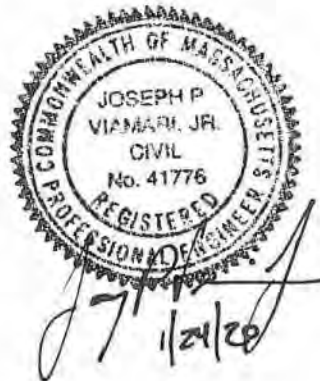


Project Manual
Volume 1 of 1

Birnie Road Landfill Closure Project Phase II

Town of Longmeadow
Longmeadow, Massachusetts

January 2020



Tighe & Bond

Town of Longmeadow, MA
Birnie Road Landfill Closure Project – Phase II
Longmeadow, MA
Table of Contents

<u>Section</u>	<u>Title</u>	<u>Number of Pages</u>
Division 0 – Bidding and Contract Requirements		
00100	Advertisement for Bids	1
00200	Instructions to Bidders	10
00410	Form for General Bid	8
00430	Bid Bond	2
00520	Agreement	7
00610	Performance Bond	3
00615	Payment Bond	3
00700	General Conditions	72
00800	Supplementary Conditions	13
	Attachments to Supplementary Conditions	
	A. Massachusetts State Wage Rates	33
	B. MassDEP Corrective Action Design Approval	10
	C. Town of Longmeadow Order of Conditions	10
Division 1 – General Requirements		
01110	Summary of Work	1
01140	Work Restrictions	1
01270	Measurement and Payment	5
01310	Coordination	3
01325	Scheduling of Construction	3
01330	Submittal Procedures	10
01350	Health and Safety Plan	4
01450	Quality Control	2
01451	Independent Testing Services	3
01520	Construction Facilities	1
01720	Field Engineering	2
01770	Closeout Procedures	2
Division 2 – Site Construction		
02075	Geosynthetics	3
02200	Site Preparation	2
02315	Excavation, Backfill, Compaction and Dewatering	8
02320	Borrow Material	3
02921	Vegetative Support Material	3
02922	Hydroseeding and Mulching	6

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

SECTION 00100

ADVERTISEMENT FOR BIDS

IFB – BIRNIE ROAD LANDFILL CLOSURE PROJECT, PHASE II
LONGMEADOW, MASSACHUSETTS
ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of the “Birnie Road Landfill Closure Project – Phase II” will be received at the Town of Longmeadow Purchasing Department until the **bid deadline of Thursday, February 27, 2020 at 11:00 a.m.** Sealed bids should be delivered to the following address: Town of Longmeadow, Purchasing Department, Attn: Chad Thompson, Procurement Manager, 735 Longmeadow Street, Suite 101, Longmeadow, MA 01106 (cthompson@longmeadow.org, P: 413-565-4185). Late bids will be rejected. Bids received will be publicly opened and read in the auditorium following the bid deadline. Sealed Bids must have outer envelope marked as “Town of Longmeadow, Birnie Road Landfill Closure Project – Phase II”, along with complete contact information of the bidder.

The work consists of site clearing, erosion controls, hydroseeding, grading and earthwork, and temporary access road removal. Bids shall be on a unit price basis as indicated in the Bid Form.

A voluntary pre-bid conference will be held at the landfill site on Birnie Road, Longmeadow, MA on Wednesday, February 12, 2020 at 11:00 am.

All Bids for this project are subject to the provisions of Massachusetts General Laws Chapter 30, Section 39M as amended.

Bid documents may be examined and/or obtained at the office of the Longmeadow Purchasing Department between 8:00am and 4:30pm, Monday through Thursday, and 8:00am to noon on Fridays. Bid documents may also be obtained online through the Purchasing Department page of the town website, www.longmeadow.org, select the link ‘Bids & RFPs’, then link ‘Bid & RFP Finder’ to access documents online. Bidders that download documents online are encouraged to register with the Longmeadow Purchasing Department to receive updates. Others will be responsible to monitor the website prior to the bid deadline for additional information and issued addenda. Failure to acknowledge the receipt of addenda may result in a bid rejection.

All bidders must furnish with their bid a bid guaranty in the form of a bid bond, cash or a certified check, treasurer’s check or cashier’s check issued by a responsible bank or trust company, in the amount of 5% of the total amount of the bid and made payable to the Town of Longmeadow, Massachusetts. Performance, and Labor and Materials Payment Bonds in the full amount of the contract price will be required of the successful bidder. No bid may be withdrawn less than thirty (30) days after the opening of bids.

Minimum Wage Rates as determined by the Commissioner of Department of Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the Contractor, before Bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed Work under this Contract. Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this project.

The Town of Longmeadow, acting through the Town Manager, the Awarding Authority reserves the right to reject any and all bids, waive minor informalities, and to award the contract in the best interest of the Town. The consulting engineer is Tighe & Bond, Inc. Westfield, Massachusetts.

END OF SECTION

SECTION 00200

INSTRUCTIONS TO BIDDERS

SECTION 00200

INSTRUCTIONS TO BIDDERS

TABLE OF ARTICLES

1. Defined Terms
2. Copies of Bidding Documents
3. Qualifications of Bidders
4. Site and Other Areas; Existing Site Conditions; Examination of Site; Owner's Safety Program; Other Work at the Site
5. Bidder's Representations
6. Pre-Bid Conference
7. Interpretations and Addenda
8. Bid Deposit
9. Contract Times
10. Liquidated Damages
11. Substitute and "Or Equal" Items
12. Subcontractors, Suppliers, and Others
13. Preparation of Bid
14. Basis of Bid
15. Submittal of Bid
16. Modification or Withdrawal of Bid
17. Opening of Bids
18. Disqualification of Bidders
19. Bids to Remain Subject to Acceptance
20. Evaluation of Bids and Award of Contract
21. Contract Securities
22. Contract Insurance
23. Signing of Agreement
24. Sales Taxes
25. Federal (Davis-Bacon) Wage Rates
26. Massachusetts Prevailing Wage Rates

ARTICLE 1 DEFINED TERMS

- 1.1 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions.

ARTICLE 2 COPIES OF BIDDING DOCUMENTS

- 2.1 Refer to Advertisement for Bids for information on examination and procurement of documents.
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 QUALIFICATIONS OF BIDDERS

- 3.1 Bidders shall be experienced in the kind of Work to be performed, shall have the necessary equipment, and shall possess sufficient capital to properly execute the Work within the time allowed. Bids received from Bidders who have previously failed to complete Work within the time required, or who have previously performed similar Work in an unsatisfactory manner, may be rejected. A Bid may be rejected if Bidder cannot show that he has the necessary ability, plant and equipment to commence the Work at the time prescribed and thereafter to prosecute and complete the Work at the rate or within the time specified. A Bid may be rejected if Bidder is already obligated for the performance of other Work which would delay the commencement, prosecution or completion of the Work.
- 3.2 Bidders may be investigated by Owner to determine if they are qualified to perform the Work. All Bidders shall be prepared to submit within five days of Owner's or Engineer's request, written evidence of such information and data necessary to make this determination. The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the jurisdiction where the project is located, has had previous experience and whether available equipment and financial resources are adequate to assure Owner that the Work will be completed in accordance with the terms of the Agreement. Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of such Bidder fails to satisfy Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.
 - A. Bidders may be required to provide a letter stating that the Bidder is in good financial standing. The letter must:
 1. Be provided by a financial institution or certified public accountant having a relationship with the Bidder;
 2. Be on the bank or accountant's letterhead;
 3. Include name and contact information for the bank or accountant including address, email and telephone number;
 4. Identify the account holder(s), whose names must match the name of the Bidder, the type and length of business relationship, and the historical status of the accounts (i.e. good standing, timely payments, no overdrafts, etc.); and

5. NOT include account numbers, account amounts, or lines of credit.

ARTICLE 4 SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.1 The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment are to be obtained and paid for by Contractor.

4.2 Site Visit and Testing by Bidders

- A. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- B. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- C. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- D. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.3 Owner's Safety Program

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

ARTICLE 5 BIDDER'S REPRESENTATIONS

5.1 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, including any Addenda, data, and referenced items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, or performance of the Work;
- D. carefully study all reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or adjacent to the Site which have been identified in the Supplementary Conditions, especially with respect to Technical Data in such

reports and drawings, and carefully study all reports and drawings relating to a Hazardous Environmental Condition, if any, at or adjacent to the Site which have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on 1) the cost, progress, and performance of the Work; 2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, , and 3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
- G. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- H. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and finishing of the Work; and
- I. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 PRE-BID CONFERENCE

- 6.1 A pre-bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 INTERPRETATIONS AND ADDENDA

- 7.1 All questions about the meaning or intent of the Bidding Documents shall be submitted in writing to the Town of Longmeadow Procurement Manager via email at cthompson@longmeadow.org. Prospective bidders are responsible for ensuring their questions are received by the Procurement Manager. In order to receive consideration, questions must be received by Procurement Manager at least five days prior to the date fixed for the opening of Bids. Interpretations or clarifications considered necessary by Procurement Manager in response to such questions will be issued by Addenda to all parties recorded by Procurement Manager as having received the Bidding Documents not later than three days prior to the date fixed for the opening of Bids. Only questions answered by

Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 7.2 Addenda may be issued to clarify, correct, supplement or change the Bidding Documents. Such Addenda, if any, will be issued in the manner and within the time period stated in paragraph 7.2.
- 7.3 The Bidder must acknowledge receipt of each Addendum, if any, in the space provided on the Bid Form.

ARTICLE 8 BID DEPOSIT

- 8.1 In the Bidding Documents, the terms “Bid security” and “Bid deposit” shall have the same meaning.
- 8.2 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5% of Bidder’s maximum Bid price (including any additive alternates) and in the form of a certified check, bank money order, cash, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.3 All Bid deposits of General Bidders, except those under consideration by Owner, will be returned within 5 days, excluding Saturdays, Sundays and legal holidays, after the opening of General Bids. Other Bid deposits will be returned upon the execution and delivery of the Agreement. The Bid deposit of the Successful Bidder will be retained until such bidder has furnished the required contract security and executed the Agreement, whereupon the bid deposit shall be returned. If the Successful Bidder fails to furnish the required contract security within 15 days after the Notice of Award and execute the Agreement within 5 days after receipt from Owner, Owner may annul the Notice of Award and the Bid deposit of that Bidder will be forfeited to Owner as liquidated damages for such failure.

ARTICLE 9 CONTRACT TIMES

- 9.1 The number of days within which, or the dates by which, the Work is to be:
- A. substantially completed, and/or
 - B. completed and ready for final payment
- are set forth in the Agreement.

ARTICLE 10 LIQUIDATED DAMAGES

- 10.1 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 SUBSTITUTE AND “OR EQUAL” ITEMS

- 11.1 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the effective date of the Contract.

ARTICLE 12 SUBCONTRACTORS, SUPPLIERS, AND OTHERS (NOT USED)**ARTICLE 13 PREPARATION OF BID**

- 13.1 A Bid must be made on the Bid form included with the Project Manual. The Bid form shall not be altered in any way. Each hard copy of the Bidding Documents contains a separate, unbound copy of the Bid form to be used for submittal.
- 13.2 The Bid form must be completed in ink. Blank spaces in the Bid form must be filled in correctly where indicated, and the Bidder must state, both in words and numerals, the prices for which he proposes to complete each and every item of Work. Ditto marks shall not be used.
- 13.3 A Bidder shall execute his Bid as stated below.
- A. A Bid by an individual shall show the Bidder's name and official address.
 - B. A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature) accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
 - C. A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature) and must be accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the corporate secretary. The state of incorporation and the official corporate address shall be shown.
 - D. A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
 - E. A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
 - F. All names must be printed in ink below the signature.
- 13.4 The Bid shall contain an acknowledgment of the receipt of all Addenda in the space provided on the Bid form.
- 13.5 Postal and email addresses and telephone number to which communications regarding the Bid are to be directed shall be shown.
- 13.6 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.
- 13.7 In order to be considered for selection, the Bidder must submit a complete bid package in accordance with these Bidding Documents. Partial Bids will not be accepted. Refer to the Bid Form for a list of documents that shall be submitted in addition to the Bid Form.
- 13.8 Any deviations in completion of the Bid Form and accompanying documents from the instructions provided in this Article may be cause for rejection of the Bid.

ARTICLE 14 BASIS OF BID**14.1 Unit Price**

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The “Bid Price” (sometimes referred to as the extended price) for each unit price Bid item will be the product of the “Estimated Quantity” (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding “Bid Unit Price” offered by the Bidder. The total of all unit price Bid items will be the sum of these “Bid Prices”; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- D. Unit prices for identical item numbers that are in more than one bid schedule shall be equal. Discrepancies will be resolved in favor of the lowest unit price.
- E. The price for alternates included in the Bid form will be the amount added to the base Bid if Owner selects the alternate. In the evaluation of Bids, alternates will be applied in the same order as listed in the Bid form. The award will be based on the lowest eligible Bid including all selected alternates.

14.2 Allowances

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor’s overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents in accordance with paragraph 13.02 of the General Conditions.

ARTICLE 15 SUBMITTAL OF BID

- 15.1 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement for Bids and shall be enclosed in an opaque sealed envelope plainly marked with the Project title, the name and address of Bidder, and shall be accompanied by the Bid deposit and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation “BID ENCLOSED”. When using the mail or other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to the time indicated in the Advertisement for Bids. A mailed Bid shall be addressed to Owner at the address in the Advertisement for Bids.
- 15.2 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 MODIFICATION OR WITHDRAWAL OF BID**16.1 Withdrawal Prior to Bid Opening**

- A. A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.2 Modification Prior to Bid Opening

- A. If a Bidder wishes to modify its Bid prior to the Bid opening, Bidder must withdraw its initial Bid in the manner specified in paragraph 16.1.A and submit a new Bid prior to the date and time for the opening of Bids.

ARTICLE 17 OPENING OF BIDS

- 17.1 Bids will be opened as indicated in the Advertisement for Bids and publicly read aloud.
- 17.2 In order to be considered for selection, Bids must arrive at the designated location on or before the date and time specified in the Advertisement for Bids. Bidders mailing their Bids should allow for normal mail delivery time to ensure timely receipt of their Bids by Owner.
- 17.3 Bids received by mail or otherwise after the time specified for the opening of Bids will not be accepted and will be returned to the Bidder unopened.
- 17.4 No responsibility will attach to Owner, its employees or the Engineer for premature opening of a Bid not properly addressed and identified in accordance with the Bidding Documents.

ARTICLE 18 DISQUALIFICATION OF BIDDERS

- 18.1 More than one Bid for the same Work from an individual, or a firm, partnership, corporation or an association under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder is interested.

ARTICLE 19 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 19.1 All Bids will remain subject to acceptance for the period of time stated in the Bid form, but Owner may, in its sole discretion, release any Bid and return the Bid deposit prior to the end of this period.

ARTICLE 20 EVALUATION OF BIDS AND AWARD OF CONTRACT

- 20.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities, and the right to disregard all nonconforming, nonresponsive or conditional Bids.
- 20.2 Owner reserves the right to reject any Bid not accompanied by specified documentation and Bid deposit.
- 20.3 Owner reserves the right to reject any Bid if it shows any omissions, alterations of form, additions not called for, conditions or qualifications, or irregularities of any kind.
- 20.4 Owner reserves the right to reject any Bid that, in his sole discretion, is considered to be unbalanced or unreasonable as to the amount bid for any lump sum or unit price item.
- 20.5 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

- 20.6 In evaluating whether a Bidder is responsible, Owner will consider the qualifications the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 20.7 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.
- 20.8 If the Owner awards the Contract for the Work, such award shall be to the responsible Bidder (who has neither been disqualified nor rejected pursuant to Article 18 or this Article 20) submitting the lowest responsive Bid.
- 20.9 Contents of the Bid of the Successful Bidder will become part of any contract awarded.

