follows:
 - 1. The contractor shall install wood guard rails along the access road in locations noted on the drawings.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section includes, without limitation, providing:
 - 1. Section 31 20 00 - Earth Moving
 - 2. Section 31 21 00 - Site Preparation
 - 3. Section 31 21 01 - Site Utilities Preparation
 - 4. Section 31 25 00 - Erosion & Sedimentation Controls
 - 5. Section 33 32 23 - Segmental Retaining Walls

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. American Wood Protection Association.
 - 2. Southern Forest Products Association.
 - 3. International Code Council (ICC) Evaluation Service.
 - 4. AWPA standards C2 and C14 for Treated Timber.
 - 5. ASTM A123 for hot dipped galvanized bolts washers and nuts.
 - 6. ASTM F1544 Grade 36 bolts.
 - 7. ASTM F844 for flat washers.
 - 8. ASTM A194 for fastening nuts.

1.05 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 - Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.
- B. The following shall be submitted:
 - 1. Catalog cuts of timber posts and rails with certifications.
 - 2. Material samples of the wood beam rails and posts.
 - 3. Catalog cuts of the bolts, washers and nuts used to fasten the components together.

PART 2 - PRODUCTS

2.01 PRESSURE TREATED TIMBERS

- A. All pressure treated lumber used for wood guard rail posts and beams shall meet AWWA standards C2 and C14 for Treated Timber for Highway Construction.
- B. All treated timbers shall be straight, clean and free of embedded soil, grease or other discoloring matter and tagged with the treatment and use labeled.

2.02 CARRIAGE BOLTS, NUTS AND WASHERS FOR WOOD BEAM ATTACHMENT

- A. Carriage Bolts shall meet ASTM F1544 Grade 36 carriage bolts, diameter shall be as noted on the plans with matching nuts and flat washers as specified.
- B. All carriage bolts, nuts and washers shall be hot dipped galvanized. Hot-Dip Galvanized material shall meet or exceed ASTM A153.
- C. Flat washers shall be sized to the bolt diameter with an outside dimension of not less than 1-3/4". Flat Washer USS HDG or equal. Flat washers shall be manufactured from low carbon steel to meet ASTM F844.
- D. Nuts shall meet ASTM A194 2H heavy hex nuts hot dipped galvanized.
- E. Bolts shall be sufficient length to extend 1 inch beyond the back of the nut when fully tight.

PART 3 - EXECUTION

3.01 GUARD RAIL LAYOUT AND INSTALLATION

- A. Pre-stake the location of the guard rail posts and alignment of the rail prior to beginning installation for approval of the Architect or Owner's Representative. The alignment of the wood rail section shall be in alignment with the back of the retaining wall as shown on the drawings.
- B. The contractor shall coordinate the installation of the guard rail with the retaining wall and avoid conflicts between the retaining wall and the wood rail post installation. Potential conflicts between the retaining wall tie back system and the wood rail posts shall be resolved during the design of the retaining wall.
- C. Excavate for guardrail post based on the approved alignment using methods that minimize disruption to the compacted soil behind the retaining wall or other structures.
- D. The posts shall be set to the alignment at the correct height and plumb in both directions.
- E. Backfill the posts with select gravel or dense graded crushed stone, tamping the soil evenly on all four sides of the posts.
- F. Trim and align beams with the post notch and drill holes for bolts with the appropriate size bit. Bolt holes shall be snug enough that the bolts need to be driven into position.
- G. Install 2 bolt assemblies in each beam at each post connection.
- H. Evenly space bolts over the beam width leaving at least 1.5 inches from the bolt to the edge of the beam.
- I. Tighten all bolts until the carriage bolt head seat is flush with the face of the beam and the square portion of the head is completely embedded. Do not completely imbedded the bolt head into the beam face.

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

3.02 CLEAN UP

- A. Grade and compact dense graded stone evenly around the completed guardrail installation.
- B. Remove and dispose of all excess materials, packing debris, cut wood and metal scraps and trash.

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 32 31 70

CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Section includes, without limitation, providing:
 - 1. The contractor shall provide all materials, equipment, labor needed to install chain link fences as indicated on the Drawings.
- B. Extent: As shown, if not, as follows:
 - 1. Excavation of post holes, installation of fence posts in concrete, install fence rails and woven wire fence fabric.
 - 2. Remove and dispose of all packing materials, pallets and excess materials not used in the completed product.
 - 3. Grade around all fence posts and along the fence line on both sides and remove all excess soil from excavation and grade with 6 inches of loam and seed.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section includes, without limitation, providing:
 - 1. Section 31 20 00 - Earth Moving
 - 2. Section 31 21 00 - Site Preparation
 - 3. Section 31 21 01 - Site Utilities Preparation
 - 4. Section 31 25 00 - Erosion & Sedimentation Controls
 - 5. Section 33 32 23 – Segmental Retaining Walls

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. ASTM A121 Specification for Metallic-Coated Carbon Steel Barbed Wire
 - 2. ASTM A392 Specification for Zinc-Coated Steel Chain-Link Fence Fabric
 - 3. ASTM A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
 - 4. ASTM F552 Standard Terminology Relating to Chain Link Fencing
 - 5. ASTM F567 Standard Practice for Installation of Chain Link Fence
 - 6. ASTM F626 Specification for Fence Fittings
 - 7. ASTM F900 Specification for Industrial and Commercial Swing Gates
 - 8. ASTM F1043 Specification for Strength and Protective Coatings of Steel Industrial Chain Link Fence Framework
 - 9. ASTM F1665-08 Standard Specification for Polyvinyl Chloride (PVC) and Other Conforming Organic Polymer-Coated Steel Barbed Wire Used With Chain-Link Fence.

1.05 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

- B. The following shall be submitted:
 - 1. Shop drawings: Site plan showing layout of fence location with dimensions, location of gates and opening size, cleared area, elevation of fence, gates, footings and details of attachments.
 - 2. Material samples: provide representative samples of chain link fabric, framework and fittings.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Framework, posts, rails, fabric, and fittings for chain link fence system shall be single sourced from the same manufacturer.
- B. Chain Link Fence Manufacturers shall be Master Halco, Merchants Metals, American Fence and Supply Co. or approved equal.

2.02 FENCE POSTS AND HARDWARE

- A. Corner, End Posts, Gate Posts, and End Caps shall be schedule 40, 3 1/2" diameter black vinyl coated.
- B. Tension Bars shall be commercial grade 3/4" wide, Tension Straps Rail End Assemblies shall be sized to fit the posts and rails with factory black vinyl coating.
- C. Intermediate (line) Posts and Caps shall be 2 1/2" diameter schedule 40 black vinyl coating.
- D. All hardware shall be factory black vinyl coated and sized to fit the components per the manufacturer's requirements.

2.03 CHAIN LINK FENCE WOVEN WIRE FABRIC

- A. Steel Chain Link Fabric: 48 inch height as indicated on drawings. Mesh size shall be 2 inch, wire gauge shall be 9 gauge 0.148 inch core, knuckle finish (K&K) top and bottom,
- B. Zinc-Coated Steel Fabric shall be: factory vinyl coated gloss black after weaving.

PART 3 - EXECUTION

3.01 LAYOUT AND ALIGNMENT

- A. The contractor shall layout the fencing line based on the drawings and shall pre-stake the proposed alignment of the fences and the location of access gates before installation for inspection by the Architect or Owner's Representative.
- B. Once the alignment is approved, excavate the fence post locations and set the posts plumb in holes sized as noted on the plans.

3.02 INSTALLATION

- A. Set the posts in concrete against undisturbed earth as noted on the plans and ensure that the posts are and stay plumb during concrete curing. Do not install rails or fencing until concrete posts are cured.
- B. Remove all excess earth around the post footings and along the fence line before installation of the fence.
- C. The fence posts, rails, hardware and fabric shall be installed in accordance with the manufacturer's recommendations. All connection hardware shall be tightly secured with properly sized carriage bolts, nuts and lock washers. Rail to post spacing shall be even from post to post.
- D. Fabric shall be secured with #9 gauge black vinyl coated wire spaced as noted on the plans use additional ties as needed to secure fabric firmly to the rails. Tension fabric as needed to eliminate the fabric from sagging. All wire fabric shall be in line with the fence rails and taught.

**GREEN MEADOW ELEMENTARY SCHOOL - EARLY SITE PACKAGE
5 TIGER DRIVE, MAYNARD, MA 01754**

MAY 22, 2024

Mount Vernon Group Architects, Inc., Project No. 02021.10

- E. Clean and finish grade area after fence installation is complete. Remove and dispose of all excess materials, packing materials and soil.

END OF SECTION

Last Modified: 05/22/2024 at 12:20PM EDT

THIS PAGE IS LEFT INTENTIONALLY BLANK

Last Modified: 05/22/2024 at 12:20PM EDT

SECTION 32 32 23

SEGMENTAL RETAINING WALLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. Section includes, without limitation, providing precast modular block retaining wall blocks in the lengths and height established on the drawings. The work shall consist of furnishing materials, labor, equipment, and supervision for the construction of a precast modular block (PMB) retaining wall structure as manufactured by Redi-Rock or approved equal.
- B. The alignment, length and the height of the wall shall be modified and as needed to meet field conditions. Generally the completed wall shall be in accordance with the requirements of this section and in acceptable conformity with the lines, grades, design and dimensions shown in the project site plans.
- C. The work includes providing all materials, equipment and labor including but not limited to: the PMB components of all sizes, drainage pipe, excavation, grading and base preparation, crushed stone for drainage, geogrid reinforcement tie back fabric, and all excavation and backfill of tie back geogrid reinforcement fabric.
- D. The work under this section shall include the costs of the final structural design of the retaining walls prepared by a structural engineer registered in the State of Massachusetts and hired by the contractor to prepare of all calculations, design plans, and sections, elevations and all other certifications required by the Town of Maynard Building and Inspection Division and the Massachusetts State Building Code at no additional costs to the owner.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section includes, without limitation, providing:
 - 1. Section 31 10 00 –Site Clearing
 - 2. Section 31 20 00 - Earth Moving
 - 3. Section 31 21 00 - Site Preparation
 - 4. Section 31 21 01 - Site Utilities Preparation
 - 5. Section 31 25 00 – Erosion and Sedimentation Controls
 - 6. Section 32 16 00 – Wood Guard Rail
 - 7. Section 32 31 70 – Chain Link Fences and Gates

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. ACI 201 – Guide to Durable Concrete
 - 2. All ASTM requirements for manufactured precast concrete, casting, materials, curing and testing.
 - 3. All ASTM requirements for steel reinforcement and concrete components and admixtures.
 - 4. Massachusetts State Building Code for Design Criteria of Retaining Walls.
 - 5. Commonwealth of Massachusetts Department of Transportation (MassDOT) Highway Division:
 - 6. Standard Specifications for Highways and Bridges latest edition as posted on the MassDOT website.

1.05 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.
- B. The following shall be submitted:
 - 1. Catalog Cuts of the PMB retaining wall units with sufficient detail to ensure that the wall can be assembled in a fashion as designed by the manufacturer, without cutting. Include wall elevations with block types labeled and at least one section of each wall.
 - 2. Full set of design calculations to the satisfaction of the Massachusetts State Building Code requirements and as required by the local building inspector for approval. All calculations shall be stamped by a Registered Professional Structural Engineer with Massachusetts Registration and experience in retaining wall design.
 - 3. Provide catalog cuts of all components, blocks, filter fabric, pipe for drainage, geotechnical soil tie back fabric (if proposed) and samples of crushed stone used for backfilling and bedding.

PART 2 - PRODUCTS

2.01 PRECAST MODULAR BLOCK RETAINING WALL UNITS

- A. All units shall be wet-cast precast modular retaining wall units conforming to ASTM C1776.
- B. All units for the project shall be obtained from the same manufacturer.
- C. Concrete used in the production of the precast modular block units shall be first-purpose, fresh concrete. It shall not consist of returned, reconstituted, surplus or waste concrete.
- D. Concrete reinforcing steel, when required for the specified block, shall conform to ASTM A615 and have a minimum yield strength of 60,000 psi.
- E. Each concrete block shall be cast in a single continuous pour without cold joints. With the exception of half-block units, corner units and other special application units, the precast modular block units shall conform to the nominal dimensions listed in the table below and be produced to the dimensional tolerances shown.

2.02 GEOGRID REINFORCEMENT (if applicable to meet Structural Engineers Requirements)

- A. Geogrid reinforcement shall be a woven or knitted PVC coated geogrid manufactured from high-tenacity PET polyester fiber with an average molecular weight greater than 25,000 (Mn > 25,000) and a carboxyl end group less than 30 (CEG < 30). The geogrid shall be furnished in prefabricated roll widths of certified tensile strength by the manufacturer. The prefabricated roll width of the geogrid shall be 12" (300 mm) +/- 1/2" (13 mm). No cutting of geogrid reinforcement down to the 12" (300 mm) roll width from a larger commercial roll width will be allowed under any circumstances.
- B. Geogrid Reinforcement shall be designed and incorporated in a manner that will insure that the fabric does not interfere with the construction of utilities, curbing or guard rails.
- C. The ultimate tensile strength (Tult) of the geogrid reinforcement shall be measured in accordance with ASTM D6637.
- D. Long-Term Tensile Strength (Tal) of the geogrid reinforcement shall be calculated in accordance with Section 3.5.2 of FHWA-NHI-10-024 and as provided in this specification.
 - 1. The creep reduction factor (RFCR) shall be determined in accordance with Appendix D of FHWA-NHI-10-025 for a minimum 75 year design life.
 - 2. Minimum installation damage reduction factor (RFID) shall be 1.25. The value of RFID shall be based upon documented full-scale tests in a soil that is comparable to the material proposed for use as reinforced backfill in accordance with ASTM D5818.
 - 3. Minimum durability reduction factor (RFD) shall be 1.3 for a soil pH range of 3 to 9.
- E. Connection between the PMB retaining wall unit and the geogrid reinforcement shall be determined from short-term testing per the requirements of FHWA NHI-10-025, Appendix B.4 for a minimum 75-year design life.

- F. The minimum length of geogrid reinforcement shall be as designed and selected by the Structural Engineer designing the wall.
- G. Preapproved Geogrid Reinforcement Products. Miragrid XT Geogrids as manufactured by TenCate Geosynthetics of Pendergrass, Georgia USA or equal.

2.03 GEOTEXTILE FABRIC

- A. Nonwoven geotextile fabric shall be placed as indicated on the retaining wall construction shop drawings. Additionally, the nonwoven geotextile fabric shall be placed in the V-shaped joint between adjacent block units on the same course. The nonwoven geotextile fabric shall meet the requirements Class 3 construction survivability in accordance with AASHTO M 288.
- B. Preapproved Nonwoven Geotextile Products include Mirafi 140N, Propex Geotex 451, Skaps GT-142, Thrace-Linq 140EX Carthage Mills, FX-40HS Stratatex ST 142 or approved equal.

2.04 DRAINAGE AGGREGATE AND WALL INFILL

- A. Drainage aggregate (and wall infill for retaining walls designed as modular gravity structures) shall be a durable crushed stone conforming to Section 31 20 00 Earth Moving for ¾" Stone.
- B. Fill material or gravel used over geotextile reinforcement as needed shall be specified by the Structural Engineer stamping the design.
- C. All other back fill shall be structural fill and the wall leveling pad conforming to Section 31 20 00 Earth Moving to be selected and the use as specified by the Structural Engineer designing the wall.

2.05 DRAINAGE PIPE FOR WALL DRAINAGE

- A. Drainage pipe as noted on the drawings shall be ADS 3000 Dual Wall pipe as manufactured by Advanced Drainage Systems, or Equal.

PART 3 - EXECUTION

3.01 TRENCHING AND EXCAVATION

- A. The contractor shall excavate for the retaining wall footing to a depth as noted on the design plans and sections. All excavation shall be done in accordance with Section 31 20 00 Earth Moving. Additional excavation width will be performed by the contractor as needed to install earth tie back for geo-reinforcement fabric based on the final design prepared by the structural engineer preparing the final design for the wall.
- B. The contractor shall install the leveling course as noted on the plans compacted to 95% proctor and leveled to receive the first course of blocks and step the excavation as required to meet the final design prepared by the structural engineer and the approved shop drawings.
- C. Install drainage pipe as noted on the plans and the non-woven filter fabric used to separate the drain stone from the undisturbed soil.

3.02 INSTALLATION AND BACKFILL

- A. The contractor shall use the alignment provided in the contract plans to lay out the front face of the gravity wall. The base course shall be set level in both directions and aligned to receive the added course with the interlocking shear knobs aligned without any cutting or modifications.
- B. Block locations, sizes and overlap shall be as per the final block wall design. Once a layer of block is installed, backfill the gap behind the block course and any voids between blocks with drainage stone. Broom any debris from the top of the block to allow the next course of block to be set flush.
- C. As layers are added, ensure that the voids for the shear knobs of the course being placed are locked with the course below to avoid blocks shifting after the wall is completed.

- D. If the engineer preparing the final design of the gravity block wall requires that geotextile reinforcement is needed to be incorporated into the wall construction, then the contractor shall install the geotextile fabric and backfill as per the requirements of the structural engineer's design. Each course shall be placed completed which includes any geotextile fabric, backfill over the fabric and all compaction work completed before the next course is placed.
- E. The completed wall shall be capped with the top block and the backfilled treatment shall be based on the location of the wall. Walls noted to be holding a back slope shall be treated with 6" of loam and seed, walls holding a roadway shall be treated with 6" of dense graded crushed stone over geotextile fabric.

END OF SECTION

SECTION 336137 – GEOTHERMAL GROUND-SOURCE HEAT EXCHANGER SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Ground-Sourced Heat Exchanger Piping.
2. Manifolds.
3. Butterfly Valves for Geothermal Piping.
4. Balancing Valves for Geothermal Piping.
5. Meters and Gages for Geothermal Piping.
6. Pressure/Temperature Taps.
7. Grouting Material.
8. Heat Transfer Fluid.
9. Hydraulic Cement.
10. Drilling Equipment.
11. Detectable Warning Tape and Tracer Wire for Non-Metallic Piping.
12. Bedding and Backfill Sand around Piping.
13. Buried Ground-Source Heat Exchanger Piping Insulation.
14. Site Survey.
15. Runoff.
16. Drilling.
17. Grout Thermal Conductivity Testing.
18. Ground-Sourced Heat Exchanger System Installation.
19. Flushing, Purging, and Testing.
Example Data Recording Forms (at end of Section)

- B. Related Requirements.

1. Division 31 of Project Specifications on Earth Moving.
2. Division 31 of Project Specifications on Site Utilities Preparation.
3. Division 31 of Project Specifications on Erosion and Sedimentation Controls.