ARTICLE 21 CONTRACT SECURITIES

- 21.1 Performance and payment bonds shall be furnished by the successful Bidder. The amounts of and other requirements for performance and payment bonds are stated in Article 6 of the General Conditions. Performance and payment bonds submitted shall be posted by a recognized surety company having a place of business in the Commonwealth of Massachusetts. All performance and payment bonds signed by an agent must be accompanied by a certified copy of the authority to act. Performance Bonds and Payment Bonds shall be submitted on the forms included in Sections 00610 and 00615, respectively, of the Contract Documents. Additional requirements may be stated in the General or Supplementary Conditions.
- 21.2 Within 15 days from the date of the Notice of Award, the Successful Bidder shall deliver to Owner and Engineer, for review and approval, the performance bond and the payment bond he proposes to furnish at the time of the execution of the Agreement.
- 21.3 The required contract securities will become part of the Contract Documents.

ARTICLE 22 CONTRACT INSURANCE

- 22.1 The requirements for insurance to be provided by the Successful Bidder are stated in Article 6 of the General Conditions and in the Supplementary Conditions.
- 22.2 Within 15 days from the date of the Notice of Award, the Successful Bidder shall deliver evidence of required insurance to Owner and Engineer.
- 22.3 The required insurance certificates will become part of the Contract Documents.

ARTICLE 23 SIGNING OF AGREEMENT

- 23.1 The Owner will transmit the required number of unsigned Agreements to the Successful Bidder with the Notice of Award. Within 15 days of the date of the Notice of Award, the Successful Bidder shall sign the Agreements and return them to the Owner. The Owner will return one executed Contract to the Successful Bidder.

ARTICLE 24 SALES TAXES

- 24.1 Owner is exempt from Massachusetts State sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. The tax exemption

ARTICLE 25 MASSACHUSETTS PREVAILING WAGE RATES

- 25.1 Minimum Wage Rates as determined by the Commissioner of Department of Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Sections 26 to 27D, as amended, apply to this project. The Wage Rate Determination is included in Part II of the Supplementary Conditions.
- 25.2 It is the responsibility of the Bidder before bid opening to request any additional information on Minimum Wage Rates for those tradespeople who may be employed for the proposed Work under this Contract.

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SECTION 00410

BID FORM

SECTION 00410

BID FORM

PROJECT IDENTIFICATION:

Town of Longmeadow, MA
Birnie Road Landfill Closure Project – Phase II

TABLE OF ARTICLES

1. Bid Recipient
2. Bidder’s Acknowledgements
3. Bidder’s Representations
4. Bidder’s Certifications
5. Basis of Bid
6. Time of Completion
7. Attachments to This Bid
8. Bid Submittal

ARTICLE 1 - BID RECIPIENT

- 1.1 This Bid is submitted to:

Town of Longmeadow
Purchasing Department
Attn: Chad Thompson, Procurement Manager
735 Longmeadow Street, Suite 101
Longmeadow, MA 01106

- 1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER’S ACKNOWLEDGEMENTS

- 2.1 Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation, those dealing with the disposition of Bid deposit. The Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 2.2 The Work under this Contract shall be subject to the provisions of Chapter 30, Section 39M of the Massachusetts General Laws.

ARTICLE 3 - BIDDER’S REPRESENTATIONS

- 3.1 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents and hereby acknowledges the receipt of all Addenda.

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- K. Bidder is aware that the estimated quantities on the Bid Form are subject to Article 13.03 of the General Conditions (Section 00700).

ARTICLE 4 - BIDDER'S CERTIFICATION

- 4.1 Bidder hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work, that all employees to be employed at the Site 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 Bidder will comply fully with all laws and regulations applicable to awards made subject to MGL Chapter 30, Section 39M.

- 4.2 Bidder certifies that, under penalty of perjury, Bidder is not presently debarred from doing public construction work in the Commonwealth under the provisions of MGL Chapter 29, Section 29F or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder; and is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- 4.3 Bidder hereby certifies under the penalties of perjury, to the best of Bidder's knowledge and belief, that Bidder has filed all State tax returns and paid all State taxes required by law.
- 4.4 Bidder certifies under penalties of perjury that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used herein the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.
- 4.5 Bidder certifies that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- 4.6 Bidder certifies that Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- 4.7 Bidder certifies that Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- 4.8 Bidder certifies that Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:
 - A. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - B. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of the Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - C. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - D. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 - BASIS OF BID

- 5.1 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item Number	Item Name and Unit Bid Prices Written in Words and Figures	Estimated Quantity	Total Amount of Item (in figures)
1	Mobilization and Demobilization, per lump sum, the price of: <hr/> (\$ _____) *Not to exceed 5 percent of the total Bid price	lump sum* =	\$ _____
2	Dust Control Measures, per lump sum, the price of: <hr/> (\$ _____)	lump sum =	\$ _____
3	Stormwater Pollution Prevention Plan, per lump sum, the price of: <hr/> (\$ _____)	lump sum =	\$ _____
4	Erosion Control Barrier, per linear foot, the price of: <hr/> (\$ _____)	x 3,500 l.f. =	\$ _____
5	Erosion Control Blanket, per square yard, the price of: <hr/> (\$ _____)	x 2,000 s.y. =	\$ _____
6	Clearing and Grubbing, per acre, the price of: <hr/> (\$ _____)	x 11 acre =	\$ _____
7	Vegetative Support Material for Deficient Areas, per cubic yard, the price of: <hr/> (\$ _____)	x 1,800 c.y. =	\$ _____

- 8 Vegetative Support Material for Shaping and Grading, per cubic yard, the price of:

	x 5,000 c.y. =	\$ _____
(\$ _____)		

- 9 Low Permeability Material Layer, per cubic yard, the price of:

	x 3,000 c.y. =	\$ _____
(\$ _____)		

- 10 Gravel Access Road Removal, per square yard, the price of:

	x 1,400 s.y. =	\$ _____
(\$ _____)		

- 11 Hydroseed and Mulch, per acre, the price of:

	x 11 acre =	\$ _____
(\$ _____)		

TOTAL AMOUNT OF BASE BID – Items 1 through 11

_____ dollars

(words)

(\$ _____)

(figures)

5.2 This Bid includes Addenda numbered _____.

ARTICLE 6 - TIME OF COMPLETION

6.1 Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.2 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times as stated in the Agreement.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.1 The following documents are attached to and made a condition of this Bid:

- A. Bid deposit in the amount of _____ dollars (\$ _____), consisting of a bid bond in the amount of five percent of the total amount of Bid
- B. Evidence of authority to sign
- C. List of Project References

- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids

BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

(where applicable)

END OF SECTION

J:\L\L0759 Longmeadow Engineering Services\013 - Birnie Road LF Closure CAD\MassDEP CAD\Specs - Phase II\Division 0\00410-UP.docx

SECTION 00430

BID BOND

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION 00520

AGREEMENT

SECTION 00520

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION
CONTRACT

This Agreement is by and between the Town of Longmeadow, as requested by its Select Board hereinafter called Owner and _____ hereinafter called Contractor.

Owner and Contractor hereby agree as follows:

ARTICLE 1 WORK

- 1.1 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described with the following title: "Town of Longmeadow, Birnie Road Landfill Closure Project – Phase II".

ARTICLE 2 ENGINEER

- 2.1 The part of the Project that pertains to the Work has been designed by Tighe & Bond, Inc
- 2.2 The Owner has retained Tighe & Bond ("Engineer") to act as Owner's representative, assuming all duties and responsibilities, rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 3 CONTRACT TIMES

3.1 Time of the Essence

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

3.2 Substantial Completion and Final Payment

- A. The Work will be substantially completed on or before September 1, 2020, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before October 1, 2020.

3.3 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 3.1 above and that Owner will suffer financial and other losses if the Work is not completed within the times specified in Paragraph 3.2 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$1000 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 3.1 above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract), for completion and readiness for final payment, Contractor shall pay Owner \$1000 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 4 CONTRACT PRICE

- 4.1 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount equal to the prices stated in Contractor's Bid, attached hereto as an exhibit, subject to adjustment under the Contract.
- 4.2 The total amount will be adjusted by measurement of actual installed quantities in strict conformity with the provisions contained herein.

ARTICLE 5 PAYMENT PROCEDURES

- 5.1 Applications for Payment shall be processed in accordance with Article 15 of the General Conditions and in accordance with Massachusetts General Law.
- 5.2 Owner shall make progress payments on account of the Contract Price on the basis of processed Applications for Payment monthly during construction, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All progress payments will be measured by the Schedule of Values established as provided in the General Conditions, or in the event there is no schedule of values, as provided elsewhere in the Contract.
- 5.3 Owner shall retain from progress payments 5 percent of the value of Work completed.
- 5.4 Substantial Completion
 - A. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to ninety-nine percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.
- 5.5 Final Payment
 - A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 6 CONTRACTOR'S REPRESENTATIONS

- 6.1 Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 7 CONTRACT DOCUMENTS

7.1 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 00520-1 to 00520-7, inclusive);
 - 2. Performance Bond (pages 1 to 3, inclusive);

3. Payment Bond (pages 1 to 3, inclusive);
 4. General Conditions (title pages, table of contents, and pages 1 to 65, inclusive);
 5. Supplementary Conditions (pages 00800-1 to 00800-13, inclusive);
 6. Specifications (Divisions 1 through 2);
 7. Drawings (not attached but incorporated by reference) consisting of a cover sheet and sheets numbered G-001, C-001, C-002 C-003, inclusive, with each sheet bearing the following general title: Town of Longmeadow, MA, Birnie Road Landfill Closure Project – Phase II;
 8. Addenda (numbers _____ to _____, inclusive);
 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor’s Bid (pages 00410-1 to 00410-8, inclusive);
 - b. _____ Documentation submitted by Contractor prior to Notice of Award;
 10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed;
 - b. Work Change Directives;
 - c. Change Order(s);
 - d. Field Orders
- B. The documents listed in Paragraph 7.1.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 8 MISCELLANEOUS

8.1 Terms

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions and the Supplementary Conditions.

8.2 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.3 Successors and Assigns

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

8.4 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

8.5 Contractor Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.5:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. This Agreement will be effective on _____, _____ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution of other documents authorizing execution of Owner-Contractor Agreement.)

License No. _____
(Where applicable)

(If Contractor is a corporation or a partnership, attach evidence of authority to sign.)

Certified as to the availability of funds:

Date

Signed

Title

END OF SECTION

J:\L\L0759 Longmeadow Engineering Services\013 - Birnie Road LF Closure CAD\MassDEP CAD\Specs - Phase II\Division 0\00520.docx

SECTION 00610

PERFORMANCE BOND

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) 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 Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 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 Paragraph 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;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 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 Paragraph 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 Paragraph 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 Owners 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 Paragraph 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:

5.4.1 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

5.4.2 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 Paragraph 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 Paragraph 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 Paragraph 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 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:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 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 Paragraph 5; and

7.3 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 Paragraph 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 periods of limitations 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 for the Contractor for 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.

16. Modifications to this Bond are as follows:

SECTION 00615

PAYMENT BOND

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) 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 Paragraph 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 Paragraph 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,
 - 5.1.1 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
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 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 Paragraph 13).
6. If a notice of non-payment required by Paragraph 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 Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 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 Paragraph 7.1 or 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 Paragraph 7.1 or 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 Paragraph 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 Paragraph 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 requests 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 of "labor, materials, or equipment" that part of the 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:

SECTION 00700

GENERAL CONDITIONS

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters.....	6
2.01 Delivery of Bonds and Evidence of Insurance	6
2.02 Copies of Documents	6
2.03 Before Starting Construction	6
2.04 Preconstruction Conference; Designation of Authorized Representatives	7
2.05 Initial Acceptance of Schedules	7
2.06 Electronic Transmittals.....	7
Article 3 – Documents: Intent, Requirements, Reuse	8
3.01 Intent.....	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	8
3.04 Requirements of the Contract Documents	9
3.05 Reuse of Documents	10
Article 4 – Commencement and Progress of the Work.....	10
4.01 Commencement of Contract Times; Notice to Proceed	10
4.02 Starting the Work.....	10
4.03 Reference Points	10
4.04 Progress Schedule	10
4.05 Delays in Contractor’s Progress	11
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions	12
5.01 Availability of Lands	12
5.02 Use of Site and Other Areas	12
5.03 Subsurface and Physical Conditions.....	13
5.04 Differing Subsurface or Physical Conditions	14
5.05 Underground Facilities	15

5.06	Hazardous Environmental Conditions at Site.....	17
Article 6 – Bonds and Insurance		19
6.01	Performance, Payment, and Other Bonds	19
6.02	Insurance—General Provisions	19
6.03	Contractor’s Insurance	20
6.04	Owner’s Liability Insurance	23
6.05	Property Insurance.....	23
6.06	Waiver of Rights	25
6.07	Receipt and Application of Property Insurance Proceeds	25
Article 7 – Contractor’s Responsibilities		26
7.01	Supervision and Superintendence	26
7.02	Labor; Working Hours	26
7.03	Services, Materials, and Equipment.....	26
7.04	“Or Equals”	27
7.05	Substitutes	28
7.06	Concerning Subcontractors, Suppliers, and Others	29
7.07	Patent Fees and Royalties	31
7.08	Permits	31
7.09	Taxes	32
7.10	Laws and Regulations.....	32
7.11	Record Documents	32
7.12	Safety and Protection.....	32
7.13	Safety Representative	33
7.14	Hazard Communication Programs	33
7.15	Emergencies	34
7.16	Shop Drawings, Samples, and Other Submittals.....	34
7.17	Contractor’s General Warranty and Guarantee.....	36
7.18	Indemnification	37
7.19	Delegation of Professional Design Services	37
Article 8 – Other Work at the Site		38
8.01	Other Work	38
8.02	Coordination	39
8.03	Legal Relationships.....	39

Article 9 – Owner’s Responsibilities.....	40
9.01 Communications to Contractor.....	40
9.02 Replacement of Engineer	40
9.03 Furnish Data	40
9.04 Pay When Due.....	40
9.05 Lands and Easements; Reports, Tests, and Drawings	40
9.06 Insurance	40
9.07 Change Orders.....	40
9.08 Inspections, Tests, and Approvals.....	41
9.09 Limitations on Owner’s Responsibilities	41
9.10 Undisclosed Hazardous Environmental Condition.....	41
9.11 Evidence of Financial Arrangements.....	41
9.12 Safety Programs	41
Article 10 – Engineer’s Status During Construction.....	41
10.01 Owner’s Representative.....	41
10.02 Visits to Site.....	41
10.03 Project Representative.....	42
10.04 Rejecting Defective Work.....	42
10.05 Shop Drawings, Change Orders and Payments.....	42
10.06 Determinations for Unit Price Work	42
10.07 Decisions on Requirements of Contract Documents and Acceptability of Work	42
10.08 Limitations on Engineer’s Authority and Responsibilities.....	42
10.09 Compliance with Safety Program.....	43
Article 11 – Amending the Contract Documents; Changes in the Work	43
11.01 Amending and Supplementing Contract Documents	43
11.02 Owner-Authorized Changes in the Work	44
11.03 Unauthorized Changes in the Work	44
11.04 Change of Contract Price	44
11.05 Change of Contract Times	45
11.06 Change Proposals	45
11.07 Execution of Change Orders.....	46
11.08 Notification to Surety.....	47
Article 12 – Claims.....	47

12.01	Claims	47
Article 13 –	Cost of the Work; Allowances; Unit Price Work.....	48
13.01	Cost of the Work	48
13.02	Allowances	50
13.03	Unit Price Work	51
Article 14 –	Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....	52
14.01	Access to Work.....	52
14.02	Tests, Inspections, and Approvals	52
14.03	Defective Work.....	53
14.04	Acceptance of Defective Work.....	53
14.05	Uncovering Work	53
14.06	Owner May Stop the Work	54
14.07	Owner May Correct Defective Work.....	54
Article 15 –	Payments to Contractor; Set-Offs; Completion; Correction Period	55
15.01	Progress Payments	55
15.02	Contractor’s Warranty of Title	58
15.03	Substantial Completion	58
15.04	Partial Use or Occupancy	59
15.05	Final Inspection	59
15.06	Final Payment.....	59
15.07	Waiver of Claims	61
15.08	Correction Period	61
Article 16 –	Suspension of Work and Termination	62
16.01	Owner May Suspend Work	62
16.02	Owner May Terminate for Cause	62
16.03	Owner May Terminate For Convenience	63
16.04	Contractor May Stop Work or Terminate	63
Article 17 –	Final Resolution of Disputes	64
17.01	Methods and Procedures	64
Article 18 –	Miscellaneous	64
18.01	Giving Notice	64
18.02	Computation of Times.....	64
18.03	Cumulative Remedies	64

18.04	Limitation of Damages	65
18.05	No Waiver	65
18.06	Survival of Obligations	65
18.07	Controlling Law	65
18.08	Headings.....	65

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

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

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

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

4.02 *Starting the Work*

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

4.03 *Reference Points*

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

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 Supervision and Superintendence

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 Labor; Working Hours

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
 - C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
 - D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
 - E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
 - F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

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

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

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

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

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

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, 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 Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 Communications to Contractor

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Engineer

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 Furnish Data

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

9.04 Pay When Due

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 Change Orders

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00800

SUPPLEMENTARY CONDITIONS

SECTION 00800

SUPPLEMENTARY CONDITIONS

PART 1 AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2013 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

The address system used in the Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01 Add the following language at the end of the first sentence of paragraph 1.01A.40:

or has been completed except for work having a contract price of less than one percent of the then adjusted total Contract Price.