- C. Perform all work in accordance with ANSI/CSA/IGSHPA C448 Standards (current version) and Massachusetts Mechanical Code, or otherwise approved by the Engineer.

- D. Provide all equipment, materials, labor, transportation, supervision, and coordination with other Contractors, whether enumerated herein, for a complete and functional geothermal, or “ground-source,” heat exchanger system in a neat workmanlike manner. Items of work include, but are not limited to:

1. All excavation, trenching, drilling, casing, pumping, drainage, backfilling, grouting, drill spoils and excess water and disposal, high-density polyethylene (HDPE) piping, geothermal manifolds, pipe and manifold supports, test equipment, insulation, preparation of as-built drawings, and all work related to the installation of horizontal and vertical HDPE heat exchanger piping, as indicated on the drawings, and specified herein.
2. Advising the local municipality and all underground utilities of the proposed work prior to the start of borehole drilling and trench excavation.
3. Coordinate all interferences (i.e., storm drains, sanitary piping, water mains, electrical and communication conduits, yard piping, irrigation lines, foundations, both existing and proposed, any other improvements proposed to be installed as a part of the work, and any electrical feeders and conduits) with the Construction Manager, other Contractors, and the Engineer.
4. Mark all buried pipe with detectable warning tape and tracer wire specified herein.
5. Maintain marked up drawings in the field during the work of any changes to the design borehole/loop locations, circuit layout or other horizontal piping to the geothermal manifolds.
6. Provide as-built documentation after the completion of the project.
7. If any boreholes/loops must be moved from their design locations as shown on the drawings, re-survey the new locations and document same in the as-built record drawings.
8. It shall be the responsibility of the Contractor to procure any permits and licenses required to perform the ground heat exchanger installation and water disposal prior to the commencement of the work from all Local, State and Federal agencies.
 - a. Prepare drawings and documentation necessary to procure the required permits.
 - b. Pay the required fees.
 - c. Prior to mobilization, provide to the Engineer an original copy of the permits or licenses.
9. Coordinate with the Owner's Construction Manager or Environmental Consultant regarding the management, treatment (if required), and disposal of drill spoils/cuttings and management of groundwater and drilling fluids, including details of runoff containment to be used during drilling, method and equipment for settling and filtering fluids, and excess water disposal methods and discharge locations in accordance with applicable Local, State and Federal regulations.
10. Coordinate with Construction Manager on pavement removal and all surface restoration.
11. The work includes installation of subsurface piping in drilled boreholes and in trenches and installation of manifolds, where indicated on the drawings.
12. All HDPE connections: Socket or butt fusion weld connections.
13. Provide erosion control measures during the work and control surface runoff within Contractor's work area.
14. Estimate the amount and cost of any casing in your bid that may be needed for satisfactory drilling and loop installation. Take into consideration variation in subsurface conditions, top of bedrock, fractures and weathered zones within the rock formation and means and method for drilling and groundwater inflow management. Steel casing may be left in place.
15. Drilling for installation of the geothermal loops includes advancement through all subsurface materials including obstructions, at the specified locations and depths. Propose techniques, for review and approval by the Engineer, for any pre-drilling, pre-excavation, or other methods required to overcome obstructions.

16. Flushing, purging, flow and pressure testing, and charging of the installed ground-source heat exchanger system including all U-bend loops, circuit piping, and all connections to and including the manifolds, as specified herein, and reporting of results to the Engineer.
17. Preservation and protection of existing and new site features and improvements during the work. Provide dimensioned “as-built” drawing showing surveyed location of each geothermal loop.

E. Site Conditions and Available Subsurface Information

1. Before submitting bids, visit and become familiarized with the site location relative to the nature of the work, equipment and facilities needed, general and local conditions prevailing at the site, and all matters which may affect the work of this Section.
2. Before submitting bids, examine all sources of information concerning subsurface soil, bedrock, and groundwater conditions. Bring to the attention of the Owner any conditions that would prevent fulfilling the intent of the contract.
3. Existing Subsurface Information: The Contractor shall refer to the Attachments for installation logs and testing of Geothermal boreholes (TB-1 and TB-2) previously constructed on the site and to be incorporated into the system. The attachments contain subsurface geologic, hydrogeologic, and drilling information obtained as part of the test borehole program. Test Geothermal boreholes TB-1 and TB-2 (U-bend – SDR11) will be incorporated into construction of the system for the project. All the geothermal test boreholes have been drilled to full depth of 604 feet, and grout installed and casing extending close to existing ground surface. Vertical piping inside both geothermal test boreholes currently contains water with no antifreeze solution. Work here shall include replacing existing fluid inside the piping of the test boreholes with fluid specified herein, as well as all flushing, purging, pressure testing and piping connections for the test boreholes. Refer to the test borehole report for details on test borehole installation logs and testing results. The Owner assumes no responsibility for the accuracy of the existing test borings, geologic logs, and geothermal test loop installation results.
4. Thermal conductivity test results in the bid documents are included only as a general indication of the materials to be found at the site. Examine this data and conduct your own investigations to collect additional data as deemed necessary. Base your bid on your understanding of the conditions likely to be encountered at the site.
5. A submitted bid is considered “prima facie” evidence that an examination of the site has been made as described in this Section.

F. Piping and Equipment shown on Drawings:

1. Scale is approximately correct except where noted to be Not to Scale (NTS).
2. Drawings are diagrammatic.
3. Sizes of piping are shown, but not every offset or fitting are shown.

G. Coordinate the system installation and routing with the work of all trades.

H. Tolerances:

1. Drill the boreholes within 12 inches of the plan location as indicated on the drawings.
2. Maintain a minimum 20-foot center-to-center spacing of the loops.

3. Inform the Engineer immediately should difficulty drilling and installing a loop to the design depth of 604 feet below grade surface be encountered.
4. Engineer will reject any loops that cannot be installed deeper than 95% of design depth (604 ft). In these cases:
 - a. Abandon the borehole/loop per governing regulations.
 - b. Re-drill the hole at an alternate location as determined by the Engineer.
 - c. Submit a revised circuit layout showing the new location tied into the circuit piping.
5. Any loops that cannot be installed to design depth but deeper than 95% of design depth may be accepted with approval by the Engineer. In this case, Contractor shall submit a location to be drilled deeper to make up difference in lost footage for Engineer approval.
6. In all cases, the total design footage of boreholes/loops is still required, and the Contractor is responsible for all remediation measures, work, and costs for not achieving the design footage, including redesign of circuit piping routing, pipe diameters and fittings, and costs for other trade elements to accommodate the new geothermal system layout.

1.3 RELATED WORK

- A. Section 312000 “Earth Moving” for related earthwork activities.
- B. Section 312101 “Site Utilities Preparation” for dewatering, trenching, backfilling, and compaction.
- C. Section 312500 “Erosion and Sedimentation Controls” to prevent erosion, sedimentation, and contamination of adjacent properties.

1.4 ACTION SUBMITTALS

- A. Submit the following:
 1. A work plan for the ground-source heat exchanger system installation, including, but not limited to:
 - a. Proposed method of drilling, U-bend installation and grouting, borehole diameter, and minimum casing depth (if planned).
 - b. The proposed contingencies to remedy instability or collapse of the borehole, or loss of drilling mud or grout.
 - c. Proposed contingencies for tool recovery and/or removal if tool breakage were to occur at depth.
 - d. Proposed methods for flushing, purging and flow and pressure testing of all the piping, including detailed procedures, work sequence, equipment, and forms to be used to document the results for the Engineer and Owner’s Representatives (sample forms provided at end of this Section).
 - e. Material safety data sheets (MSDSs) for proposed drilling fluids, lubricating compounds, and all other compounds that may be used during the work.

- f. Material of construction, diameter, wall thickness, and type of connection of sections of any temporary and/or permanent casing to be used.
 2. Proposed work sequencing, phasing, completion schedule that conforms to the overall Project Schedule, including completion dates, and a detailed breakdown of work category and phasing with completion dates so that the Construction Manager can coordinate the Contractor's work with the work of other trades and subcontractors.
 3. Grout mix including manufacturer's data sheets including thermal conductivity, permeability, percent solids, grout weight, linear shrinkage potential, maximum particle size, and unit yield.
 4. Grout test results as specified herein within two weeks of grout sampling.
 5. Geothermal vault shop drawings, including details on vault size, type, material of construction, access cover detail, vault anchorage and lighting, and details on the manifold including shutoff valves, isolation valves, balancing valves, bypass, pressure/temperature test ports, and supports and attachment to the vault walls and floor.
 6. For units that will be shipped exposed, provide a description of the protective packaging that will be used during transit.
- B. Prepare and submit written driller's geologic/loop installation logs:
 1. Provide completed logs to the Engineer via electronic mail or made available off a shared computer drive within five (5) days of completing the borehole/loop installation.
 2. Propose format with bid package (a sample format that may be used is provided at the end of this Section).
 3. Provide all information listed below on each log, at a minimum:
 - a. Borehole number
 - b. Date(s) drilled
 - c. Rig number
 - d. Penetration rate and total drill time
 - e. Depth to bedrock, description of overburden and bedrock encountered
 - f. Depth and approximate yield of groundwater encountered and observable changes in static water level with borehole depth
 - g. Borehole and installed loop depth
 - h. Number of batches of grout used
 - i. Depth of zones of lost drill fluid circulation and/or grout loss, and mitigative measures deployed to address conditions
- C. Provide tabulated data for each borehole/loop installation and activity:
 1. Enter data into forms within two days of completing the activity.
 2. Maintain in the field for inspection by the Engineer and on a shared computer drive.
 3. Propose forms to be used with bid package (sample forms that may be used are included at the end of this Section).
 4. Provide a complete set of tabulated data upon completion of the project.
 5. Provide all information listed below in tabulated format, at a minimum:
 - a. Borehole number
 - b. Date(s) drilled
 - c. Rig number

- d. Borehole and installed loop depth
 - e. Total depth of tremie pipe installed.
 - f. Number of batches of grout used.
 - g. Depth, diameter, and material of construction of any casing used, and if the casing was pulled or left in place.
 - h. Results of flushing, purging, flow and pressure testing of each loop, circuit, and/or the complete ground-source heat exchanger piping system, and charging of the complete piping system, as specified herein.
- D. Submit the name and prior experience of each driller who will be performing the installation. Provide names and addresses of at least three commercial ground-sourced heat exchanger projects completed by each driller in the last three years. Additionally, provide names and addresses of at least three commercial ground-sourced heat exchanger projects completed in the last three years by this drilling and heat exchanger installation Contractor.
- E. Provide proof of qualification of this Contractor’s field supervisor. Provide names and addresses of at least five commercial ground-sourced heat exchanger projects in which the field supervisor has supervised the ground-sourced heat exchanger installation in the last five years.
- F. Provide proof of current (within past 12 months) certification in HDPE piping fusion techniques in accordance with ASTM F2620 from either IGSHA or from a piping manufacturer for this Contractor’s field supervisor. Provide documented demonstration of proficiency by making joints in accordance with ASTM F2620 that are proved to be satisfactory by destructive testing in accordance with ASTM F2620.
- G. Submit manufacturer’s catalog sheets, specifications, and instructions for the operation, adjustment and maintenance for each item specified herein, in digital form and additionally four bound hardcopy sets.
- H. Submit shop drawings of the proposed borefield layout showing all borehole locations and circuiting arrangement, circuit branch supply and return piping layout, vaults, valved manifold assemblies, and insulation, if used.
- I. Submit as-built record drawings for locations of each installed loop, supply and return piping, vaults, manifolds, and delineation of areas with insufficient ground cover over the piping where insulation was installed.
- J. Provide surveyed locations for each installed loop established by the project land surveyor on a scaled, as-built site plan.
- K. Provide the HDPE pipe and fittings manufacturer’s 50-year guarantee from material defects.
- L. Provide a photograph documenting the condition of each loop installation, clearly showing the manufacturer’s depth mark on the loop piping, the stabilized grout level at the top of the borehole, and the borehole/loop identification number in the photograph.
- M. Submit an affidavit at the end of the project certifying the accuracy of driller’s logs and test results and data for all testing completed, and that the ground-source heat exchanger installation complies with these specifications and all relevant code.

- N. In general, corrections or comments or lack thereof, made relative to submittals during review shall not relieve the Contractor from compliance with the requirements of the drawings and specifications. Submittals are for review of general conformance with the design concepts of the project and general compliance with the contract documents. The Contractor is responsible for the final installation conforming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating the work of all trades, and performing the work in a safe and satisfactory manner.

1.5 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Minimum five years of documented experience manufacturing the products specified in this section.
- B. **Installer Qualifications:** Minimum five years of experience in the installation of ground-source heat exchangers for commercial applications, including at least one facility of sufficient size to reject a minimum of 5,000 MBH of heat to the ground heat exchanger. Drilling depths shall have been at least 600 feet on any completed project. Craftsmen and their on-site supervisor shall maintain a current annual certification in HDPE pipe fusion techniques from the pipe manufacturer.
 - 1. **Contractor's Field Supervisor:** The field supervisor must have a valid certification and shall have been supervising ground-source heat exchanger installation work including heat fusion of HDPE piping in commercial buildings and drilling of boreholes and heat exchanger installation for a minimum of five years.
 - 2. Ensure that the Engineer has been given adequate notice to witness on a first-hand basis the geothermal pipe length inserted, tremie pipe length inserted, volume of grout injected, pressure testing, flushing and other critical items in this installation project.
 - 3. A single failure of a fusion joint shall void the certification unless retested and recertified to demonstrate satisfactory performance.
- C. **Owner's Representative Observation:** The Owner will designate one or more field staff for Quality Assurance that will observe and report to the Engineer certain activities associated with the work, including the following:
 - 1. Document that the work is being performed per specifications and drawings daily.
 - 2. Ensure that driller's logs are being maintained in the field as specified herein and are submitted to the Engineer or available on on-line forms at no less than a weekly basis.
 - 3. Provide spot checks on insertion of the tremie pipe to design depth and grouting of boreholes, pressure and flow testing, and backfilling operation of horizontal piping runs.
 - 4. Ensure that the Contractor is maintaining a markup set of as-built record drawings in the field including showing any differences between the design drawings and installed conditions.
- D. The Engineer will witness and certify the final completed system flow and pressure testing for compliance.

- E. **Engineer's Observation:** Engineer will perform spot checks of the work being completed, and review driller's logs and as-built record drawings being maintained in the field by the Contractor.
- F. Provide new materials of a given type included in this section by or through a single manufacturer.
- G. Observation by the Owner's designated Representative and/or Engineer, or failure to observe, does not relieve the Contractor of responsibility to provide materials and perform the work as shown on the drawings and specified herein.
- H. The Owner and Engineer reserve the right to sample and test any materials after delivery and to reject all components represented by a sample that fails to comply with this specification.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Inspect all materials for size, quality, and quantity against approved shop drawings upon delivery.
- B. Coordinate the delivery schedule of all materials and labor with the Construction Manager.
- C. Pack all materials for shipment and long-term storage. Each package shall be labeled to indicate the project and the contents of each package. Where applicable, equipment numbers shall be marked on the container.
- D. Protect all shipped materials during transit that are exposed such as on a flatbed truck. The materials shall be protected from moisture, road salt, dirt and stones or other materials thrown up from other vehicles. The method of shipment protection shall be defined in the submittals.
- E. Store all materials on the site in a covered dry location off the ground and protected from degradation caused by ultraviolet rays, as required by the manufacturer. When required, protect the stored materials in a temperature-controlled location.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. The ground-source heat exchanger system as specified in this section and shown on the drawings consists of the following components:
 - 1. One central borefield containing 54 total boreholes including 2 existing test boreholes (TB-1 and TB-2).
 - 2. Borefield circuit supply and return piping in reverse return configuration and connected to geothermal manifold and valve vaults.
- B. HDPE Loops and Horizontal Piping:

1. HDPE loop and horizontal piping is a combination of 1-1/2, 2, 3 and 4-inch diameter.
 2. Fit each borehole with a 1.5-inch factory fabricated HDPE U-bend loop installed to a depth of approximately 604 ft below ground surface.
 3. Backfill around the loops as specified and group the loops into circuits as shown in the geothermal schedules on the drawings.
 4. Install horizontal piping in trenches and tie into the manifolds in the manifold and valve vaults, as shown on the drawings.
- C. After thorough flushing and purging of debris, air, etc., perform flow and pressure testing to demonstrate compliance with these specifications.
- D. After successful flow and pressure testing, coordinate with the charging of the system with the mechanical contractor, the entire ground-source heat exchanger system up to and including the manifolds with a 25% solution of propylene glycol by volume.
- E. Use potable town water to fill the earth side system with, coordinate with mechanical contractor to ensure water meets requirements of mechanical equipment and glycol manufacturers recommendations.
- F. Utilize the reverse return method for all geothermal circuit piping to equalize the pressure drop through each circuit and associated branch supply and return pipes.

2.2 GROUND-SOURCE HEAT EXCHANGER PIPING

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. WL Plastics.
 2. Performance Pipe.
 3. Or equal.
- B. HDPE Piping and Fittings:
1. PE 4710, high density polyethylene (HDPE) with minimum cell classification 445574 per ASTM D3350. Manufactured with ethylene as the sole polymer to meet the requirements of PE Type III for water distribution.
 2. Factory tested at design stress for selected pipe of pressure rating at 73.4 degrees Fahrenheit, per the Plastics Pipe Institute.
 3. Extruded pipe to conform to the requirements of ASTM D3035.
 4. No recycled or reclaimed material used during fabrication.
 5. Zero failures after 5,000 hours under conditions (100% reagent @ 110 degrees C) when tested in accordance with ASTM D1693, "Standard Test Method for Environmental stress Cracking of Ethylene Plastics."
 6. Butt fusion type: ASTM D3261, socket fusion type: ASTM D2683.
 7. Each pipe permanently indent marked with the manufacturer's name, nominal size, pressure rating, relevant ASTM standards, cell classification number and date of manufacture.

C. Vertical U-bend Loops:

1. Polyethylene PE 4710, SDR 11 construction, 1-1/2 inches IPS size.
2. Continuous one-piece pipe joined to factory fabricated U-bend fitting at base of loop.
3. U-bend fittings: Single piece, injection molded, constructed of the same material as the loop. Vertical heat exchanger pipes: Factory hot-stamped length marks impressed on the side of the pipe in intervals not greater than five feet, starting from zero at the U-bend and the actual vertical heat exchanger pipe total length on the other end.

D. Horizontal Supply and Return Piping:

1. Polyethylene PE 4710.
2. Pipe sizes up to 4 inches dia.: SDR 11.
3. Pipe sizes greater than 4 inches dia.: SDR 11.

E. Deliver to the site all HDPE piping of the required length and factory cut, with all vertical loop piping pressurized with air. Engineer will reject any vertical loop piping not delivered to the pressurized.