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.02 Delete paragraph 2.02A in its entirety.

ARTICLE 3 –DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01 Replace paragraph 3.01E with the following paragraph:

3.01E In the event of conflicts, inconsistencies or discrepancies among the Contract Documents, to the extent applicable, the better quality or greater quantity of work shall be provided without change to the Contract Price. In the event of such conflicts, inconsistencies or discrepancies which do not relate to the quality or quantity of work, the Contractor shall request clarifications or interpretations from the Engineer as provided herein.

SC-3.01 Add the following new paragraph immediately after paragraph 3.01E:

3.01F Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.01 Delete paragraph 4.01A in its entirety and insert the following in its place:

4.01A The Contract Times will commence to run on the date specified in the Notice to Proceed.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.04 Add the following new paragraph immediately after paragraph 5.04D.4:

5.04D.5 Adjustment resulting from subsurface or latent physical conditions will be in accordance with Massachusetts General Law Chapter 30, Section 39N referenced in Part II of the Supplementary Conditions.

SC-5.06 Delete Paragraphs 5.06A and 5.06B in their entirety and insert the following:

5.06A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to the Owner.

5.06B. Not used.

ARTICLE 6 - BONDS AND INSURANCE

SC-6.03 Add the following new paragraph immediately after paragraph 6.03B.3:

6.03B.4 Insurance certificate(s) shall also contain the following:

1. Confirmation that the General Liability policy covers only the Work under this Contract, with project specific limits.
2. Confirmation that automobile insurance covers all Scheduled, Hired and Non-Owned vehicles.
3. Names of all additional insureds as specified herein.

SC-6.03 Add the words “and Paragraph 6.04” after the words “Paragraph 6.03” in Paragraph 6.03I.

SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

6.03.K The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers’ Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State: Statutory

Employer's Liability:

Bodily injury, each accident	<u>Statutory</u>
Bodily injury by disease, each employee	<u>Statutory</u>
Bodily injury/disease aggregate	<u>Statutory</u>

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	<u>\$3,000,000</u>
Products - Completed Operations Aggregate	<u>\$3,000,000</u>
Personal and Advertising Injury Each Occurrence (Bodily Injury and Property Damage)	<u>\$1,000,000</u>

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Combined Single Limit of	<u>\$1,000,000</u>
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4. Excess or Umbrella Liability:

Per Occurrence	<u>\$1,000,000</u>
General Aggregate	<u>\$3,000,000</u>

5. Contractor's Pollution Liability:

Each Occurrence	<u>\$1,000,000</u>
General Aggregate	<u>\$1,000,000</u>

If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

SC-6.04 Delete paragraph 6.04 in its entirety and insert the following in its place:

6.04 Contractor shall purchase and maintain a separate Owner's Protective Liability policy, issued to Owner at the expense of Contractor, including Owner and Tighe & Bond as named insured. This insurance shall provide coverage for not less than the following amounts:

Bodily Injury	<u>\$2,000,000</u> Each Occurrence
	<u>\$2,000,000</u> Aggregate
Property Damage	<u>\$2,000,000</u> Each Occurrence
	<u>\$2,000,000</u> Aggregate

- A. Insurance coverage for the Contractor's Comprehensive General and Excess Liability policies and for the Owner's Protective Liability policy shall be written by one and the same insurance company to avoid the expense of duplicate and/or overlapping coverage and to facilitate and expedite the settlement of claims.
- B. The Owner's Protective Liability policy shall protect from claims which may arise from operations under the Contract, including operations performed for a named insured by independent contractors and general inspection or monitoring by a named insured. The policy also shall protect against Automobile Non-Ownership Liability in connection with the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

SC -6.05 Delete Section 6.05 in its entirety and insert the following in its place:

6.05 Not used.

SC-6.05 Add the following new subparagraph after subparagraph 6.05.A.1:

6.05.A.1.a In addition to Owner, Contractor, and all Subcontractors, include as insureds the following:

- 1) Tighe & Bond (53 Southampton Rd, Westfield, MA 01085)

ARTICLE 7 - CONTRACTOR'S RESPONSIBILITIES

SC-7.02 Add the following new paragraph immediately after paragraph 7.02B.

7.02C Whenever Owner shall notify Contractor in writing that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of Owner.

SC-7.06 Add the following language at the end of paragraph 7.06O.2:

Contractor shall make payments to Subcontractors in accordance with Massachusetts General Law Chapter 30, Section 39F which is referenced in PART II of these Supplementary Conditions.

SC-7.07 Delete paragraph 7.07B in its entirety and replace it with the following:

7.07B Not used.

SC-7.08 Delete the word "Owner" in the last sentence of Paragraph 7.08A and replace with the word "Contractor."

SC-7.08 Add the following new paragraph immediately after paragraph SC-7.08A:

7.08B The Owner has obtained the following permits and approvals for the Project. The Contractor is required to comply with the permit provisions. Copies of the permits are appended to this section.

- A. MADEP CAD Approval
- B. Town of Longmeadow Order of Conditions

SC-7.09 Add the following sentence at the end of paragraph 7.09.A.

All materials provided under this Contract are exempt from the Sales and Use Taxes of the Commonwealth of Massachusetts. The tax exemption number will be provided to the Contractor.

SC-7.10 Add the following new paragraph immediately after paragraph 7.10C.

7.10D Contractor shall comply with all applicable provisions of Chapter 30, Section 39R of the Massachusetts General Laws regarding Contractor's records.

SC-7.18 Add the following new paragraph immediately after paragraph 7.18.C.

7.18D If, through acts of neglect on the part of Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the Work, Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against Owner on account of any such damage alleged to have been sustained, Owner shall notify Contractor, who shall indemnify, defend, and save harmless Owner against any such claim.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

- 1. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor.

C. The RPR shall not:

- 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

SC-11.04 Delete paragraph 11.04C.2.c in its entirety and insert the following in its place:

11.04C.2.c where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01A.1 and 11.01A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the Cost of the Work, not including any Subcontractor's fee; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

SC-11.06 Insert the following sentence at the end of Paragraph 11.06.A.2:

If Engineer does not take action on the Change Proposal and neither Owner nor Contractor submit a letter to the other party indicating that the Change Proposal is deemed denied, then the Change Proposal shall be deemed denied after 60 days of Engineer's receipt of the Contractor's supporting data, thereby commencing the time for appeal of the denial under Article 12.

ARTICLE 13 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.01 Delete the word “superintendents,” in the second sentence after the word “limitation,” in paragraph 13.01B.1.

SC-13.01 Delete paragraph 13.01B.5.c in its entirety and replace with the following:

13.01B.5.c The fair rental and operating cost of all machinery and equipment used on the extra work for the period of such use. The fair rental and operating cost for all machinery and equipment shall be based upon the most recent edition of “Rental Rate Bluebook for Construction Equipment” (the “Bluebook”), published by Equipment Watch (equipmentwatch.com), or a similar publication approved by Engineer and adjusted for regional and age adjustments as specified in the “Bluebook.” Rental periods corresponding to the overall period of use shall be used, except if a piece of equipment used on extra work is already on the job, or has previously been rented for a long period of time (months), then the long-term rental rate (monthly) shall be used in determining costs. The hourly rental rate for long-term rental equipment will be determined by the monthly rental rate divided by 176.

For the situation where equipment is on the job and available for use but cannot be used due to a delay or suspension of a portion or all of the Contract activities, a rental standby rate may be paid if the Contractor can conclusively demonstrate to the satisfaction of the Engineer that: (1) the equipment cannot be used elsewhere on the Project or demobilized and remobilized at a cost lower than the cost of standby time, (2) that the equipment cannot be put in use due to factors beyond the Contractor’s control, and (3) the equipment on standby would have been used as part of the Work that is suspended or put on hold. The standby rate will be calculated as no more than 50% of the rental rate as listed in the “Bluebook” and adjusted for regional and age adjustments. Lesser standby rates may apply if the Owner or Engineer can demonstrate that the Contractor’s standby cost is less than this rate. The standby rate will not include operating costs. A standby rate will not be paid for equipment which is being employed for portions of the Work which are still underway. A standby rate will also not be paid for equipment which is readily demobilized including construction equipment categorized as “shop tools” or “miscellaneous” in the “Bluebook.” Standby rates for durations of less than four hours will not be considered.

SC-13.01 Insert in the first sentence after the word “architects,” the word “superintendents,” in paragraph 13.01C.1

SC-13.01 Add the following new paragraph immediately after paragraph 13.01C.5:

13.01C.6 Costs of or rental of small tools; costs of or rental of buildings.

SC-13.03 Delete Paragraph 13.03B in its entirety and replace it with the following:

13.03B Since subject to change upon determination of actual quantities, estimated quantities of items of Unit Price Work are not guaranteed and serve to facilitate comparison of Bids and to determine an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

ARTICLE 14 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-14.02 Insert after the word “notice” the words “(minimum 24 hours)” in paragraph 14.02A.

SC-14.03 Delete paragraph 14.03B in its entirety and replace with the following:

14.03B *Engineer’s Authority:* At any time during the progress of the Work, Engineer shall have the authority to determine whether Work is defective, and reject defective Work, even though such work has been previously inspected and paid for.

SC-14.06 Add the following new paragraph immediately after paragraph 14.06A.

14.06B If Owner stops work under Paragraph 14.06, Contractor shall not be entitled to an extension of Contract Time nor to an increase in Contract Price.

ARTICLE 15 - PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01 Delete the first sentence of paragraph 15.01B.1 and replace with the following:

15.01B.1 Engineer will, once in each month, make an estimate in writing of the total value of the work completed as of the date of the Application. Engineer shall review the Application with Contractor, and Contractor shall sign the Application.

SC-15.01 Insert the following sentence at the end of paragraph 15.01B.1:

The Certificate of Insurance for stored materials must list Tighe & Bond and the Town of Longmeadow as additional insureds.

SC-15.01 Delete paragraph 15.01C.1 in its entirety and insert the following in its place:

15.01C.1 Progress Payments will be made in accordance with Massachusetts General Law Chapter 30, Section 39G, which is referenced in Part II of these Supplementary Conditions.

SC-15.01 Delete paragraph 15.01D.1 in its entirety and insert the following in its place:

- 15.01D.1 Thirty days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- SC-15.03 Delete the second sentence in Paragraph 15.03A in its entirety.
- SC-15.03 Add the following new paragraph immediately after paragraph 15.03A:
- 15.03A.1 Substantial Completion shall be as defined in Chapter 30, Section 39G of the Massachusetts General Laws.
- SC-15.03 Delete paragraph 15.03C in its entirety and insert the following in its place:
- 15.03C If, after consultation with Owner, Engineer considers and the Owner agrees that the Work is substantially complete, Engineer will prepare and deliver to Contractor, in a form approved by Owner, a Certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be included with the certificate a list of items to be completed or corrected before final payment.
- SC-15.03 Delete the word "preliminary" from paragraph 15.03D.
- SC-15.03 Add the following new paragraph immediately after paragraph 15.03F:
- 15.03G. The procedure for Substantial Completion shall be in accordance with Chapter 30, Section 39G of the Massachusetts General Laws.
- SC-15.04 Add the following new paragraph immediately after paragraph 15.04A.3:
- 15.04A.4 Owner may at any time request Contractor in writing to permit Owner to take over operation of any part of the Work although it is not substantially complete. A copy of such request will be sent to Engineer, and within a reasonable time thereafter Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If Contractor does not object in writing to Owner and Engineer that such part of the Work is not ready for separate operation by Owner, Engineer will finalize the list of items to be completed or corrected and will deliver such lists to Owner and Contractor together with a written recommendation as to the division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, maintenance, utilities, insurance, warranties, and guarantees for that part of the Work which will become binding upon Owner and Contractor at the time when Owner takes over such operation (unless they shall have otherwise agreed in writing and so informed Engineer). During such operation and prior to Substantial Completion of such part of the Work, Owner shall allow

Contractor reasonable access to complete or correct items on said list and to complete other related Work.

Paragraph 15.04.A.4 shall be renumbered to 15.04.A.5

SC-15.06 Delete paragraph 15.06.D in its entirety and insert the following in its place:

- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, or other time period in accordance with applicable laws and regulations, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

ARTICLE 16 - SUSPENSION OF WORK AND TERMINATION

SC-16.01 Delete paragraph 16.01.A in its entirety and insert the following in its place:

- 16.01.A Owner may order, at any time and without cause, suspension of the Work in accordance with Massachusetts General Law Chapter 30, Section 39O, which is referenced in Part II of the Supplementary Conditions.

SC- 16.02 Add the following new paragraph immediately after paragraph 16.02.A.4:

- 16.02.A.5 If Contractor abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of Owner, or if the Contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

SC-17.02 Add the following paragraph after paragraph 17.01:

- 17.02 Venue
 - A. Any suit by either party arising under this Contract shall be brought only in the Superior Court in the county where the Project is located. The parties hereto waive any argument that this venue is improper or that the forum is inconvenient.

ARTICLE 18 - MISCELLANEOUS

SC-18.08 Add the following new paragraphs immediately after paragraph 18.08.

- 18.09 Wage Rates
 - A. The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor,

and to the schedule of minimum wage rates established in compliance with laws shall be a part of these Contract Documents. Copies of the wage schedules are included in Part II of these Supplementary Conditions. If it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation.

- B. The schedules of wages referred to above are minimum rates only, and Owner will not consider any claims for additional compensation made by Contractor because of payment by Contractor of any wage rate in excess of the applicable rate contained in these Contract Documents. All disputes in regard to the payment of wages in excess of those specified in the schedules shall be resolved by Contractor.
- C. Per MGL Chapter 149, Section 27, Contractor shall comply with annual updates to the prevailing wage schedule which shall be effective on the anniversary date of the execution of the Contract.
- D. The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.
- E. Both Federal and State schedules of minimum wage rates are included in Part II of these Supplementary Conditions. Where rates differ, the higher rates shall apply as a minimum for that trade.

18.10US EPA Phase II Storm Water Program

Comply with requirement of the US EPA Phase II Storm Water Program for Construction Activities Greater than 1 Acre.

PART II – FEDERAL AND STATE GOVERNMENT PROVISIONS

Federal and State Government Provisions referenced or included herein, have been selected from those to which specific references have been made elsewhere in the Contract Documents. Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein in accordance with paragraph 3.01.F of the Supplementary Conditions.

2.0 COMMONWEALTH OF MASSACHUSETTS PROVISIONS

- 2.1 The Owner and Contractor agree that the following Commonwealth of Massachusetts Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.
- 2.2 Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this Contract and any provision in violation of the foregoing shall be deemed null, void and of no effect.

Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirements shall apply.