F. Molded Fittings: Manufacture to the specifications and requirements of ASTM F1055 for heat fusion type fittings.

2.3 MANIFOLDS AND VAULTS

A. Provide and construct manifolds in buried geothermal vaults where indicated on the drawings and as shown on the details.

B. Construct all geothermal vaults and manifold piping of specified HDPE.

C. Manifolds:

1. Provide the following specialties on supply and return headers on each manifold:
 - a. Butterfly isolation valves
 - b. Balancing valves
 - c. Pressure/temperature test ports downstream of isolation valves
 - d. Full-sized bypass valve: High-performance butterfly valve
2. Provide the following specialties on each supply and return circuit pipe inside the vaults:
 - a. High-performance butterfly shutoff valves
 - b. Purge ports with separate ball valves for isolation and air purging.
 - c. Electric wire for tracing tagged to each circuit and of sufficient length to direct bury following circuit piping out to top of vertical bores.

D. Vaults:

1. All HDPE construction.

2. Provided with OSHA-approved ladder and lockable lid.
3. HS-20 rated lid and vault.
4. Structural support per manufacturer's recommendations.
5. Provide guarantee against leaks for a minimum of 60 months from building temporary certificate of operation. Follow all manufacturer installation procedures and provide costs for all material and labor to fix leaks that occur over this period.
6. Provide anchorage for anti-flotation control and pre-cast concrete deadman with weighted straps.
7. Provide bedding material and install per manufacturer's instructions.
8. Anchor vault to deadman per vault manufacturer's instructions.
9. Acceptable manufacturers:
 - a. KWH Weholite,
 - b. Isco Pipe,
 - c. Geovault,
 - d. Or equal.

2.4 BUTTERFLY VALVES FOR GEOTHERMAL PIPING

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Apollo Flow Controls; Conbraco Industries, Inc.
 2. Jenkins Valves; Crane Energy Flow Solutions.
 3. Mueller Steam Specialty; A WATTS Brand.
 4. NIBCO INC.
 5. WATTS.
 6. Or Equal
- B. Description:
1. Standard: MSS SP-67, Type I.
 2. CWP Rating: 150 psig.
 3. Body Design: Lug type; suitable for bidirectional dead-end service at rated pressure without use of downstream flange.
 4. Body Material: ASTM A 126, cast iron or ASTM A 536, ductile iron, epoxy-coated, suitable for direct-bury.
 5. Seat: EPDM.
 6. Stem: One- or two-piece stainless steel.
 7. Disc: Stainless steel.

2.5 BALANCING VALVES FOR GEOTHERMAL PIPING

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products by Caleffi North America; 132A Series QuickSetter or comparable product by one of the following:
1. Or Equal
- B. Valve:

1. End Connections:
 - a. Cast Iron Body: ANSI B16.1 Class 125 RF flanged; NPS 4.
2. Body Material: Cast iron.
3. Ball: Brass.
4. Control Stem: Brass, chrome plated.
5. Ball Seal Seat:
 - a. Cast Iron Flanged Body: R-PTFE.
 - b. Brass Body: PTFE.
6. Stem Guide:
 - a. Cast Iron Flanged Body: PTFE.
 - b. Brass Body: Polysulfone.
7. Seals: Peroxide-cured EPDM.

2.6 METERS AND GAGES FOR GEOTHERMAL PIPING

A. Remote-Mounted, Metal-Case, Vapor-Actuated Thermometers:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Ametek U.S. Gauge.
 - b. Miljoco Corporation.
 - c. Trerice, H. O. Co.
 - d. Weiss Instruments, Inc.
 - e. Or equal.
2. Standard: ASME B40.200.
3. Case: Sealed type, cast aluminum or drawn steel; 4-1/2-inch nominal diameter with back flange and holes for panel mounting.
4. Element: Bourdon tube or other type of pressure element.
5. Movement: Mechanical, with link to pressure element and connection to pointer.
6. Dial: Nonreflective aluminum with permanently etched scale markings graduated in deg F.
7. Pointer: Dark-colored metal.
8. Window: Glass or plastic.
9. Ring: Stainless steel.
10. Connector Type(s): Union joint, bottom; with ASME B1.1 screw threads.
11. Thermal System: Liquid-filled bulb in copper-plated steel, aluminum, or brass stem and of length to suit installation.
 - a. Design for Thermowell Installation: Bare stem.

12. Accuracy: Plus or minus 1 percent of scale range.

B. Thermowells:

1. Standard: ASME B40.200.
2. Description: Pressure-tight, socket-type fitting made for insertion in piping tee fitting.
3. Material for Use with Copper Tubing: CNR or CUNI.
4. Material for Use with Steel Piping: CRES or CSA.
5. Type: Stepped shank unless straight or tapered shank is indicated.
6. External Threads: NPS 1/2, NPS 3/4, or NPS 1, ASME B1.20.1 pipe threads.
7. Internal Threads: 1/2, 3/4, and 1 inch, with ASME B1.1 screw threads.
8. Bore: Diameter required to match thermometer bulb or stem.
9. Insertion Length: Length required to match thermometer bulb or stem.
10. Lagging Extension: Include on thermowells for insulated piping and tubing.
11. Bushings: For converting size of thermowell's internal screw thread to size of thermometer connection.
12. Heat-Transfer Medium: Mixture of graphite and glycerin.

C. Direct-Mounted, Metal-Case, Dial-Type Pressure Gages:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Ametek U.S. Gauge.
 - b. Miljoco Corporation.
 - c. Trerice, H. O. Co.
 - d. Weiss Instruments, Inc.
 - e. Weksler Glass Thermometer Corp.
 - f. Or equal.
2. Standard: ASME B40.100.
3. Case: Sealed type(s); cast aluminum or drawn steel; 4-1/2-inch nominal diameter.
4. Pressure-Element Assembly: Bourdon tube unless otherwise indicated.
5. Pressure Connection: Brass, with NPS 1/4, ASME B1.20.1 pipe threads and bottom-outlet type unless back-outlet type is indicated.
6. Movement: Mechanical, with link to pressure element and connection to pointer.
7. Dial: Nonreflective aluminum with permanently etched scale markings graduated in psi.
8. Pointer: Dark-colored metal.
9. Window: Glass or plastic.
10. Ring: Stainless steel.
11. Accuracy: Grade A, plus or minus 1 percent of middle half of scale range.
12. Gage Attachments:
 - a. Snubbers: ASME B40.100, brass; with NPS 1/4, ASME B1.20.1 pipe threads and piston or porous-metal-type surge-dampening device. Include extension for use on insulated piping.
 - b. Siphons: Loop-shaped section of brass or stainless-steel pipe with NPS 1/4 pipe threads.

- c. Valves: Brass or stainless-steel needle, with NPS 1/4, ASME B1.20.1 pipe threads.

D. Test Plugs

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Miljoco Corporation.
 - b. Peterson Equipment Company.
 - c. Trerice, H. O. Co.
 - d. Weiss Instruments, Inc.
 - e. Weksler Glass Thermometer Corp.
 - f. Or equal.
2. Description: Test-station fitting made for insertion in piping tee fitting.
3. Body: Brass or stainless steel with core inserts and gasketed and threaded cap. Include extended stem on units to be installed in insulated piping.
4. Thread Size: NPS 1/4, ASME B1.20.1 pipe thread.
5. Minimum Pressure and Temperature Rating: 500 psig at 200 deg F.
6. Core Inserts: Chlorosulfonated polyethylene synthetic and EPDM self-sealing rubber.

2.7 PRESSURE/TEMPERATURE TAPS

A. Pete's Plugs.

1. Furnish pressure and temperature probes/sensors to fill in the Pete's plugs as shown on the drawings.

2.8 GROUTING MATERIAL

- A. Follow IGSHA Manual "Grouting Procedure for Ground Source Heat Pumps," and the manufacturer's recommendations.

B. Grout Material:

1. Thermally-enhanced bentonite based grout.
2. The maximum allowable permeability value shall be 1×10^{-7} cm/sec.
3. Acceptable Manufacturers of Bentonite Based Grouts:
 - a. Black Hills Bentonite (Geo-Pro).
 - b. Or equal.

C. Mix Details:

1. Grout Product: TG Select
2. Thermal Enhancement Compound: PowerTec
3. Target Thermal Conductivity: 1.6 Btu/hr-ft-°F

4. Density: 10.8lb/gal
5. Percent Solids: 36.2%
6. Percent Active Solids: 27.3%
7. Permeability: $<1 \times 10^{-7}$

D. Batch Details:

1. TG Select: 125 lb
2. PowerTec: 64 lb
3. Mix Water: 40.0 gal
4. Yield: 48.3 gal

Note: Mix specification is based on manufacturer's data. The actual mix corresponding thermal properties to be based on contractor's approved submittals.

E. Mixing Instructions:

1. Mix grout per the manufacturer's guidelines.
2. Mix using a paddle mixer with sufficient capacity for a full batch of grout.

2.9 SYSTEM FLUID AND ANTIFREEZE

- A. The geothermal system shall be charged with a 25% by volume solution of propylene glycol with corrosion inhibitor.
- B. Mechanical Contractor for the building HVAC is responsible for providing required propylene glycol to charge the system. The Geothermal Contractor shall provide a fully flushed and purged earth side system with potable town water along with coordination with the Mechanical Contractor to charge the system.

2.10 HYDRAULIC CEMENT

- A. Meet requirements of ASTM C1107, Grade B, non-shrink and nonmetallic, dry hydraulic-cement grout.
- B. Characteristics: Post-hardening, volume adjusting, non-staining, noncorrosive, nongaseous, and recommended for interior or exterior applications.
- C. Design Mix: 200-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.11 DRILLING EQUIPMENT

- A. Capable of drilling a borehole to a minimum depth of 700 feet.
- B. Casing (if used):

1. 7-inch maximum inside diameter.
2. Flush joint steel pipe if to remain in borehole.
3. PVC casing to be removed from borehole unless approved by the Engineer.

2.12 DETECTABLE WARNING TAPE AND TRACING WIRE FOR NON-METALLIC PIPING

A. Warning Tape:

1. Metallic core or metallic-faced, minimum 4-mil thick polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines.
2. At least three inches wide with a minimum strength of 1,500 psi lengthwise and 1,250 psi crosswise.
3. Provide a continuous imprinted message on the tape repeated every 16 to 36 inches and reading "CAUTION HEAT EXCHANGER PIPE BURIED BELOW."

B. Metallic Tracing Wire:

1. Tracer wire shall be #12 AWG High-Strength copper-clad steel (CCS) conductor, minimum break load strength 450 lbs., insulated with a 30 mil (minimum) high-density polyethylene (HDPE) insulation, and be rated for direct burial use. HDPE insulation shall be RoHS compliant and utilize virgin grade material.

2.13 BEDDING AND BACKFILL SAND AROUND PIPING

A. Sand backfill around geothermal piping as indicated on drawings shall be environmentally clean sand with the following gradation:

1. Sieve No. 4 – 100% passing
2. Sieve No. 10 – 90-100% passing
3. Sieve No. 40 – 40-70% passing
4. Sieve No. 200 – 0-5% passing

2.14 BURIED GROUND-SOURCE HEAT EXCHANGER PIPING INSULATION

A. Manufacturers:

1. Insul-tarp by Insulation Solution
2. Or equal

B. Properties:

1. Weight: 12.5 lbs per 150 square feet.
2. Compression per ASTM D3575: 3.2 percent
3. R-Value: 5.9 square feet-deg F per Btuh

C. Furnish and install geothermal piping insulation per insulation manufacturer specifications.

PART 3 - EXECUTION

3.1 SITE SURVEY

- A. Identify and locate any underground utility lines (e.g., sewer, telephone, water, fuel, electric lines) or buried structures, including buried deep foundation elements, that may be encountered during drilling and excavation.

3.2 RUNOFF

- A. Utilize equipment approved by the Engineer and the Owner's Construction Manager or Environmental Consultant to contain and dispose offsite any drilling, grouting and piping runoff as a result of the work.
- B. Coordinate the disposal of contained runoff with the General Contractor and Construction Manager.
- C. Discharge of runoff to any public streets is not permitted.
- D. If inadvertent returns of drilling fluids or overflow of grout enter a waterway, immediately notify the Construction Manager, and provide environmental controls and clean up to the satisfaction of the Owner's Environmental Consultant.
- E. Provide cleanup materials at the drill site, such as groundsheets, booms, and absorbent pads, to respond to such incidences.

3.3 DRILLING

- A. No drilling work may be performed without the observation of the Engineer or an Owner's designated representative, unless approved otherwise, and in accordance with the submitted work plan.
- B. Advance boreholes of the diameter shown on the drawings and to the depth required for installation of the U-bends as indicated on the drawings, including allowance for ballast or other clearance as necessary.
- C. Check the vertical alignment of the borehole during drilling and at the completion of the drilling.
- D. Repair previously installed loops hit due to deviation.
- E. Coordinate the containment, discharge location, and disposal of groundwater generated during drilling of the boreholes with the Owner's Construction Manager.

- F. Advance boreholes through or past boulders, old masonry, former concrete foundations, and any other obstructions or debris which may be encountered.
- G. Provide casing, as needed, to prevent borehole instability or collapse or to control groundwater.

3.4 GROUT THERMAL CONDUCTIVITY TESTING

- A. Arrange for grout manufacturer to provide thermal conductivity testing of the site-mixed grouting materials to verify the “as mixed” thermal conductivity value.
- B. Perform testing at a frequency of a minimum of one sample of grout per each group of ten loops installed.
- C. Provide additional sample analysis if requested by the Engineer.
- D. Weighing of the sample does not constitute compliance with this article.
- E. The Owner’s Representative or the Engineer may collect as-mixed grout sample(s) randomly without any advance notice.
- F. Start sampling at each borefield during installation of the first loop for the borefield.
- G. If any analysis indicates a thermal conductivity value below the minimum specified value, take corrective action to increase the grout thermal conductivity back to the minimum specified value. Perform and submit the results to the Engineer for additional tests taken after the corrective action to confirm that the minimum thermal conductivity value has been achieved.

3.5 GROUND-SOURCE HEAT EXCHANGER SYSTEM INSTALLATION

- A. U-Bends
 - 1. Deliver the U-bends/loops to the site under pressure after testing at the factory by the manufacturer.
 - 2. Inspect loops to ensure no kinking or damage is present.
 - 3. Fill the loop with water prior to lowering into the borehole.
 - 4. Lower the filled loop assembly to the bottom of the borehole in a controlled manner. Do not allow loop assembly to free fall down the borehole.
 - 5. Install the loop assembly inside the borehole to the full depth as shown on the drawings. Extend the drill depth of the borehole as needed to facilitate installation to full depth.
 - 6. Add weight if needed to the outside of the loop assembly as needed to overcome buoyancy of the drilling mud and allow installation to design depth.
 - 7. Cap or heat-fuse shut the tops of loop pipes following installation to prevent entry of dirt or debris.
 - 8. At the discretion of the Engineer and Owner, provide an above grade stickup of the loop pipes encased in PVC piping for protection, or cut down below grade and temporarily bury the loop pipes.

B. Grouting

1. Tremie-grout the borehole annulus within 24 hours after placement of the loop assembly unless approved by Engineer.
2. Grout the boreholes in one continuous operation, from bottom to the top using a tremie pipe.
3. Provide a tremie pipe long enough to reach the bottom of the borehole and is marked off at a minimum of 10-foot increments. If the marks are worn off during grouting operations, re-mark the tremie pipe prior to grouting the next borehole.
4. Place the bottom of the tremie pipe no greater than 20 feet from the bottom of the borehole prior to start of grouting.
5. Always maintain a minimum of 20 feet of submergence of the tremie pipe in grout during grouting.
6. Confirm to the Engineer that the annular space between pipe and borehole sidewall is filled with grout.
7. Repeat or correct the grouting operation for boreholes which, in the Engineer's opinion, were not grouted properly.
8. Follow all Local and State regulations for borehole grouting operation.
9. Provide spare grout pipes, hoses, and fittings available on the site.
10. Use a piston or screw type pump for pumping grout into the borehole.
11. Each individual U-bend assembly that has been installed in a borehole will be hydrostatically pressure tested using fluid as follows:
 - a. Ensure debris has been flushed and air purged from the U-bend assembly;
 - b. Install appropriate fittings on both ends of the U-bend assembly according to proper procedures; heat fusion joints shall be fully cooled;
 - c. Slowly increase test pressure to a minimum of 50 psi and a maximum 100 psi in the U-bend assembly and maintain pressure for a minimum of 30 minutes to allow for expansion and stabilization of the pipe;
 - d. Top up pressure as required to restore pressure in the U-bend assembly to a minimum of 50 psi and a maximum of 100 psi for testing;
 - e. After a minimum of 30 minutes under constant pressure, a passing test is indicated if no visual leakage is observed and the test pressure remains steady within 5% of the starting test pressure; and
 - f. The test fluid shall not be allowed to freeze during the pressure test.
12. Replace any loop U -bend assembly that fails the test.
13. Leave the top of the borehole exposed and not covered by dirt after grouting. Inspect for settlement of grout and top off until there is no longer any settlement observed.

C. Lateral Piping

1. Run the supply and return branch circuit piping preferably in separate trenches maintaining a minimum pipe wall to pipe wall separation of two feet between the supply pipes and return pipes.
2. Supply and return circuit piping may be stacked in the same trench where space does not allow separate trenches, as shown on the drawings. In these cases, maintain a minimum pipe wall to pipe wall separation of 12 inches between the supply and return pipes.
3. Individual circuit supply pipes and adjacent supply mains may be a minimum of six inches from each other, and individual circuit return pipes and adjacent return mains may be a minimum of six inches from each other.

4. Adjacent circuit supply lines may be three inches apart from each other and adjacent circuit return lines may be three inches apart from each other.
5. Separate adjacent supply and return mains by a minimum of 12 inches.
6. Trench width for geothermal return and supply pipes: ASTM D2321. The minimum trench width shall be the pipe outside diameter plus two feet.
7. Trench, backfill and compact per the requirements of Section 312101 “Site Utilities Preparation and Earth Moving.”
8. Cover all buried geothermal piping under a minimum of four feet of soil backfill (final surface cover).
9. Method for joining buried pipe: Heat fusion method following the pipe and fittings manufacturer’s recommendations. Electrofusion method may be acceptable with Engineer’s approval.
10. Prior to backfilling, hydrostatically pressure test all segments of lateral piping following “Flushing, Purging, Testing and System Charging” of this Section.

D. Metallic core or metallic-faced polyethylene plastic warning tape:

1. Install above each buried horizontal pipe at a depth of 24 inches below final site grade.
2. Extend in continuous length without break from each vertical loop to the geothermal manifold.
3. If the trench is greater than three feet wide, install tape on both edges of the trench in addition to directly above each pipe.
4. Identify each tape with its circuit number from the end of the circuit to the manifold.