- 2.3 Massachusetts General Laws
 - 2.3.1 Chapter 30, Section 39F
 - 2.3.2 Chapter 30, Section 39G
 - 2.3.3 Chapter 30, Section 39I
 - 2.3.4 Chapter 30, Section 39J
 - 2.3.5 Chapter 30, Section 39K
 - 2.3.6 Chapter 30, Section 39L
 - 2.3.7 Chapter 30, Section 39M
 - 2.3.8 Chapter 30, Section 39N
 - 2.3.9 Chapter 30, Section 39O
 - 2.3.10 Chapter 30, Section 39P
 - 2.3.11 Chapter 30, Section 39Q
 - 2.3.12 Chapter 30, Section 39R
 - 2.3.13 Chapter 44, Section 31C
 - 2.3.14 Chapter 82, Section 40
 - 2.3.15 Chapter 149, Section 34
 - 2.3.16 Chapter 149, Section 44F
 - 2.3.17 Chapter 149, Section 44G
 - 2.3.18 Chapter 149, Section 44J
- 2.4 520 CMR 14.00 Excavation Trench Safety
- 2.5 Massachusetts State Wage Rates
- 2.6 MassDEP BWP SW 25 Corrective Action Design – Permit Approval
- 2.7 Massachusetts Construction Grants Policy Memoranda
- 2.8 Conservation Commission Order of Conditions

END OF SECTION

J:\L\L0759 Longmeadow Engineering Services\013 - Birnie Road LF Closure CAD\MassDEP CAD\Specs - Phase II\Division 0\00800.docx

ATTACHMENTS TO SUPPLEMENTARY CONDITIONS

**ATTACHMENT A
MASSACHUSETTS STATE WAGE RATES**



**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**

CHARLES D. BAKER
Governor

ROSALIN ACOSTA
Secretary

KARYN E. POLITO
Lt. Governor

WILLIAM D MCKINNEY
Director

Awarding Authority: Town of Longmeadow
Contract Number: **City/Town:** LONGMEADOW
Description of Work: Birnie Road Landfill Closure Project Phase II - Site clearing, erosion control, removal of access road, grading, hydroseeding
Job Location: Birnie Road, Longmeadow, MA 01106

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

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>	12/01/2019	\$34.25	\$12.41	\$13.72	\$0.00	\$60.38
	06/01/2020	\$35.15	\$12.41	\$13.72	\$0.00	\$61.28
	08/01/2020	\$35.15	\$12.91	\$13.72	\$0.00	\$61.78
	12/01/2020	\$35.15	\$12.91	\$14.82	\$0.00	\$62.88
	06/01/2021	\$35.95	\$12.91	\$14.82	\$0.00	\$63.68
	08/01/2021	\$35.95	\$13.41	\$14.82	\$0.00	\$64.18
	12/01/2021	\$35.95	\$13.41	\$16.01	\$0.00	\$65.37
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$34.32	\$12.41	\$13.72	\$0.00	\$60.45
	06/01/2020	\$35.22	\$12.41	\$13.72	\$0.00	\$61.35
	08/01/2020	\$35.22	\$12.91	\$13.72	\$0.00	\$61.85
	12/01/2020	\$35.22	\$12.91	\$14.82	\$0.00	\$62.95
	06/01/2021	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	08/01/2021	\$36.02	\$13.41	\$14.82	\$0.00	\$64.25
	12/01/2021	\$36.02	\$13.41	\$16.01	\$0.00	\$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$34.44	\$12.41	\$13.72	\$0.00	\$60.57
	06/01/2020	\$35.34	\$12.41	\$13.72	\$0.00	\$61.47
	08/01/2020	\$35.34	\$12.91	\$13.72	\$0.00	\$61.97
	12/01/2020	\$35.34	\$12.91	\$14.82	\$0.00	\$63.07
	06/01/2021	\$36.14	\$12.91	\$14.82	\$0.00	\$63.87
	08/01/2021	\$36.14	\$13.41	\$14.82	\$0.00	\$64.37
	12/01/2021	\$36.14	\$13.41	\$16.01	\$0.00	\$65.56
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$32.25	\$8.10	\$14.78	\$0.00	\$55.13
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$32.25	\$8.10	\$12.72	\$0.00	\$53.07
	06/01/2020	\$33.06	\$8.10	\$12.72	\$0.00	\$53.88
	12/01/2020	\$33.87	\$8.10	\$12.72	\$0.00	\$54.69
	06/01/2021	\$34.71	\$8.10	\$12.72	\$0.00	\$55.53
	12/01/2021	\$35.54	\$8.10	\$12.72	\$0.00	\$56.36
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)</i>	12/01/2019	\$33.30	\$12.50	\$8.35	\$0.00	\$54.15
	06/01/2020	\$34.20	\$12.50	\$8.35	\$0.00	\$55.05
	12/01/2020	\$35.10	\$12.50	\$8.35	\$0.00	\$55.95
ASPHALT RAKER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
For apprentice rates see "Apprentice- LABORER"						
BATCH/CEMENT PLANT - ON SITE <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$32.25	\$8.10	\$14.78	\$0.00	\$55.13
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$32.25	\$8.10	\$12.72	\$0.00	\$53.07
	06/01/2020	\$33.06	\$8.10	\$12.72	\$0.00	\$53.88
	12/01/2020	\$33.87	\$8.10	\$12.72	\$0.00	\$54.69
	06/01/2021	\$34.71	\$8.10	\$12.72	\$0.00	\$55.53
	12/01/2021	\$35.54	\$8.10	\$12.72	\$0.00	\$56.36
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
2	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
3	70	\$32.27	\$7.07	\$12.59	\$0.00	\$51.93
4	75	\$34.58	\$7.07	\$13.49	\$0.00	\$55.14
5	80	\$36.88	\$7.07	\$14.38	\$0.00	\$58.33
6	85	\$39.19	\$7.07	\$15.29	\$0.00	\$61.55
7	90	\$41.49	\$7.07	\$16.18	\$0.00	\$64.74
8	95	\$43.80	\$7.07	\$17.09	\$0.00	\$67.96

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)</i>	08/01/2019	\$42.81	\$10.75	\$19.41	\$0.00	\$72.97
	02/01/2020	\$42.81	\$10.75	\$19.96	\$0.00	\$73.52
	08/01/2020	\$44.16	\$10.75	\$20.11	\$0.00	\$75.02
	02/01/2021	\$44.71	\$10.75	\$20.11	\$0.00	\$75.57
	08/01/2021	\$46.11	\$10.75	\$20.27	\$0.00	\$77.13
	02/01/2022	\$46.64	\$10.75	\$20.27	\$0.00	\$77.66

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Springfield/Pittsfield

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.41	\$10.75	\$19.41	\$0.00	\$51.57
2	60	\$25.69	\$10.75	\$19.41	\$0.00	\$55.85
3	70	\$29.97	\$10.75	\$19.41	\$0.00	\$60.13
4	80	\$34.25	\$10.75	\$19.41	\$0.00	\$64.41
5	90	\$38.53	\$10.75	\$19.41	\$0.00	\$68.69

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.41	\$10.75	\$19.96	\$0.00	\$52.12
2	60	\$25.69	\$10.75	\$19.96	\$0.00	\$56.40
3	70	\$29.97	\$10.75	\$19.96	\$0.00	\$60.68
4	80	\$34.25	\$10.75	\$19.96	\$0.00	\$64.96
5	90	\$38.53	\$10.75	\$19.96	\$0.00	\$69.24

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL OPERATING	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
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ENGINEERS LOCAL 98

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	12/01/2019	\$40.25	\$8.10	\$16.80	\$0.00	\$65.15
	06/01/2020	\$41.24	\$8.10	\$16.80	\$0.00	\$66.14
	12/01/2020	\$42.22	\$8.10	\$16.80	\$0.00	\$67.12
	06/01/2021	\$43.24	\$8.10	\$16.80	\$0.00	\$68.14
	12/01/2021	\$44.25	\$8.10	\$16.80	\$0.00	\$69.15

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER LABORERS - FOUNDATION AND MARINE	12/01/2019	\$39.10	\$8.10	\$16.80	\$0.00	\$64.00
	06/01/2020	\$40.09	\$8.10	\$16.80	\$0.00	\$64.99
	12/01/2020	\$41.07	\$8.10	\$16.80	\$0.00	\$65.97
	06/01/2021	\$42.09	\$8.10	\$16.80	\$0.00	\$66.99
	12/01/2021	\$43.10	\$8.10	\$16.80	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN LABORERS - FOUNDATION AND MARINE	12/01/2019	\$39.10	\$8.10	\$16.80	\$0.00	\$64.00
	06/01/2020	\$40.09	\$8.10	\$16.80	\$0.00	\$64.99
	12/01/2020	\$41.07	\$8.10	\$16.80	\$0.00	\$65.97
	06/01/2021	\$42.09	\$8.10	\$16.80	\$0.00	\$66.99
	12/01/2021	\$43.10	\$8.10	\$16.80	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

CARBIDE CORE DRILL OPERATOR LABORERS - ZONE 3 (BUILDING & SITE)	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER	09/02/2019	\$37.54	\$7.84	\$16.87	\$0.00	\$62.25
CARPENTERS LOCAL 336 - HAMPDEN HAMPSHIRE FRANKLIN	03/01/2020	\$38.04	\$7.84	\$16.87	\$0.00	\$62.75
	09/01/2020	\$38.54	\$7.84	\$16.87	\$0.00	\$63.25
	03/01/2021	\$39.04	\$7.84	\$16.87	\$0.00	\$63.75
	09/01/2021	\$39.54	\$7.84	\$16.87	\$0.00	\$64.25
	03/01/2022	\$40.04	\$7.84	\$16.87	\$0.00	\$64.75
	09/01/2022	\$40.54	\$7.84	\$16.87	\$0.00	\$65.25
	03/01/2023	\$41.04	\$7.84	\$16.87	\$0.00	\$65.75

Apprentice - CARPENTER - Local 336 Hampden Hampshire Franklin

Effective Date - 09/02/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.77	\$7.84	\$1.32	\$0.00	\$27.93
2	60	\$22.52	\$7.84	\$1.32	\$0.00	\$31.68
3	70	\$26.28	\$7.84	\$12.91	\$0.00	\$47.03
4	75	\$28.16	\$7.84	\$12.91	\$0.00	\$48.91
5	80	\$30.03	\$7.84	\$14.23	\$0.00	\$52.10
6	80	\$30.03	\$7.84	\$14.23	\$0.00	\$52.10
7	90	\$33.79	\$7.84	\$15.55	\$0.00	\$57.18
8	90	\$33.79	\$7.84	\$15.55	\$0.00	\$57.18

Effective Date - 03/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.02	\$7.84	\$1.32	\$0.00	\$28.18
2	60	\$22.82	\$7.84	\$1.32	\$0.00	\$31.98
3	70	\$26.63	\$7.84	\$12.91	\$0.00	\$47.38
4	75	\$28.53	\$7.84	\$12.91	\$0.00	\$49.28
5	80	\$30.43	\$7.84	\$14.23	\$0.00	\$52.50
6	80	\$30.43	\$7.84	\$14.23	\$0.00	\$52.50
7	90	\$34.24	\$7.84	\$15.55	\$0.00	\$57.63
8	90	\$34.24	\$7.84	\$15.55	\$0.00	\$57.63

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$26.05/ 3&4 \$31.09/ 5&6 \$48.35/ 7&8 \$53.42

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME	10/01/2019	\$23.49	\$7.07	\$7.86	\$0.00	\$38.42
CARPENTERS LOCAL 336 - HAMPDEN HAMPSHIRE FRANKLIN						

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - 336 Hampden Hampshire

Effective Date - 10/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.09	\$7.07	\$0.00	\$0.00	\$21.16
2	60	\$14.09	\$7.07	\$0.00	\$0.00	\$21.16
3	65	\$15.27	\$7.07	\$7.86	\$0.00	\$30.20
4	70	\$16.44	\$7.07	\$7.86	\$0.00	\$31.37
5	75	\$17.62	\$7.07	\$7.86	\$0.00	\$32.55
6	80	\$18.79	\$7.07	\$7.86	\$0.00	\$33.72
7	85	\$19.97	\$7.07	\$7.86	\$0.00	\$34.90
8	90	\$21.14	\$7.07	\$7.86	\$0.00	\$36.07

Notes:
 % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$17.64/ 3&4 \$24.74/ 5&6 \$31.37/ 7&8 \$33.72

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)</i>	01/01/2020	\$41.94	\$12.70	\$17.64	\$0.62	\$72.90
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Apprentice - CEMENT MASONRY/PLASTERING - Springfield/Pittsfield

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.97	\$12.70	\$15.41	\$0.00	\$49.08
2	60	\$25.16	\$12.70	\$17.64	\$0.62	\$56.12
3	65	\$27.26	\$12.70	\$17.64	\$0.62	\$58.22
4	70	\$29.36	\$12.70	\$17.64	\$0.62	\$60.32
5	75	\$31.46	\$12.70	\$17.64	\$0.62	\$62.42
6	80	\$33.55	\$12.70	\$17.64	\$0.62	\$64.51
7	90	\$37.75	\$12.70	\$17.64	\$0.62	\$68.71

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 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CRANE OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$38.90	\$11.94	\$14.35	\$0.00	\$65.19
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 3</i>	01/01/2020	\$50.96	\$8.20	\$22.10	\$0.00	\$81.26
	07/01/2020	\$52.06	\$8.20	\$22.10	\$0.00	\$82.36
	01/01/2021	\$53.16	\$8.20	\$22.10	\$0.00	\$83.46

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.48	\$8.20	\$0.00	\$0.00	\$33.68
2	55	\$28.03	\$8.20	\$5.94	\$0.00	\$42.17
3	60	\$30.58	\$8.20	\$6.48	\$0.00	\$45.26
4	65	\$33.12	\$8.20	\$7.02	\$0.00	\$48.34
5	70	\$35.67	\$8.20	\$18.86	\$0.00	\$62.73
6	75	\$38.22	\$8.20	\$19.40	\$0.00	\$65.82
7	80	\$40.77	\$8.20	\$19.94	\$0.00	\$68.91
8	90	\$45.86	\$8.20	\$21.02	\$0.00	\$75.08

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.20	\$0.00	\$0.00	\$34.23
2	55	\$28.63	\$8.20	\$5.94	\$0.00	\$42.77
3	60	\$31.24	\$8.20	\$6.48	\$0.00	\$45.92
4	65	\$33.84	\$8.20	\$7.02	\$0.00	\$49.06
5	70	\$36.44	\$8.20	\$18.86	\$0.00	\$63.50
6	75	\$39.05	\$8.20	\$19.40	\$0.00	\$66.65
7	80	\$41.65	\$8.20	\$19.94	\$0.00	\$69.79
8	90	\$46.85	\$8.20	\$21.02	\$0.00	\$76.07

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$39.30	\$8.10	\$16.60	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$40.30	\$8.10	\$16.60	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$40.05	\$8.10	\$16.60	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$40.30	\$8.10	\$16.60	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$40.05	\$8.10	\$16.60	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$39.30	\$8.10	\$16.60	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2019	\$68.52	\$9.90	\$21.15	\$0.00	\$99.57

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2019	\$73.41	\$9.90	\$21.15	\$0.00	\$104.46
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
ELECTRICIAN (Including Core Drilling) <i>ELECTRICIANS LOCAL 7</i>	12/29/2019	\$43.41	\$11.00	\$12.60	\$0.00	\$67.01

Apprentice - *ELECTRICIAN - Local 7*

Effective Date - 12/29/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.36	\$6.00	\$0.52	\$0.00	\$23.88
2	45	\$19.53	\$6.00	\$0.59	\$0.00	\$26.12
3	50	\$21.71	\$11.00	\$6.95	\$0.00	\$39.66
4	55	\$23.88	\$11.00	\$7.02	\$0.00	\$41.90
5	65	\$28.22	\$11.00	\$8.15	\$0.00	\$47.37
6	70	\$30.39	\$11.00	\$9.21	\$0.00	\$50.60

Notes:

Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

Apprentice to Journeyworker Ratio:2:3****

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2020	\$54.85	\$15.73	\$18.41	\$0.00	\$88.99
	01/01/2021	\$56.69	\$15.88	\$19.31	\$0.00	\$91.88
	01/01/2022	\$58.62	\$16.03	\$20.21	\$0.00	\$94.86

Apprentice - ELEVATOR CONSTRUCTOR - Local 41

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.43	\$15.73	\$0.00	\$0.00	\$43.16
2	55	\$30.17	\$15.73	\$18.41	\$0.00	\$64.31
3	65	\$35.65	\$15.73	\$18.41	\$0.00	\$69.79
4	70	\$38.40	\$15.73	\$18.41	\$0.00	\$72.54
5	80	\$43.88	\$15.73	\$18.41	\$0.00	\$78.02

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.35	\$15.88	\$0.00	\$0.00	\$44.23
2	55	\$31.18	\$15.88	\$19.31	\$0.00	\$66.37
3	65	\$36.85	\$15.88	\$19.31	\$0.00	\$72.04
4	70	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
5	80	\$45.35	\$15.88	\$19.31	\$0.00	\$80.54

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 41</i>	01/01/2020	\$38.40	\$15.73	\$18.41	\$0.00	\$72.54
	01/01/2021	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
	01/01/2022	\$41.03	\$16.03	\$20.21	\$0.00	\$77.27
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$18.84	\$4.80	\$4.10	\$0.00	\$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$21.33	\$4.80	\$4.10	\$0.00	\$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$22.33	\$4.80	\$4.10	\$0.00	\$31.23
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 7</i>	12/29/2019	\$43.41	\$11.00	\$12.60	\$0.00	\$67.01
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	12/29/2019	\$43.41	\$11.00	\$12.60	\$0.00	\$67.01
<i>LOCAL 7</i>						
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16

Apprentice - OPERATING ENGINEERS - Local 98 Class 3

Effective Date - 12/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.92	\$11.94	\$14.35	\$0.00	\$47.21
2	70	\$24.41	\$11.94	\$14.35	\$0.00	\$50.70
3	80	\$27.90	\$11.94	\$14.35	\$0.00	\$54.19
4	90	\$31.38	\$11.94	\$14.35	\$0.00	\$57.67

Notes:

Steps 1-2 are 1000 hrs.; Steps 3-4 are 2000 hrs.

Apprentice to Journeyworker Ratio:1:6

FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$23.50	\$8.10	\$12.72	\$0.00	\$44.32
	06/01/2020	\$23.50	\$8.10	\$12.72	\$0.00	\$44.32
	12/01/2020	\$24.50	\$8.10	\$12.72	\$0.00	\$45.32
	06/01/2021	\$24.50	\$8.10	\$12.72	\$0.00	\$45.32
	12/01/2021	\$24.50	\$8.10	\$12.72	\$0.00	\$45.32

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

FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE III</i>	09/01/2019	\$37.44	\$7.84	\$16.87	\$0.00	\$62.15
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Apprentice - FLOORCOVERER - Local 2168 Zone III

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.72	\$7.84	\$1.32	\$0.00	\$27.88
2	55	\$20.59	\$7.84	\$1.32	\$0.00	\$29.75
3	60	\$22.46	\$7.84	\$12.91	\$0.00	\$43.21
4	65	\$24.34	\$7.84	\$12.91	\$0.00	\$45.09
5	70	\$26.21	\$7.84	\$14.23	\$0.00	\$48.28
6	75	\$28.08	\$7.84	\$14.23	\$0.00	\$50.15
7	80	\$29.95	\$7.84	\$15.55	\$0.00	\$53.34
8	85	\$31.82	\$7.84	\$15.55	\$0.00	\$55.21

Notes: Steps are 750 hrs.

% After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&2 \$26.01/ 3&4 \$31.03/ 5&6 \$48.28/ 7&8 \$53.34

Apprentice to Journeyworker Ratio:1:1

FORK LIFT <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$35.09	\$11.94	\$14.35	\$0.00	\$61.38
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATORS/LIGHTING PLANTS <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$31.64	\$11.94	\$14.35	\$0.00	\$57.93
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 1333</i>	06/01/2019	\$38.18	\$10.60	\$9.90	\$0.00	\$58.68
	06/01/2020	\$39.18	\$10.80	\$10.45	\$0.00	\$60.43

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 1333

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.09	\$10.60	\$1.80	\$0.00	\$31.49
2	56	\$21.48	\$10.60	\$1.80	\$0.00	\$33.88
3	63	\$23.86	\$10.60	\$2.40	\$0.00	\$36.86
4	69	\$26.25	\$10.60	\$2.40	\$0.00	\$39.25
5	75	\$28.64	\$10.60	\$2.90	\$0.00	\$42.14
6	81	\$31.02	\$10.60	\$2.90	\$0.00	\$44.52
7	88	\$33.41	\$10.60	\$9.90	\$0.00	\$53.91
8	94	\$35.79	\$10.60	\$9.90	\$0.00	\$56.29

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.59	\$10.80	\$1.80	\$0.00	\$32.19
2	56	\$22.04	\$10.80	\$1.80	\$0.00	\$34.64
3	63	\$24.49	\$10.80	\$2.45	\$0.00	\$37.74
4	69	\$26.94	\$10.80	\$2.45	\$0.00	\$40.19
5	75	\$29.39	\$10.80	\$3.15	\$0.00	\$43.34
6	81	\$31.83	\$10.80	\$3.15	\$0.00	\$45.78
7	88	\$34.28	\$10.80	\$10.45	\$0.00	\$55.53
8	94	\$36.73	\$10.80	\$10.45	\$0.00	\$57.98

Notes:

Apprentice to Journeyworker Ratio:1:3

GRADER/TRENCHING MACHINE/DERRICK OPERATING ENGINEERS LOCAL 98	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63	01/01/2020	\$36.99	\$10.64	\$16.22	\$1.77	\$65.62
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 7	12/29/2019	\$43.41	\$11.00	\$12.60	\$0.00	\$67.01
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 63	01/01/2020	\$36.99	\$10.64	\$16.22	\$1.77	\$65.62
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PLUMBERS & PIPEFITTERS LOCAL 104</i>	09/17/2019	\$41.21	\$8.75	\$16.35	\$0.00	\$66.31
	03/17/2020	\$42.21	\$8.75	\$16.35	\$0.00	\$67.31
	09/17/2020	\$43.21	\$8.75	\$16.35	\$0.00	\$68.31
	03/17/2021	\$44.21	\$8.75	\$16.35	\$0.00	\$69.31
	09/17/2021	\$45.21	\$8.75	\$16.35	\$0.00	\$70.31
	03/17/2022	\$46.46	\$8.75	\$16.35	\$0.00	\$71.56
	09/17/2022	\$47.46	\$8.75	\$16.35	\$0.00	\$72.56
	03/17/2023	\$48.71	\$8.75	\$16.35	\$0.00	\$73.81
	09/17/2023	\$49.71	\$8.75	\$16.35	\$0.00	\$74.81
	03/17/2024	\$50.96	\$8.75	\$16.35	\$0.00	\$76.06
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PLUMBERS & PIPEFITTERS LOCAL 104</i>	09/17/2019	\$41.21	\$8.75	\$16.35	\$0.00	\$66.31
	03/17/2020	\$42.21	\$8.75	\$16.35	\$0.00	\$67.31
	09/17/2020	\$43.21	\$8.75	\$16.35	\$0.00	\$68.31
	03/17/2021	\$44.21	\$8.75	\$16.35	\$0.00	\$69.31
	09/17/2021	\$45.21	\$8.75	\$16.35	\$0.00	\$70.31
	03/17/2022	\$46.46	\$8.75	\$16.35	\$0.00	\$71.56
	09/17/2022	\$47.46	\$8.75	\$16.35	\$0.00	\$72.56
	03/17/2023	\$48.71	\$8.75	\$16.35	\$0.00	\$73.81
	09/17/2023	\$49.71	\$8.75	\$16.35	\$0.00	\$74.81
	03/17/2024	\$50.96	\$8.75	\$16.35	\$0.00	\$76.06
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$32.25	\$8.10	\$12.72	\$0.00	\$53.07
	06/01/2020	\$33.06	\$8.10	\$12.72	\$0.00	\$53.88
	12/01/2020	\$33.87	\$8.10	\$12.72	\$0.00	\$54.69
	06/01/2021	\$34.71	\$8.10	\$12.72	\$0.00	\$55.53
	12/01/2021	\$35.54	\$8.10	\$12.72	\$0.00	\$56.36
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)</i>	09/01/2019	\$38.75	\$12.80	\$16.40	\$0.00	\$67.95

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Springfield

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.38	\$12.80	\$11.90	\$0.00	\$44.08
2	60	\$23.25	\$12.80	\$12.80	\$0.00	\$48.85
3	70	\$27.13	\$12.80	\$13.70	\$0.00	\$53.63
4	80	\$31.00	\$12.80	\$14.60	\$0.00	\$58.40

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (SPRINGFIELD AREA)</i>	09/16/2019	\$35.10	\$8.00	\$20.75	\$0.00	\$63.85
	03/16/2020	\$35.95	\$8.00	\$20.75	\$0.00	\$64.70
	09/16/2020	\$36.85	\$8.00	\$20.75	\$0.00	\$65.60
	03/16/2021	\$37.70	\$8.00	\$20.75	\$0.00	\$66.45

Apprentice - IRONWORKER - Local 7 Springfield

Effective Date - 09/16/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.06	\$8.00	\$20.75	\$0.00	\$49.81
2	70	\$24.57	\$8.00	\$20.75	\$0.00	\$53.32
3	75	\$26.33	\$8.00	\$20.75	\$0.00	\$55.08
4	80	\$28.08	\$8.00	\$20.75	\$0.00	\$56.83
5	85	\$29.84	\$8.00	\$20.75	\$0.00	\$58.59
6	90	\$31.59	\$8.00	\$20.75	\$0.00	\$60.34

Effective Date - 03/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.57	\$8.00	\$20.75	\$0.00	\$50.32
2	70	\$25.17	\$8.00	\$20.75	\$0.00	\$53.92
3	75	\$26.96	\$8.00	\$20.75	\$0.00	\$55.71
4	80	\$28.76	\$8.00	\$20.75	\$0.00	\$57.51
5	85	\$30.56	\$8.00	\$20.75	\$0.00	\$59.31
6	90	\$32.36	\$8.00	\$20.75	\$0.00	\$61.11

Notes:

Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.50	\$8.10	\$14.78	\$0.00	\$54.38
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Apprentice - LABORER - Zone 3 Building & Site

Effective Date - 12/02/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.90	\$8.10	\$14.78	\$0.00	\$41.78
2	70	\$22.05	\$8.10	\$14.78	\$0.00	\$44.93
3	80	\$25.20	\$8.10	\$14.78	\$0.00	\$48.08
4	90	\$28.35	\$8.10	\$14.78	\$0.00	\$51.23

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.50	\$8.10	\$12.72	\$0.00	\$52.32
	06/01/2020	\$32.31	\$8.10	\$12.72	\$0.00	\$53.13
	12/01/2020	\$33.12	\$8.10	\$12.72	\$0.00	\$53.94
	06/01/2021	\$33.96	\$8.10	\$12.72	\$0.00	\$54.78
	12/01/2021	\$34.79	\$8.10	\$12.72	\$0.00	\$55.61

Apprentice - LABORER (Heavy & Highway) - Zone 3

Effective Date - 12/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.90	\$8.10	\$12.72	\$0.00	\$39.72
2	70	\$22.05	\$8.10	\$12.72	\$0.00	\$42.87
3	80	\$25.20	\$8.10	\$12.72	\$0.00	\$46.02
4	90	\$28.35	\$8.10	\$12.72	\$0.00	\$49.17

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.39	\$8.10	\$12.72	\$0.00	\$40.21
2	70	\$22.62	\$8.10	\$12.72	\$0.00	\$43.44
3	80	\$25.85	\$8.10	\$12.72	\$0.00	\$46.67
4	90	\$29.08	\$8.10	\$12.72	\$0.00	\$49.90

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.50	\$8.10	\$14.78	\$0.00	\$54.38
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/01/2019	\$31.60	\$8.10	\$14.78	\$0.00	\$54.48
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$32.50	\$8.10	\$14.78	\$0.00	\$55.38
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.50	\$8.10	\$14.78	\$0.00	\$54.38
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.50	\$8.10	\$14.78	\$0.00	\$54.38

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR LABORERS - ZONE 3 (BUILDING & SITE)	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86

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

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	08/01/2019	\$35.17	\$10.75	\$18.87	\$0.00	\$64.79
	02/01/2020	\$35.17	\$10.75	\$19.37	\$0.00	\$65.29
	08/01/2020	\$36.17	\$10.75	\$19.49	\$0.00	\$66.41
	02/01/2021	\$36.67	\$10.75	\$19.49	\$0.00	\$66.91
	08/01/2021	\$37.67	\$10.75	\$19.62	\$0.00	\$68.04
	02/01/2022	\$38.12	\$10.75	\$19.62	\$0.00	\$68.49

Apprentice - MARBLE-TILE FINISHER-Local 3 Marble/Tile (Spr/Pitt)

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.59	\$10.75	\$18.87	\$0.00	\$47.21
2	60	\$21.10	\$10.75	\$18.87	\$0.00	\$50.72
3	70	\$24.62	\$10.75	\$18.87	\$0.00	\$54.24
4	80	\$28.14	\$10.75	\$18.87	\$0.00	\$57.76
5	90	\$31.65	\$10.75	\$18.87	\$0.00	\$61.27

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.59	\$10.75	\$19.37	\$0.00	\$47.71
2	60	\$21.10	\$10.75	\$19.37	\$0.00	\$51.22
3	70	\$24.62	\$10.75	\$19.37	\$0.00	\$54.74
4	80	\$28.14	\$10.75	\$19.37	\$0.00	\$58.26
5	90	\$31.65	\$10.75	\$19.37	\$0.00	\$61.77

Notes:

Apprentice to Journeyworker Ratio:1:5

MARBLE MASON/TILE LAYER(SP/PT)SeeBrick
BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE

See "BRICK/STONE/ARTIFICIAL MASONRY(INCL.MASONRY WATERPROOFING)"

MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 98	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANIC/WELDER/BOOM TRUCK OPERATING ENGINEERS LOCAL 98	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MILLWRIGHT (Zone 3) MILLWRIGHTS LOCAL 1121 - Zone 3	04/01/2019	\$37.11	\$9.90	\$18.50	\$0.00	\$65.51

Apprentice - MILLWRIGHT - Local 1121 Zone 3

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.41	\$9.90	\$5.31	\$0.00	\$35.62
2	65	\$24.12	\$9.90	\$15.13	\$0.00	\$49.15
3	75	\$27.83	\$9.90	\$16.10	\$0.00	\$53.83
4	85	\$31.54	\$9.90	\$17.06	\$0.00	\$58.50

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 3 (BUILDING & SITE)	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

OILER OPERATING ENGINEERS LOCAL 98	12/01/2019	\$30.56	\$11.94	\$14.35	\$0.00	\$56.85
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS VI OPERATING ENGINEERS LOCAL 98	12/01/2019	\$28.58	\$11.94	\$14.35	\$0.00	\$54.87
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 3	01/01/2020	\$50.96	\$8.20	\$22.10	\$0.00	\$81.26
	07/01/2020	\$52.06	\$8.20	\$22.10	\$0.00	\$82.36
	01/01/2021	\$53.16	\$8.20	\$22.10	\$0.00	\$83.46

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.48	\$8.20	\$0.00	\$0.00	\$33.68
2	55	\$28.03	\$8.20	\$5.94	\$0.00	\$42.17
3	60	\$30.58	\$8.20	\$6.48	\$0.00	\$45.26
4	65	\$33.12	\$8.20	\$7.02	\$0.00	\$48.34
5	70	\$35.67	\$8.20	\$18.86	\$0.00	\$62.73
6	75	\$38.22	\$8.20	\$19.40	\$0.00	\$65.82
7	80	\$40.77	\$8.20	\$19.94	\$0.00	\$68.91
8	90	\$45.86	\$8.20	\$21.02	\$0.00	\$75.08

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.20	\$0.00	\$0.00	\$34.23
2	55	\$28.63	\$8.20	\$5.94	\$0.00	\$42.77
3	60	\$31.24	\$8.20	\$6.48	\$0.00	\$45.92
4	65	\$33.84	\$8.20	\$7.02	\$0.00	\$49.06
5	70	\$36.44	\$8.20	\$18.86	\$0.00	\$63.50
6	75	\$39.05	\$8.20	\$19.40	\$0.00	\$66.65
7	80	\$41.65	\$8.20	\$19.94	\$0.00	\$69.79
8	90	\$46.85	\$8.20	\$21.02	\$0.00	\$76.07

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SIGN, PICTORIAL & DISPLAY) PAINTERS LOCAL 35 - ZONE 3	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER SIGN - Local 35 Zone 3