E. Metallic Tracing Wire:

1. Affix CCS tracer wire at 3 o’clock or 9 o’clock, with plastic cable ties, on all horizontal piping, one length of wire per group of circuit pipes and all supply and return piping.
2. Extend in continuous length without break from the end of each borefield circuit to an accessible collection point at the buried vault and from the buried vault to the building mechanical space.
3. Identify each wire with its circuit number from the end of the circuit to the buried vault.

F. Miscellaneous

1. Seal ends of all U-bends and HDPE piping by heat fusing to prevent any debris from entering the piping in the interim period before connection to, respectively, the circuit piping or geothermal manifolds (tape is not acceptable).
2. Insulate all buried geothermal piping passing within five feet of any storm drainpipe, sanitary sewer pipe, water pipe or within four feet of building surface exposed to outside elements. Insulate all buried geothermal piping that has less than four feet of cover.

3.6 FLUSHING, PURGING AND TESTING

A. Examination of System Components Prior to Starting Flushing, Purging and Testing:

1. Examine system installation for compliance with drawings and specifications.
2. Ensure pressure-relief valves have been inspected and set at required pressure.
3. Examine system for leaks at valves, flanges, welds, connections, and joints.

4. Examine piping system for defective, broken, or cracked piping and fittings.

B. Test Preparation

1. Isolate or replace with spool pieces vessels, pumps, instruments, controls, safety valves, relief valves, and other equipment items rated for pressures below test pressure.
2. Provide temporary over pressurization protection devices between pressure source and test equipment.
3. Disconnect or isolate by blinds or other means equipment that is not to be tested. Valves may be used provided valves are rated for test pressures.
4. Maintain joints, including welds and bonds, uninsulated and exposed for examination during testing. Joints previously tested may be insulated or covered.
5. Provide additional temporary supports as necessary to support test media.
6. Notify Engineer, Construction Manager, and designated Owner's Representative in writing a minimum of five days before flushing and purging and pressure testing procedures are scheduled.
7. Clear test area of personnel not involved with testing.
8. Configure flushing/purging unit utilizing a portable flush skid consisting of the following:
 - a. High volume, high head purge pump capable of maintaining the required purge velocity in all sections of the piping system and the fully-completed system.
 - b. Open reservoir with inlet and outlet valves and pressure gauge
 - c. Filter assembly with bypass
 - d. Cleanable and removable strainers with 20-micron filter mesh
 - e. Flow meter
 - f. Pressure gauge
 - g. Connecting piping
 - h. Connecting hoses

C. Flushing and Purging

1. General:
 - a. Perform all flushing and purging in the presence of the Engineer or designated Owner's representative unless approved otherwise.
 - b. Flush accessory lines and other appurtenances with potable water to remove dirt and contaminants until water appears clear at outlet.
 - c. Following any flushing and purging, temporarily heat-fuse seal the piping ends shall be used to prevent entrance of debris or air. Tape is not acceptable.
2. Interim Flush/Purge (pre-flow and pressure testing of loops)
 - a. Before completing flow and pressure testing of loops, flush/purge air, dirt, and debris from loops.
 - b. Using a purge pump, flush fresh water through the loop through a spindown filter to capture debris for a minimum of 10 minutes and at the system flow rate, and at a minimum of four feet per second. Strainers must be free of all visible material before proceeding to flow and pressure testing.

3. Final Flush/Purge (pre-flow and pressure testing of completed system)
 - a. Before final system flow and pressure testing, perform final flushing and purging of the completed system at a flow rate of no less than 135% of design flow, and in no case less than four feet per second.
 - b. Provide a portable platform-mounted circulating pump system with strainers per this Article to circulate fluid through the entire geothermal system without the use of the building HVAC pumps.
 - c. A change of more than one inch in the level of fluid in the purge pump tank during pressurization indicates air is still trapped in the system.
 - d. Air separators may be used to aid in the removal of air during the process.
 - e. A complete flush is when no less than 20 passes (10 passes in each direction) have circulated through the system without cleaning required in the strainers.
 - f. To validate the flush, draw a sample of flushed water into a clear container and set aside for 24 hours without disturbance. Visually inspect the sample after 24 hours for sediment at the bottom of the container. If sediment is present, continue to flush the system and test in this manner until no visual sediment is present.

D. Flow and Pressure Testing

1. Perform all flow and pressure testing in the presence of the Engineer or designated Owner's representative unless approved otherwise.
2. Utilizing a purge pump, conduct a flow test on each loop to ensure the loop is free of blockage or kinking of the pipe.
3. Utilizing the purging unit specified in "Test Preparation" in this Article, conduct a flow test on the completed ground-sourced heat exchanger system up to the manifolds to ensure the system is free of blockage or kinking of the pipe.
4. Measure flow rate and pressure differential with calibrated instruments approved by the Engineer.
5. Flow test at a minimum of 100% of system flow and at no less than two feet per second velocity. Measured pressure drop within 15% of the calculated pressure drop is acceptable to proceed to pressure testing.
6. If the flow test indicates either/or blockage or pipe kinking, locate the blockage using the manufacturer's recommendation, remove the blockage, then purge and conduct the flow test again until all portions of the system are free flowing.
7. Each completed ground heat exchanger assembly, including pipes in boreholes, horizontal pipes, field headers/circuits, and other buried pipes shall be hydrostatically pressure-tested as follows:
 - a. Ensure debris has been flushed and air purged from the completed ground heat exchanger assembly to be tested;
 - b. Before pressure testing, heat fusion joints shall be completely cooled per ASTM F2620 and ASTM F1055;
 - c. Mechanical connections shall be completely assembled with all necessary seals and all fasteners installed and tightened per manufacturer's instructions;
 - d. Components that are not to be subjected to test pressure or could be damaged by test pressure shall be isolated or removed as necessary;
 - e. The test fluid shall not be allowed to freeze during the pressure test;
 - f. Each completed ground heat exchanger assembly to be tested shall be restrained sufficiently to protect personnel against movement in the event of catastrophic

- failure. Joints may be exposed for leakage examination, provided that restraint is maintained;
- g. The gauge or sensor full scale value should not be more than twice the test pressure. Gauge scale graduations shall be no greater than two percent of the sensor full scale. An electronic pressure-recording device that meets these requirements may be utilized;
 - h. Only authorized people shall be in the proximity of the piping system during the testing procedure and shall wear the appropriate personal protective equipment (PPE);
 - i. At pipe temperatures above 80°F, test pressures might need to be reduced according to temperature compensating factors. The pipe manufacturer should be contacted for testing at such elevated temperatures;
 - j. The first phase of the pressure testing is the initial expansion phase where hydrostatic pressure is increased slowly to achieve the target test pressure for the pipe expansion and stabilization (i.e., relaxation); typically, it can take up to 4 hours for expansion and stabilization of the pipe, during which time the test pressure in the piping system might slowly decrease as the pipes "relax". Additional fluid may be added through this period to restore the target test pressure;
 - k. The maximum test pressure at any point of this test procedure shall not exceed 150% of the ground heat exchanger maximum system design pressure and shall not exceed the pressure rating of the lowest pressure-rated pipe, fitting, valve, or component in the ground heat exchanger assembly;
 - l. If the target test pressure cannot be reached and maintained, and there is no fault in the pressure test equipment, then inspect the system for leaks, including at pipe joints;
 - m. After this first phase of expansion and stabilization, adjust pressure in the ground heat exchanger piping to a maximum of 10 psi below the expansion and stabilization pressure for the testing phase.
 - n. There is no leakage allowance for HDPE piping systems. After a minimum of 60 minutes under pressure in the testing phase, a passing test is indicated if no visual leak is observed, and the test pressure does not reduce by more than 5% during the 60 minute testing phase. Leakage at any joint indicates a defective joint which could rupture or separate while under pressure. Immediately remove pressure and replace any leaking joints before a retest; and
 - o. If, due to a test failure or other reason, the pressure test procedure must be repeated, the test section shall be depressurized for 8 hours before retesting.

Note: *Pressure test requirements of the entire assembled ground heat exchanger, including buried headers, are based on ASTM F2164 which provides information on apparatus, safety, restraints, pre-test preparation, and procedures for conducting pressure tests. ASTM F2164 should be reviewed prior to performing hydrostatic system tests.*

8. All lateral circuit piping must pass pressure testing prior to backfilling and prior to connection to the geothermal manifolds.
9. Use a calibrated test gauge for pressure testing with one psi increment and readable to ½ psi.
10. Use a calibrated digital test gauge for flow testing with one psi increment and readable to one tenth psi.