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2020	\$34.33	\$8.20	\$18.20	\$0.00	\$60.73
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 3	07/01/2020	\$35.43	\$8.20	\$18.20	\$0.00	\$61.83
	01/01/2021	\$36.53	\$8.20	\$18.20	\$0.00	\$62.93

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 3 - Spray/Sandblast - New

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.17	\$8.20	\$0.00	\$0.00	\$25.37
2	55	\$18.88	\$8.20	\$3.80	\$0.00	\$30.88
3	60	\$20.60	\$8.20	\$4.14	\$0.00	\$32.94
4	65	\$22.31	\$8.20	\$4.49	\$0.00	\$35.00
5	70	\$24.03	\$8.20	\$16.13	\$0.00	\$48.36
6	75	\$25.75	\$8.20	\$16.48	\$0.00	\$50.43
7	80	\$27.46	\$8.20	\$16.82	\$0.00	\$52.48
8	90	\$30.90	\$8.20	\$17.51	\$0.00	\$56.61

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.72	\$8.20	\$0.00	\$0.00	\$25.92
2	55	\$19.49	\$8.20	\$3.80	\$0.00	\$31.49
3	60	\$21.26	\$8.20	\$4.14	\$0.00	\$33.60
4	65	\$23.03	\$8.20	\$4.49	\$0.00	\$35.72
5	70	\$24.80	\$8.20	\$16.13	\$0.00	\$49.13
6	75	\$26.57	\$8.20	\$16.48	\$0.00	\$51.25
7	80	\$28.34	\$8.20	\$16.82	\$0.00	\$53.36
8	90	\$31.89	\$8.20	\$17.51	\$0.00	\$57.60

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2020	\$31.65	\$8.20	\$18.20	\$0.00	\$58.05
PAINTERS LOCAL 35 - ZONE 3	07/01/2020	\$32.75	\$8.20	\$18.20	\$0.00	\$59.15
	01/01/2021	\$33.85	\$8.20	\$18.20	\$0.00	\$60.25

Apprentice - PAINTER Local 35 Zone 3 - Spray/Sandblast - Repaint

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.83	\$8.20	\$0.00	\$0.00	\$24.03
2	55	\$17.41	\$8.20	\$3.80	\$0.00	\$29.41
3	60	\$18.99	\$8.20	\$4.14	\$0.00	\$31.33
4	65	\$20.57	\$8.20	\$4.49	\$0.00	\$33.26
5	70	\$22.16	\$8.20	\$16.13	\$0.00	\$46.49
6	75	\$23.74	\$8.20	\$16.48	\$0.00	\$48.42
7	80	\$25.32	\$8.20	\$16.82	\$0.00	\$50.34
8	90	\$28.49	\$8.20	\$17.51	\$0.00	\$54.20

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.38	\$8.20	\$0.00	\$0.00	\$24.58
2	55	\$18.01	\$8.20	\$3.80	\$0.00	\$30.01
3	60	\$19.65	\$8.20	\$4.14	\$0.00	\$31.99
4	65	\$21.29	\$8.20	\$4.49	\$0.00	\$33.98
5	70	\$22.93	\$8.20	\$16.13	\$0.00	\$47.26
6	75	\$24.56	\$8.20	\$16.48	\$0.00	\$49.24
7	80	\$26.20	\$8.20	\$16.82	\$0.00	\$51.22
8	90	\$29.48	\$8.20	\$17.51	\$0.00	\$55.19

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2020	\$32.93	\$8.20	\$18.20	\$0.00	\$59.33
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 3	07/01/2020	\$34.03	\$8.20	\$18.20	\$0.00	\$60.43
	01/01/2021	\$35.13	\$8.20	\$18.20	\$0.00	\$61.53

Apprentice - PAINTER - Local 35 Zone 3 - BRUSH NEW

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.47	\$8.20	\$0.00	\$0.00	\$24.67
2	55	\$18.11	\$8.20	\$3.80	\$0.00	\$30.11
3	60	\$19.76	\$8.20	\$4.14	\$0.00	\$32.10
4	65	\$21.40	\$8.20	\$4.49	\$0.00	\$34.09
5	70	\$23.05	\$8.20	\$16.13	\$0.00	\$47.38
6	75	\$24.70	\$8.20	\$16.48	\$0.00	\$49.38
7	80	\$26.34	\$8.20	\$16.82	\$0.00	\$51.36
8	90	\$29.64	\$8.20	\$17.51	\$0.00	\$55.35

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.02	\$8.20	\$0.00	\$0.00	\$25.22
2	55	\$18.72	\$8.20	\$3.80	\$0.00	\$30.72
3	60	\$20.42	\$8.20	\$4.14	\$0.00	\$32.76
4	65	\$22.12	\$8.20	\$4.49	\$0.00	\$34.81
5	70	\$23.82	\$8.20	\$16.13	\$0.00	\$48.15
6	75	\$25.52	\$8.20	\$16.48	\$0.00	\$50.20
7	80	\$27.22	\$8.20	\$16.82	\$0.00	\$52.24
8	90	\$30.63	\$8.20	\$17.51	\$0.00	\$56.34

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2020	\$30.25	\$8.20	\$18.20	\$0.00	\$56.65
PAINTERS LOCAL 35 - ZONE 3	07/01/2020	\$31.35	\$8.20	\$18.20	\$0.00	\$57.75
	01/01/2021	\$32.45	\$8.20	\$18.20	\$0.00	\$58.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 3 - BRUSH REPAINT

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.13	\$8.20	\$0.00	\$0.00	\$23.33
2	55	\$16.64	\$8.20	\$3.80	\$0.00	\$28.64
3	60	\$18.15	\$8.20	\$4.14	\$0.00	\$30.49
4	65	\$19.66	\$8.20	\$4.49	\$0.00	\$32.35
5	70	\$21.18	\$8.20	\$16.13	\$0.00	\$45.51
6	75	\$22.69	\$8.20	\$16.48	\$0.00	\$47.37
7	80	\$24.20	\$8.20	\$16.82	\$0.00	\$49.22
8	90	\$27.23	\$8.20	\$17.51	\$0.00	\$52.94

Effective Date - 07/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.68	\$8.20	\$0.00	\$0.00	\$23.88
2	55	\$17.24	\$8.20	\$3.80	\$0.00	\$29.24
3	60	\$18.81	\$8.20	\$4.14	\$0.00	\$31.15
4	65	\$20.38	\$8.20	\$4.49	\$0.00	\$33.07
5	70	\$21.95	\$8.20	\$16.13	\$0.00	\$46.28
6	75	\$23.51	\$8.20	\$16.48	\$0.00	\$48.19
7	80	\$25.08	\$8.20	\$16.82	\$0.00	\$50.10
8	90	\$28.22	\$8.20	\$17.51	\$0.00	\$53.93

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/01/2019	\$31.50	\$8.10	\$12.72	\$0.00	\$52.32
	06/01/2020	\$32.31	\$8.10	\$12.72	\$0.00	\$53.13
	12/01/2020	\$33.12	\$8.10	\$12.72	\$0.00	\$53.94
	06/01/2021	\$33.96	\$8.10	\$12.72	\$0.00	\$54.78
	12/01/2021	\$34.79	\$8.10	\$12.72	\$0.00	\$55.61

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

PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/01/2019	\$34.08	\$12.41	\$13.72	\$0.00	\$60.21
	06/01/2020	\$34.98	\$12.41	\$13.72	\$0.00	\$61.11
	08/01/2020	\$34.98	\$12.91	\$13.72	\$0.00	\$61.61
	12/01/2020	\$34.98	\$12.91	\$14.82	\$0.00	\$62.71
	06/01/2021	\$35.78	\$12.91	\$14.82	\$0.00	\$63.51
	08/01/2021	\$35.78	\$13.41	\$14.82	\$0.00	\$64.01
	12/01/2021	\$35.78	\$13.41	\$16.01	\$0.00	\$65.20

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 (ZONE 3)	08/01/2019	\$43.79	\$9.90	\$21.15	\$0.00	\$74.84
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For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER PILE DRIVER LOCAL 56 (ZONE 3)	08/01/2019	\$43.79	\$9.90	\$21.15	\$0.00	\$74.84
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Apprentice - PILE DRIVER - Local 56 Zone 3

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: Apprentice wages shall be no less than the following Steps;
 (Same as set in Zone 1)
 1\$54.34/2\$58.99/3\$63.65/4\$65.98/5\$68.31/6\$68.31/7\$72.96/8\$72.96

Apprentice to Journeyworker Ratio:1:5

PIPELAYER <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
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For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86

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

PLUMBER & PIPEFITTER <i>PLUMBERS & PIPEFITTERS LOCAL 104</i>	09/17/2019	\$41.21	\$8.75	\$16.35	\$0.00	\$66.31
	03/17/2020	\$42.21	\$8.75	\$16.35	\$0.00	\$67.31
	09/17/2020	\$43.21	\$8.75	\$16.35	\$0.00	\$68.31
	03/17/2021	\$44.21	\$8.75	\$16.35	\$0.00	\$69.31
	09/17/2021	\$45.21	\$8.75	\$16.35	\$0.00	\$70.31
	03/17/2022	\$46.46	\$8.75	\$16.35	\$0.00	\$71.56
	09/17/2022	\$47.46	\$8.75	\$16.35	\$0.00	\$72.56
	03/17/2023	\$48.71	\$8.75	\$16.35	\$0.00	\$73.81
	09/17/2023	\$49.71	\$8.75	\$16.35	\$0.00	\$74.81
	03/17/2024	\$50.96	\$8.75	\$16.35	\$0.00	\$76.06

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/PIPEFITTER - Local 104

Effective Date - 09/17/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.54	\$8.75	\$9.60	\$0.00	\$36.89
2	50	\$20.61	\$8.75	\$9.60	\$0.00	\$38.96
3	55	\$22.67	\$8.75	\$9.60	\$0.00	\$41.02
4	60	\$24.73	\$8.75	\$9.60	\$0.00	\$43.08
5	65	\$26.79	\$8.75	\$9.60	\$0.00	\$45.14
6	70	\$28.85	\$8.75	\$9.60	\$0.00	\$47.20
7	75	\$30.91	\$8.75	\$9.60	\$0.00	\$49.26
8	80	\$32.97	\$8.75	\$9.60	\$0.00	\$51.32
9	80	\$32.97	\$8.75	\$16.35	\$0.00	\$58.07
10	80	\$32.97	\$8.75	\$16.35	\$0.00	\$58.07

Effective Date - 03/17/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.99	\$8.75	\$9.60	\$0.00	\$37.34
2	50	\$21.11	\$8.75	\$9.60	\$0.00	\$39.46
3	55	\$23.22	\$8.75	\$9.60	\$0.00	\$41.57
4	60	\$25.33	\$8.75	\$9.60	\$0.00	\$43.68
5	65	\$27.44	\$8.75	\$9.60	\$0.00	\$45.79
6	70	\$29.55	\$8.75	\$9.60	\$0.00	\$47.90
7	75	\$31.66	\$8.75	\$9.60	\$0.00	\$50.01
8	80	\$33.77	\$8.75	\$9.60	\$0.00	\$52.12
9	80	\$33.77	\$8.75	\$16.35	\$0.00	\$58.87
10	80	\$33.77	\$8.75	\$16.35	\$0.00	\$58.87

Notes: **1:1,2:5,3:9,4:12

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)	09/17/2019	\$41.21	\$8.75	\$16.35	\$0.00	\$66.31
PLUMBERS & PIPEFITTERS LOCAL 104	03/17/2020	\$42.21	\$8.75	\$16.35	\$0.00	\$67.31
	09/17/2020	\$43.21	\$8.75	\$16.35	\$0.00	\$68.31
	03/17/2021	\$44.21	\$8.75	\$16.35	\$0.00	\$69.31
	09/17/2021	\$45.21	\$8.75	\$16.35	\$0.00	\$70.31
	03/17/2022	\$46.46	\$8.75	\$16.35	\$0.00	\$71.56
	09/17/2022	\$47.46	\$8.75	\$16.35	\$0.00	\$72.56
	03/17/2023	\$48.71	\$8.75	\$16.35	\$0.00	\$73.81
	09/17/2023	\$49.71	\$8.75	\$16.35	\$0.00	\$74.81
	03/17/2024	\$50.96	\$8.75	\$16.35	\$0.00	\$76.06

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
<i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
POWDERMAN & BLASTER	12/02/2019	\$32.50	\$8.10	\$14.78	\$0.00	\$55.38
<i>LABORERS - ZONE 3 (BUILDING & SITE)</i>						
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY)	12/01/2019	\$32.50	\$8.10	\$12.72	\$0.00	\$53.32
<i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	06/01/2020	\$33.31	\$8.10	\$12.72	\$0.00	\$54.13
	12/01/2020	\$34.12	\$8.10	\$12.72	\$0.00	\$54.94
	06/01/2021	\$34.96	\$8.10	\$12.72	\$0.00	\$55.78
	12/01/2021	\$35.79	\$8.10	\$12.72	\$0.00	\$56.61
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PUMP OPERATOR (CONCRETE)	12/01/2019	\$35.40	\$11.94	\$14.35	\$0.00	\$61.69
<i>OPERATING ENGINEERS LOCAL 98</i>						
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER)	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16
<i>OPERATING ENGINEERS LOCAL 98</i>						
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER	05/01/2019	\$21.74	\$10.87	\$6.50	\$0.00	\$39.11
<i>TEAMSTERS 404 - Construction Service (Northampton)</i>	05/01/2020	\$22.44	\$11.07	\$6.50	\$0.00	\$40.01
RIDE-ON MOTORIZED BUGGY OPERATOR	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
<i>LABORERS - ZONE 3 (BUILDING & SITE)</i>						
For apprentice rates see "Apprentice- LABORER"						
ROLLER OPERATOR	12/01/2019	\$34.26	\$11.94	\$14.35	\$0.00	\$60.55
<i>OPERATING ENGINEERS LOCAL 98</i>						
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Coal tar pitch)	07/16/2019	\$32.66	\$10.05	\$16.20	\$0.00	\$58.91
<i>ROOFERS LOCAL 248</i>						
For apprentice rates see "Apprentice- ROOFER"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing)	07/16/2019	\$32.16	\$10.05	\$15.70	\$0.00	\$57.91
<i>ROOFERS LOCAL 248</i>						

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 248

Effective Date - 07/16/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.30	\$10.05	\$0.00	\$0.00	\$29.35
2	65	\$20.90	\$10.05	\$15.70	\$0.00	\$46.65
3	70	\$22.51	\$10.05	\$15.70	\$0.00	\$48.26
4	75	\$24.12	\$10.05	\$15.70	\$0.00	\$49.87
5	80	\$25.73	\$10.05	\$15.70	\$0.00	\$51.48
6	85	\$27.34	\$10.05	\$15.70	\$0.00	\$53.09
7	90	\$28.94	\$10.05	\$15.70	\$0.00	\$54.69
8	95	\$30.55	\$10.05	\$15.70	\$0.00	\$56.30

Notes:

Steps are 750 hrs.Roofer(Tear Off)1:1; Same as above

Apprentice to Journeyworker Ratio:1:3

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 248</i>	07/16/2019	\$32.66	\$10.05	\$16.20	\$0.00	\$58.91
For apprentice rates see "Apprentice- ROOFER"						
SCRAPER <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$34.87	\$11.94	\$14.35	\$0.00	\$61.16
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$34.26	\$11.94	\$14.35	\$0.00	\$60.55
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-PROPELLED POWER BROOM <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2019	\$31.64	\$11.94	\$14.35	\$0.00	\$57.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 63</i>	01/01/2020	\$36.99	\$10.64	\$16.22	\$1.77	\$65.62

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 63

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$16.65	\$6.21	\$4.67	\$0.00	\$27.53
2	50	\$18.50	\$6.55	\$5.19	\$0.00	\$30.24
3	55	\$20.34	\$6.88	\$9.33	\$1.08	\$37.63
4	60	\$22.19	\$7.22	\$9.33	\$1.14	\$39.88
5	65	\$24.04	\$7.55	\$9.33	\$1.20	\$42.12
6	70	\$25.89	\$7.88	\$9.33	\$1.27	\$44.37
7	75	\$27.74	\$8.22	\$9.33	\$1.33	\$46.62
8	80	\$29.59	\$9.30	\$15.18	\$1.59	\$55.66
9	85	\$31.44	\$9.64	\$15.18	\$1.66	\$57.92
10	90	\$33.29	\$9.98	\$15.18	\$1.72	\$60.17

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$34.54	\$12.41	\$13.72	\$0.00	\$60.67
	06/01/2020	\$35.44	\$12.41	\$13.72	\$0.00	\$61.57
	08/01/2020	\$35.44	\$12.91	\$13.72	\$0.00	\$62.07
	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$34.83	\$12.41	\$13.72	\$0.00	\$60.96
	06/01/2020	\$35.73	\$12.41	\$13.72	\$0.00	\$61.86
	08/01/2020	\$35.73	\$12.91	\$13.72	\$0.00	\$62.36
	12/01/2020	\$35.73	\$12.91	\$14.82	\$0.00	\$63.46
	06/01/2021	\$36.53	\$12.91	\$14.82	\$0.00	\$64.26
	08/01/2021	\$36.53	\$13.41	\$14.82	\$0.00	\$64.76
	12/01/2021	\$36.53	\$13.41	\$16.01	\$0.00	\$65.95
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 669</i>	01/01/2019	\$41.51	\$10.02	\$13.08	\$0.00	\$64.61

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 669

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.68	\$7.75	\$0.00	\$0.00	\$26.43
2	50	\$20.76	\$7.75	\$0.00	\$0.00	\$28.51
3	55	\$22.83	\$10.02	\$7.25	\$0.00	\$40.10
4	60	\$24.91	\$10.02	\$7.25	\$0.00	\$42.18
5	65	\$26.98	\$10.02	\$7.50	\$0.00	\$44.50
6	70	\$29.06	\$10.02	\$7.50	\$0.00	\$46.58
7	75	\$31.13	\$10.02	\$7.50	\$0.00	\$48.65
8	80	\$33.21	\$10.02	\$7.50	\$0.00	\$50.73
9	85	\$35.28	\$10.02	\$7.50	\$0.00	\$52.80
10	90	\$37.36	\$10.02	\$7.50	\$0.00	\$54.88

Notes:

Apprentice to Journeyworker Ratio:1:1

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 7</i>	12/29/2019	\$43.41	\$11.00	\$12.60	\$0.00	\$67.01
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Apprentice - TELECOMMUNICATION TECHNICIAN - Local 7

Effective Date - 12/29/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.36	\$6.00	\$0.52	\$0.00	\$23.88
2	45	\$19.53	\$6.00	\$0.59	\$0.00	\$26.12
3	50	\$21.71	\$11.00	\$6.95	\$0.00	\$39.66
4	55	\$23.88	\$11.00	\$7.02	\$0.00	\$41.90
5	65	\$28.22	\$11.00	\$8.15	\$0.00	\$47.37
6	70	\$30.39	\$11.00	\$9.24	\$0.00	\$50.63

Notes:
Steps are 800 hours

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE</i>	08/01/2019	\$53.34	\$10.75	\$21.30	\$0.00	\$85.39
	02/01/2020	\$53.34	\$10.75	\$21.94	\$0.00	\$86.03
	08/01/2020	\$54.69	\$10.75	\$22.09	\$0.00	\$87.53
	02/01/2021	\$55.33	\$10.75	\$22.09	\$0.00	\$88.17
	08/01/2021	\$56.73	\$10.75	\$22.25	\$0.00	\$89.73
	02/01/2022	\$57.32	\$10.75	\$22.25	\$0.00	\$90.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER-Local 3 Marble/Tile (Spr/Ptt)

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.67	\$10.75	\$21.30	\$0.00	\$58.72
2	60	\$32.00	\$10.75	\$21.30	\$0.00	\$64.05
3	70	\$37.34	\$10.75	\$21.30	\$0.00	\$69.39
4	80	\$42.67	\$10.75	\$21.30	\$0.00	\$74.72
5	90	\$48.01	\$10.75	\$21.30	\$0.00	\$80.06

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.67	\$10.75	\$21.94	\$0.00	\$59.36
2	60	\$32.00	\$10.75	\$21.94	\$0.00	\$64.69
3	70	\$37.34	\$10.75	\$21.94	\$0.00	\$70.03
4	80	\$42.67	\$10.75	\$21.94	\$0.00	\$75.36
5	90	\$48.01	\$10.75	\$21.94	\$0.00	\$80.70

Notes:

Apprentice to Journeyworker Ratio:1:5

TERRAZZO MECHANIC	08/01/2019	\$54.42	\$10.75	\$21.30	\$0.00	\$86.47
BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	02/01/2020	\$54.42	\$10.75	\$21.93	\$0.00	\$87.10
	08/01/2020	\$55.77	\$10.75	\$22.08	\$0.00	\$88.60
	02/01/2021	\$56.41	\$10.75	\$22.08	\$0.00	\$89.24
	08/01/2021	\$57.81	\$10.75	\$22.24	\$0.00	\$90.80
	02/01/2022	\$58.38	\$10.75	\$22.24	\$0.00	\$91.37

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO MECH - Local 3 Marble/Tile (Spr/Pitt)

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.21	\$10.75	\$21.30	\$0.00	\$59.26
2	60	\$32.65	\$10.75	\$21.30	\$0.00	\$64.70
3	70	\$38.09	\$10.75	\$21.30	\$0.00	\$70.14
4	80	\$43.54	\$10.75	\$21.30	\$0.00	\$75.59
5	90	\$48.98	\$10.75	\$21.30	\$0.00	\$81.03

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.21	\$10.75	\$21.93	\$0.00	\$59.89
2	60	\$32.65	\$10.75	\$21.93	\$0.00	\$65.33
3	70	\$38.09	\$10.75	\$21.93	\$0.00	\$70.77
4	80	\$43.54	\$10.75	\$21.93	\$0.00	\$76.22
5	90	\$48.98	\$10.75	\$21.93	\$0.00	\$81.66

Notes:

Apprentice to Journeyworker Ratio:1:5

TEST BORING DRILLER	12/01/2019	\$40.50	\$8.10	\$16.80	\$0.00	\$65.40
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2020	\$41.49	\$8.10	\$16.80	\$0.00	\$66.39
	12/01/2020	\$42.47	\$8.10	\$16.80	\$0.00	\$67.37
	06/01/2021	\$43.49	\$8.10	\$16.80	\$0.00	\$68.39
	12/01/2021	\$44.50	\$8.10	\$16.80	\$0.00	\$69.40

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER	12/01/2019	\$39.22	\$8.10	\$16.80	\$0.00	\$64.12
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2020	\$40.21	\$8.10	\$16.80	\$0.00	\$65.11
	12/01/2020	\$41.19	\$8.10	\$16.80	\$0.00	\$66.09
	06/01/2021	\$42.21	\$8.10	\$16.80	\$0.00	\$67.11
	12/01/2021	\$43.22	\$8.10	\$16.80	\$0.00	\$68.12

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER	12/01/2019	\$39.10	\$8.10	\$16.80	\$0.00	\$64.00
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2020	\$40.09	\$8.10	\$16.80	\$0.00	\$64.99
	12/01/2020	\$41.07	\$8.10	\$16.80	\$0.00	\$65.97
	06/01/2021	\$42.09	\$8.10	\$16.80	\$0.00	\$66.99
	12/01/2021	\$43.10	\$8.10	\$16.80	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

TRACTORS	12/01/2019	\$34.26	\$11.94	\$14.35	\$0.00	\$60.55
<i>OPERATING ENGINEERS LOCAL 98</i>						

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$35.12	\$12.41	\$13.72	\$0.00	\$61.25
	06/01/2020	\$36.02	\$12.41	\$13.72	\$0.00	\$62.15
	08/01/2020	\$36.02	\$12.91	\$13.72	\$0.00	\$62.65
	12/01/2020	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	06/01/2021	\$36.82	\$12.91	\$14.82	\$0.00	\$64.55
	08/01/2021	\$36.82	\$13.41	\$14.82	\$0.00	\$65.05
	12/01/2021	\$36.82	\$13.41	\$16.01	\$0.00	\$66.24
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2019	\$51.38	\$8.10	\$17.20	\$0.00	\$76.68
	06/01/2020	\$52.37	\$8.10	\$17.20	\$0.00	\$77.67
	12/01/2020	\$53.35	\$8.10	\$17.20	\$0.00	\$78.65
	06/01/2021	\$54.37	\$8.10	\$17.20	\$0.00	\$79.67
	12/01/2021	\$55.38	\$8.10	\$17.20	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2019	\$53.38	\$8.10	\$17.20	\$0.00	\$78.68
	06/01/2020	\$54.37	\$8.10	\$17.20	\$0.00	\$79.67
	12/01/2020	\$55.35	\$8.10	\$17.20	\$0.00	\$80.65
	06/01/2021	\$56.37	\$8.10	\$17.20	\$0.00	\$81.67
	12/01/2021	\$57.38	\$8.10	\$17.20	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2019	\$43.45	\$8.10	\$17.20	\$0.00	\$68.75
	06/01/2020	\$44.44	\$8.10	\$17.20	\$0.00	\$69.74
	12/01/2020	\$45.42	\$8.10	\$17.20	\$0.00	\$70.72
	06/01/2021	\$46.44	\$8.10	\$17.20	\$0.00	\$71.74
	12/01/2021	\$47.45	\$8.10	\$17.20	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2019	\$45.45	\$8.10	\$17.20	\$0.00	\$70.75
	06/01/2020	\$46.44	\$8.10	\$17.20	\$0.00	\$71.74
	12/01/2020	\$47.42	\$8.10	\$17.20	\$0.00	\$72.72
	06/01/2021	\$48.44	\$8.10	\$17.20	\$0.00	\$73.74
	12/01/2021	\$49.45	\$8.10	\$17.20	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2019	\$34.54	\$12.41	\$13.72	\$0.00	\$60.67
	06/01/2020	\$35.44	\$12.41	\$13.72	\$0.00	\$61.57
	08/01/2020	\$35.44	\$12.91	\$13.72	\$0.00	\$62.07
	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
WAGON DRILL OPERATOR <i>LABORERS - ZONE 3 (BUILDING & SITE)</i>	12/02/2019	\$31.75	\$8.10	\$14.78	\$0.00	\$54.63
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 3 (HEAVY & HIGHWAY)</i>	12/01/2019	\$31.75	\$8.10	\$12.72	\$0.00	\$52.57
	06/01/2020	\$32.56	\$8.10	\$12.72	\$0.00	\$53.38
	12/01/2020	\$33.37	\$8.10	\$12.72	\$0.00	\$54.19
	06/01/2021	\$34.21	\$8.10	\$12.72	\$0.00	\$55.03
	12/01/2021	\$35.04	\$8.10	\$12.72	\$0.00	\$55.86
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WATER METER INSTALLER <i>PLUMBERS & PIPEFITTERS LOCAL 104</i>	09/17/2019	\$41.21	\$8.75	\$16.35	\$0.00	\$66.31
	03/17/2020	\$42.21	\$8.75	\$16.35	\$0.00	\$67.31
	09/17/2020	\$43.21	\$8.75	\$16.35	\$0.00	\$68.31
	03/17/2021	\$44.21	\$8.75	\$16.35	\$0.00	\$69.31
	09/17/2021	\$45.21	\$8.75	\$16.35	\$0.00	\$70.31
	03/17/2022	\$46.46	\$8.75	\$16.35	\$0.00	\$71.56
	09/17/2022	\$47.46	\$8.75	\$16.35	\$0.00	\$72.56
	03/17/2023	\$48.71	\$8.75	\$16.35	\$0.00	\$73.81
	09/17/2023	\$49.71	\$8.75	\$16.35	\$0.00	\$74.81
	03/17/2024	\$50.96	\$8.75	\$16.35	\$0.00	\$76.06

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

Outside Electrical - West

EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$44.67	\$8.00	\$12.55	\$0.00	\$65.22
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For apprentice rates see "Apprentice- LINEMAN"

GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$30.58	\$8.00	\$5.48	\$0.00	\$44.06
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For apprentice rates see "Apprentice- LINEMAN"

GROUNDMAN / TRUCK DRIVER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$39.97	\$8.00	\$10.96	\$0.00	\$58.93
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For apprentice rates see "Apprentice- LINEMAN"

HEAVY EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$47.01	\$8.00	\$13.22	\$0.00	\$68.23
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For apprentice rates see "Apprentice- LINEMAN"

JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$51.71	\$8.00	\$15.55	\$0.00	\$75.26
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Apprentice - LINEMAN (Outside Electrical) - West Local 42

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$31.03	\$8.00	\$3.43	\$0.00	\$42.46
2	65	\$33.61	\$8.00	\$3.51	\$0.00	\$45.12
3	70	\$36.20	\$8.00	\$3.59	\$0.00	\$47.79
4	75	\$38.78	\$8.00	\$5.16	\$0.00	\$51.94
5	80	\$41.37	\$8.00	\$5.24	\$0.00	\$54.61
6	85	\$43.95	\$8.00	\$5.32	\$0.00	\$57.27
7	90	\$46.54	\$8.00	\$7.40	\$0.00	\$61.94

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$30.73	\$4.70	\$3.17	\$0.00	\$38.60
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TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
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TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTOR-TRAILER DRIVER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$44.67	\$8.00	\$12.55	\$0.00	\$65.22
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.						
TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.						

Additional 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.

**ATTACHMENT B
MASSACHUSETTS DEP CORRECTIVE ACTION DESIGN APPROVAL**



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

Stephen J. Crane, Town Manager
20 Williams Street
Longmeadow, MA 01106

May 30, 2019

Re: APPROVAL
Application for: BWP SW 25
Corrective Action Design

At: Town of Longmeadow
MSW Landfill-Bernie Road
Application # X283548
DSWM File # 19-159-002
FMF # 39432

Dear Mr. Crane:

On May 17, 2019, Massachusetts Department of Environmental Protection ("MassDEP") received the Corrective Action Design (the "CAD") for the Longmeadow Birnie Road Municipal Solid Waste Landfill (the "Landfill") entitled: Birnie Road Landfill BWP SW 25 CAD Application Package.

The design was prepared for the Town of Longmeadow's (the "Town") inactive Municipal Solid Waste Landfill ("Landfill") located south of Bernie Road and west of the railroad right of way in Longmeadow, Massachusetts. The design was prepared by your consultant, Tighe & Bond, Inc. (T&B). The submittal was signed and sealed by Jay P. Viamari, P.E., Massachusetts Registered Professional Civil Engineer #41776. The Certification bears your signature as Town Manager for the Town of Longmeadow.

On January 4, 2019, MassDEP issued a Permit approving the Draft Comprehensive Site Assessment ("CSA") for the Landfill. On March 28, MassDEP issued a Permit Revision for the CSA Permit approval.

During the winter of 2019 ACM soils, as approved in the CSA Permit, were relocated to the Landfill. These soils were covered with six inch thickness of clean soils.

The CSA Permit, as amended, required the following:

1. Repair of the landfill cap in two phases.
2. Phase 1 included the placement of a standard landfill cap in accordance with 310 CMR 19.112 for the area above the ACM soils. Phase 1 is to be completed not later than October 1, 2019.
3. Phase 2 was the repair of the remainder of the landfill cap including clearing, tree removal, and placement of additional clean soils to obtain a minimum two foot thickness above waste materials. Phase 2 is to be completed not later than October 1, 2020.
4. Preparation and submission of a Certification Report not later than February 1, 2021.

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

On May 29, 2019, MassDEP received an email from your consultant. The email proposed revised construction dates as follows:

1. Phase 1 substantial completion by November 22, 2019.
2. Phase 1 final completion by May 29, 2020.
3. Phase 2 was not addressed in the revised proposed schedule.

During the Spring of 2019, the clean soils placed over the ACM soils eroded, and ACM soils may have eroded as well. Eroded sediments overtopped erosion control devices in several areas; and in some locations reached wetlands. The eroded soils will need to be relocated back within the Phase 1 area as part of the closure.