11. Following successful pressure testing of each loop and circuit, leave the loop or circuit under pressure with a pressure gauge and ball valve on one end of the piping, and a fusion cap on the other end, as shown in the drawings, until final connection to, respectively, the lateral circuits and manifolds.
 12. After all individual sections of the system have been flushed, purged, successfully flow- and pressure-tested and connected, conduct a final flow and pressure test of the entire system, up to and including the manifolds in the collection vault and the Supply and Return piping that terminates in the building mechanical space. Flow and Pressure Testing above in the presence of the Engineer, designated Owner’s representative, and the Owner’s Special Inspector.
 13. Progressive Pressure Testing is required if sections of a circuit must be backfilled prior to completion of the full circuit. Following such testing, leave the pipes under pressure with a pressure gauge and ball valve on one end, and a fusion cap on the other end, until final connection to the manifolds.
 14. Perform all pressure testing on systems filled with water only. Air may not be used to “top-off” and pressurize the water-filled systems.
 15. Investigation and corrective measures performed on any pressure test failures will require approval by the Engineer. After measures have been taken, another pressure test must be conducted to verify corrective measures were successful.
- E. Submit test records, data, field observations and results for completed work activities as outlined below, including, for each, the date of the test/activity and name and initials of the Engineer, Owner’s Representative and/or the Owner’s Special Inspector witnessing the test/activity. Format may be a combination of tables, forms, graphs and/or narrative as appropriate, as specified in “Action Submittals” in this Section and shown on sample formats at the end of this Section. For each test/activity, provide a narrative of any failed tests, corrective actions performed, and re-test results.
1. Flow testing: The complete piping system – Item tested, flow rate and duration, pressure drop, confirmation that minimum of 100% of system flow and at least two ft/sec flow rate were met, and pass/fail status.
 2. Pressure leak testing: Each loop, circuit, section of piping between circuits and the manifolds, and the complete piping system – Item tested, test duration, starting/ending pressure, and pass/fail status.
 3. Final flushing and purging (pre-charging): Complete piping system - Confirmation that minimum 100% of design flow, 20 passes through piping (10 passes in each direction) and clean strainers, no less than four ft/sec flow rate, and no visual sediment present in container after 24 hours were met.

3.7 DATA REPORTING FORMS

- A. Example forms follow at the end of this Section.

END OF SECTION 336137

(EXAMPLE FORMS FOR DATA REPORTING FOLLOW)

SAMPLE Geologic/Geothermal Loop Installation Log								
Client:		Drilling Contractor:			Loop Number			
Project Name:		Driller/Crew:						
Location:		Drill Rig Make/Model:						
Project No.:		Drilling Method(s):						
Depth (ft-bgs)	Strata Depth	Description	Groundwater Produced (GPM) - Depth (ft BGS)	Borehole Drilling				
100'				Ground Surface Elevation:				
				Borehole Drill Depth:	(ft-bgs / Elev.)			
				Top of Bedrock:	(ft-bgs / Elev.)			
				Casing Diameter, Type, Depth:	(ft-bgs / Elev.)			
				Casing Left in Ground:	Yes	No		
200'				Depth to Groundwater (rock holes):	(ft-bgs / Elev.)			
				Date(s) Drilled / Observed By:				
				Loop Installation				
				Loop Type, DR:				
				Loop Diameter:	(in)			
300'				Installed Loop Depth:	(ft-bgs)			
				Borehole Diameter:	(in)			
				Borehole Volume:	(cf / gal)			
				Date(s) Installed / Observed By:				
				Top of Loop Heat Sealed or Crimped (no tape allowed)	Yes	No		
400'				Grouting				
				Water:	(gal / batch)			
				Component 1:	(lbs / batch)			
				Component 2:	(lbs / batch)			
				Component 3:	(lbs / batch)			
				Batch Yield:	(gal / batch)			
No. Batches Injected:								
500'				Tremie Tube Diameter:	(in)			
				Tremie Tube Depth Embedment:	(ft-bgs)			
				Tremie Attached to Loop:	Yes	No (if No, record embed depth above)		
				Grout Return Observed at Surface:	Yes	No		
				Date Grouted / Observed By:				
				Checked Grout Settlement and Top Off:	Date:			
Additional Remarks, e.g., adjacent boreholes interconnected, drilling fluid/grout loss to formation (depth, amount), etc.:								

Last Modified: 05/22/2024 at 12:20PM EDT

SAMPLE
Daily Progress Report – Geothermal Loop Field Installation

Client:	Contractor:	Date:
Project Name:	No. Rig(s) Working:	By:
Project Location:	Type of Rig(s):	Supervisor:
Weather (°F):	Downtime:	Reason:

Loop Installation Production Today									
Loop No.	Overburden Drilled (lf)	Casing Installed (lf)	Rock Drilled (lf)	Total Drill Depth (lf)	Drilling Complete	Loop Installed	Loop Length* (lf)	Grout (No. Batches)	Grouting Complete
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>

* Loop length measured from top of casing

Circuit/ Main Installation Production Today						
Circuit No./ Main/ Header	Trenching Complete	Piping Installation Complete	Flow/ Pressure Testing Complete**	Warning Tape Installed	Backfill/ Compaction Complete	Notes/Remarks (piping run to plant, connected to manifold, testing pass or fail, etc.)
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

** Use separate form for recording flow and pressure testing data

Status of Total Production					
Item	Total in Project	Today	Total to Date	Percent Complete	Notes/Remarks
Drilling Completed (lf)					
Loops Installed (#)					
Grouting Completed (#)					
Loop Tie-ins Completed (#)					
Circuits Completed (#)					

Notes/ Remarks

Last Modified: 05/22/2024 at 12:20PM EDT

SAMPLE
Daily Flow and Pressure Testing Report – Loops, Circuits, Mains, Etc.

Client:	Date:	Controlled Inspector Present (Y/N): If Yes, Name: Company:
Project Name:	Contractor:	
Project Location:	Supervisor:	
Weather (°F):	Equipment:	

Flow Testing Performed Today

Loop Target Flow Rate _____ GPM (min. 100% system flow, min. 2 ft/sec). Loop Target Calculated Pressure Drop (ΔP) _____ psi.
 Circuit and Other Components Target Flow Rate and Calculated Pressure Drop are component-specific, must be individually calculated.

Component Tested (loop, circuit, main, pipe section, etc.)	Component Ident. No.	Flow Rate (gpm)	Supply Pressure (psi)	Return Pressure (psi)	Measured ΔP (psi)	Test Pass*	Test Fail**	Witness
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	

* Test Pass = Minimum target flow rate met and Measured ΔP is within 5% of Calculated ΔP .
 ** If Test Fails, locate, and remove blockage, and re-test flow until Test Passes before proceeding to pressure testing. Use bottom rows to record re-test data.

Hydrostatic Pressure Testing Performed Today

Must follow ASTM F2164 "Standard Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure" test method.

Component Tested (loop, circuit, main, pipe section, etc.)	Component Ident. No.	Start Time (hh:mm)	End Time Expansion Phase (hh:mm)	Elapsed Time (min.) ^o	Reduce pressure to 90 psi (Y/N)	Measured Pressure after 1 Hour (psi)	Test Pass ^{oo}	Test Fail ^{ooo}	Witness
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	

^o Must be min. 240 mins, adjust pressure as needed to maintain 100 psi.
^{oo} Test Pass = Pressure drop <5 psi over 1 hour. No top off of pressure allowed.
^{ooo} If Test Fails, take corrective action to locate and repair the leak(s), and re-test per ASTM method until Test Passes. Use bottom rows to record re-test data.

Last Modified: 05/22/2024 at 12:20PM EDT

SAMPLE
Completed System Final Flush, Flow and Pressure Testing Report

Client:	Contractor:	Controlled Inspector Present (Y/N):
Project Name:	Supervisor:	If Yes, Name:
Project Location:	Crew:	Company:
Weather (°F):	Equipment:	

Final System Flushing										
Date _____										
Target Flow Rate _____ GPM (min. 135% design flow, min. 4 ft/sec)										
Start Time (hh:mm)	Totalizer Reading Start (gals)	Flow Rate (gpm)	End Time (hh:mm)	Elapsed Time (min.)	Totalizer Reading End (gals)	Total Vol. Flushed (gals)	10 Passes/Volumes (Y/N)	Visible Bubbles (Y/N)*	24-Hr Visible Sediment (Y/N)*	Witness
Direction 1 (use second row below for re-flush data, as needed)										
Direction 2 (Reverse Direction 1) (use second row below for re-flush data, as needed)										

* If either are "Y," re-flush and re-check until both are "N" before proceeding to flow testing.

Final System Flow Testing												
Date _____ (Re-test Date, if needed _____)												
Target Flow Rate _____ GPM (min. 100% system flow, min. 2 ft/sec)							Target Calculated Pressure Drop (ΔP) _____ psi					
Start Time (hh:mm)	Totalizer Reading Start (gals)	Flow Rate (gpm)	End Time (hh:mm)	Elapsed Time (min.)	Totalizer Reading End (gals)	Total Vol. Flushed (gals)	Supply Pressure (psi)	Return Pressure (psi)	Measured ΔP (psi)	Test Pass**	Test Fail***	Witness
										<input type="checkbox"/>	<input type="checkbox"/>	
										<input type="checkbox"/>	<input type="checkbox"/>	
										<input type="checkbox"/>	<input type="checkbox"/>	

** Test Pass = Minimum target flow rate met and Measured ΔP is within 5% of Calculated ΔP .

*** If Test Fails, locate, and remove blockage, and re-test flow until Test Passes before proceeding to pressure testing. Use two bottom rows to record re-test data.

Final System Hydrostatic Pressure Testing							
Date _____ (Re-test Date, if needed _____)							
Must follow ASTM F2164 "Standard Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure" test method.							
Start Time (hh:mm)	End Time Expansion Phase (hh:mm)	Elapsed Time (min.) ^o	Reduce pressure to 90 psi (Y/N)	Measured Pressure after 1 Hour (psi)	Test Pass ^{oo}	Test Fail ^{ooo}	Witness
					<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input type="checkbox"/>	

^o Must be min. 240 mins, adjust pressure as needed to maintain 100 psi.

^{oo} Test Pass = Pressure drop <5 psi over 1 hour.

^{ooo} If Test Fails, take corrective action to locate and repair the leak(s), and re-test per ASTM method until Test Passes before proceeding to charging system. Use two bottom rows to record re-test data.