The CAD proposes closing the Landfill in two phases. Phase 1, as proposed, includes the capping of the areas of the relocated ACM soils. It is proposed that the Phase 1 area will be substantially completed during the 2019 construction season with a modern day cap including:

1. Erosion controls.
2. Placement of a six (6) inch thick gas vent layer with passive gas vents;
3. Installation of 40-mil textured HDPE flexible membrane;
4. Placement of a 12 inch thick sand drainage layer;
5. Placement of a 9 inch thick vegetative support layer;
6. Hydroseeding;
7. Construction of a perimeter toe drain; and
8. Establishing vegetation.

Phase 2 of the landfill closure is proposed to be completed during the 2020 construction season. The Phase 2 closure will include the remaining areas of waste disposal. The Phase 2 closure will include the following:

1. Site Clearing;
2. Erosion controls;
3. Placement of additional clean soils to establish a minimum soil cover of 2 foot above existing waste;
4. Hydroseeding and mulch; and
5. Establishing vegetation.

REGULATORY AUTHORITY

Note that this document is a permit issued pursuant to MGL Chapter 111 Section 150A and the regulations promulgated there under at 310 CMR 16.00 and 310 CMR 19.000. This permit is subject to the standard conditions presented at 310 CMR 19.043(5). This permit does not convey property rights of any sort or any exclusive privilege.

MassDEP DETERMINATIONS

MassDEP has reviewed the submitted plans, specifications, and permit application, under the authority of MGL Chapter 111 Section 150A and the regulations promulgated thereunder at 310 CMR 19.000 and MassDEP's publication Landfill Assessment and Closure Guidance Manual (LAC Manual), revised in May, 1997. This permit is a permit issued in accordance with the review procedures stipulated at 310 CMR 19.033 and is subject to all of the provisions contained therein. Upon review of the submitted materials, MassDEP hereby approves the closure documents. The conditions upon which this approval is contingent are presented below.

A. SPECIFIC PERMIT CONDITIONS:

1. The Town is the Permittee, Owner and Operator for the landfill closure and post closure use as defined in 310 CMR 19.000.
2. Unless specifically approved in writing by MassDEP, the Town shall perform the closure in accordance with the following schedule:
 - a. Complete closure of Phase 1 not later than November 22, 2019
 - b. Complete closure of Phase 2 not later than November 1, 2020; and
 - c. Not later than February 1, 2020, the Town shall have prepared and shall submit a Landfill Closure Certification permit application for the Phase 1 portion of the landfill which includes proof that the closure has been recorded at the Hampden County Registry of Deeds in accordance with 310 CMR 19.141.
 - d. Not later than February 1, 2021, the Town shall have prepared and shall submit a Landfill Closure Certification permit application for the Phase 2 portion of the landfill which includes proof that the closure has been recorded at the Hampden County Registry of Deeds in accordance with 310 CMR 19.141.
 - e. Closure areas (either Phase 1 or Phase 2) that have not been hydroseeded prior to October 15 (2019 for Phase 1, and 2020 for Phase 2) shall also be constructed with a Biodegradable Erosion Control Blanket (consistent with Section 02075 of the project specifications) to minimize the potential for erosion.
3. The alternative closure design for the Phase 2 portion of the landfill is approved based on the results of the site-specific assessment, performed pursuant to 310 CMR 19.150. The approval of an alternate cover system is allowed for under 310 CMR 19.113: Alternative Landfill Final Cover System Design.
4. A minimum of seven (7) days prior to the start of each phase of construction, the Town shall submit a list of project personnel and their contact information. The Town shall advise MassDEP in writing of any changes in the project personnel list.
5. At least one week prior to each phase of construction, the Town shall notify MassDEP of the proposed schedule for construction. MassDEP shall be advised of any changes in the schedule.
6. Prior to commencing any excavation or construction, the Town shall review the project specific Health and Safety Plan with all site workers.
7. Prior to commencing any excavation or construction of the Phase 1 closure, the Town shall relocate all of the soils that have eroded beyond the limits of the Phase 1 closure back within the Phase 1 area and place a minimum 6" of clean soils on top of any soils that may contain ACM prior to commencing closure.
8. All areas from which the eroded soils are excavated shall be evaluated by an appropriately licensed asbestos professional to ensure that ACM either; did not migrate beyond the limits of the Phase 1 closure, or that all soils containing ACM have been relocated back within the Phase 1 closure limits. The closure certification shall include documentation from the asbestos professional affirming compliance with this condition.
9. Erosion within the Phase 1 area shall be repaired with a minimum of six (6) inch thickness of clean soils placed above all ACM soils. The ACM soils shall not be disturbed, tracked or allowed to migrate beyond the Phase 1 closure area.
10. The Town shall comply with the Wetlands Protection Act and applicable regulations. A duplicate copy

of the Notice of Intent shall also be submitted to the MassDEP Solid Waste Section. All work and materials shall comply with the Order of Conditions or determination issued by the Conservation Commission, unless amended by the Commission in writing.

11. Storm water controls shall be installed and maintained to minimize and control runoff of storm water. Storm water controls shall also prevent any eroded materials from discharging to the wetlands.
12. The Town shall limit access to the landfill site, post "NO TRESSPASSING" signs, and install and maintain fences/gates at all potential access points along Birnie Road.
13. The Town shall clear the landfill site including the following:
 - a. Trees and woody vegetation located within the limits of waste and a minimum of 25 feet beyond the limits of waste;
 - b. Limits of the tree removal may be modified as required by the Conservation Commission with written approval of MassDEP;
 - c. All stumps greater shall be either removed or ground in place to a minimum of one foot below existing grade;
 - d. Tree stumps on stable slopes that exceed 3 to 1 may be cut off flush at existing grades;
 - e. All exposed or uncovered tires, metal objects and bulky waste shall be removed from the site and properly disposed; and
 - f. All solid wastes exposed during clearing operations shall be covered with six (6) inches of clean fill by the end of each working day.
14. The Phase 1 landfill cap shall extend cover the entire ACM soil disposal area and an additional 25 foot buffer area beyond the limits of the ACM. The Phase 1 final cover shall include:
 - a. The six inch thickness of clean soil placed over the ACM soils;
 - b. Placement of a six (6) inch thick gas vent layer;
 - c. Installation of a Flexible Membrane Liner;
 - d. Installation of the 12 inch thick drainage layer;
 - e. Installation of the 9 inch thick vegetative support layer with minimum organic content of 8%; and,
 - f. The cap in these areas shall comply with 310 CMR 19.112 Landfill Final Cover System unless specifically approved in writing by MassDEP.
15. The Phase 2 landfill cap for the remaining portions of the landfill shall be repaired and include the following:
 - a. All final grades shall have a minimum top slope of 2 percent, 5 percent if possible,
 - b. Be consistent with the approved final grading plan;
 - c. Side slope grading to achieve a maximum 3 to 1 side slope.
 - d. Due to the proximity of wetlands, existing stable slopes exceeding 3 to 1 may remain provided a minimum of 12 inch thickness of soil covered exists;
 - e. Placement of addition soil cover materials to achieve minimum thickness of 24 inches above the limits of existing waste materials, including the top 9 inches of topsoil;
 - f. If additional soils are required in the lower 15 inch layer, the additional soils shall have a permeability of less than 1×10^{-5} cm/sec; and,
 - g. Seeding, establishing and maintaining a suitable vegetative surface growth.
16. A third-party independent Massachusetts registered professional engineer knowledgeable in landfill closure design and construction (the "Construction Engineer") shall supervise the closure construction. The Construction Engineer's duties shall include, but not be limited to:
 - a. Determine final grades of the landfill;

- b. oversee installation and construction of all components of the final cover system;
 - c. Oversee quality assurance/quality control (QA/QC) testing and verifying all data generated through the testing program;
 - d. Document all construction and QA/QC activities.
 - e. provide construction certification to the Permittee upon completion of landfill closure activities;
 - f. Inspect the site at least once per month during active construction periods. The Construction Engineer may contact MassDEP for guidance if the need for engineering oversight is unclear in a given circumstance.
 - g. Submit quarterly construction progress reports to MassDEP summarizing the work performed during the quarter.
 - h. MassDEP reserves the right to require greater or more frequent oversight by the Construction Engineer than specified herein if it believes such increased oversight is necessary to protect the landfill cover or appurtenances, public health, safety, or the environment.
17. The Construction Engineer or a qualified, independent QA/QC officer as outlined in the LAC, p. 2-1 to 2-3 shall be present at the site at all times when; Phase 1 construction is occurring, excavation is being performed into the waste mass or existing cap, waste or eroded soils are being relocated, or other below grade excavations are being performed. The Construction Engineer or the QA/QC officer shall also be present, as necessary, to determine that the Phase 2 area is being constructed in accordance with the approved specifications. The QA/QC officer shall work under the direct supervision of the Construction Engineer.
18. The Construction Engineer and QA/QC officer shall prepare written monthly inspection reports for all closure activities that shall include at a minimum the following:
- a. Any deviation from compliance with requirements set forth in this Permit;
 - b. Any actions taken to correct such deviations, as required by MassDEP or recommended by the Engineer;
 - c. Schedules to correct identified problems;
 - d. Review of quality assurance/quality control (QA/QC) testing data generated, and documentation for construction and QA/QC activities;
 - e. The inspection reports shall be signed, sealed and dated by the Construction Engineer certifying that all information is accurate and complete in accordance with 310 CMR 19.011 (1&2);
 - f. The Construction Engineer shall include copies of all reports in the Closure Certification Report; and,
 - g. The Construction Engineer shall submit one copy of the monthly report to the MassDEP and one copy to the Town no later than thirty (30) days following the end of the previous month.
19. The responsibilities described in the *Landfill Technical Guidance Manual - Revised May 1997* ("LAC Manual"), Chapter 2, Construction Certification, Quality Assurance/Quality Control, pp. 2-1 to 2-3 are hereby incorporated by reference into this permit.
20. The Construction Engineer shall be considered an operator with respect to the oversight of construction and compliance with plans and specifications. As such, MassDEP may take enforcement action against the Engineer, consistent with its authority under applicable Massachusetts law and regulation, for any failure to construct the Landfill in accordance with approved plans and specifications of which the Engineer was, or should have been, aware.

21. This Permit approves in part, the disruption of previously landfilled areas. Requirements of 310 CMR 19.130(32) shall apply to all work performed under this Permit. In particular, paragraphs (c), (d) and (e).
22. The Town shall prevent vectors, dust, odors and other nuisance conditions from developing at the Landfill and any other areas related to the general closure activities.
23. Water shall not be used for dust control in amounts, which produce excessive infiltration, ponding or erosion.
24. Swales shall be constructed to minimize erosion in areas where runoff may be concentrated.
25. This Permit approves the use of naturally excavated topsoil. Should the Town wish to use compost or other soil amendments or additives, the Town shall apply for MassDEP approval of any blended or manufactured topsoil, prior to its use. The application shall include a specific recipe and test results for the proposed topsoil. Prior to the delivery of any alternate vegetative support layer material (regardless of whether or not the material has a valid Beneficial Use Determination or Land Application Certificate), the Town shall obtain MassDEP/WERO written approval of the proposed mixture of materials proposed to be used. Such approval may be subject to field demonstration that the materials meet performance standards and will not create any nuisance conditions.
26. The Landfill Closure Certifications (BWP SW 43) to be submitted by the Construction Engineer shall be in accordance with 310 CMR 19.011, 19.106, 19.107 and 19.130(31)(c). The Construction Engineer shall certify that the landfill was closed in accordance with the plans approved herein, this permit, and with the applicable regulations. Included with the certification shall be an as-built plan signed and stamped by a Massachusetts registered professional engineer, as outlined in 310 CMR 19.042(3)(b). The as-built plan(s) shall show complete details of the closure.

B. ENVIRONMENTAL MONITORING

1. The Town shall conduct environmental monitoring at the Landfill in accordance with the Permit issued on January 4, 2019, 2019 approving the Draft Comprehensive Site Assessment, unless specifically modified in writing by the MassDEP.
2. Based on the results of each sampling round, MassDEP may evaluate the scope of the sampling program and reserves the right to require additional investigations, including the installation of additional groundwater monitoring wells, installation of gas monitoring wells, an increase in sampling frequency and/or the completion of additional sampling if deemed necessary.

C. MAINTENANCE REQUIREMENTS

1. The Town shall comply with 310 CMR 19.142 Landfill Post-closure Requirements.
2. The Town shall comply with 310 CMR 19.143 Post-closure Use of Landfills.
3. The closed portions of the landfill shall be monitored for erosion and settlement and shall be maintained and repaired as required.
4. The vegetative cover shall be mowed at least once each year.

5. The Town shall comply with the post-closure use requirements at the landfill as set forth at 310 CMR 19.143 (1) - (4) are hereby incorporated by reference. In particular part 1, which requires:
"Applicability. Pursuant to M.G.L. c. 111, § 150A no site on which a facility was operated shall be used for any other purpose without the prior written approval of the Department."

D. SUBMITTALS

1. A monthly construction report, summarizing each calendar quarter of active construction, shall be submitted to MassDEP by no later than the 15th day of the following month.
2. Annual Inspections by an independent third party Inspector, registered in accordance with 310 CMR 19.018, shall be performed. Reports shall be prepared and submitted to MassDEP and to the Board of Health no later than 30 days following the date of the inspection. The Inspection shall be performed and the Report shall be prepared in accordance with 310 CMR 19.207(25) and 19.018. The Report shall clearly demonstrate compliance with 310 CMR 16.00 and 310 CMR 19.000, this Permit and any Order or other requirement of MassDEP.
3. Annual environmental monitoring reports.
4. Not later than February 1, 2020 and February 1, 2021, the Town shall submit Landfill Closure Certification Reports (BWP SW 43) for the Phase 1 and Phase 2 closure areas, respectively. The Closure Certification Reports shall be prepared by a Massachusetts Professional Engineer in accordance with 310 CMR 19.011, 19.106, 19.107 and 19.130(31)(c), documenting that the landfill was closed in accordance with approved plans, this permit, and with the applicable regulations. Included with the certification shall be the following:
 - a. As-built plan signed and stamped by a Massachusetts registered professional engineer, as outlined in 310 CMR 19.042(3)(b). The as-built plans shall show complete details of the closure.
 - b. Recommendations for post closure environmental monitoring.
 - c. Estimates of post-closure monitoring and maintenance cost.
 - d. Copy of the Record Notice of Landfill Operation.
5. All submittals to MassDEP shall be certified in accordance with 310 CMR 19.018(8) or 310 CMR 19.011 Certification and Engineer's Supervision as applicable.
6. Compliance with any submissions required by this Permit will be determined by the date of receipt or the post-marked date, whichever is earlier. All verbal notifications shall be followed by written notification within 48 hours of discovery. Unless otherwise directed herein, all submissions to MassDEP required pursuant to this Plan Approval shall be sent to:

Section Chief, Solid Waste Management
Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

E. GENERAL PERMIT CONDITIONS

1. This Approval pertains only to the solid waste management aspects of the proposal and does not negate the responsibilities of the Town to comply with any other local, state or federal laws and regulations now or in the future. The Town is responsible for obtaining any other local, state, and

federal permits, which may be necessary for the construction, operation, maintenance and closure of this facility.

2. The Town shall comply with the conditions stated in 310 CMR 19.007-19.011 and 19.043(5) as currently written and as may be modified at a future date.
3. This permit application does not include any provisions for any demonstration projects.
4. This permit is issued subject to the conditions of joint liability of the permittee, the owner and the operator in accordance with 310 CMR 19.043(3).
5. The Contractor(s) and subcontractors for the construction of this closure are also considered the "Operator" as defined by 310 CMR 19.006, which states:

"Operator means any person who has care, charge or control of a facility subject to 310 CMR 19.000, including without limitation, an agent, lessee of the owner or an independent contractor."

5. The Town, the Contractor(s), and subcontractors shall comply with 310 CMR 19.015 Compliance, which states:

"No person shall construct, modify, operate or maintain a facility except in compliance with a site assignment, permit or plan approved by the board of health or MassDEP, as applicable, and any authorizations issued by MassDEP and all conditions included in a permit, approval or authorization for said facility."

6. No transfer of this permit shall be permitted except in accordance with 310 CMR 19.044.
7. The Town is responsible for ensuring that all construction work is performed in accordance with sound engineering practice.
8. The Town shall comply with any applicable requirements pursuant to the Resource Conservation and Recovery Act, Subtitle D [42 USC 4004(a)(b)] and any applicable revisions thereto.
9. Notwithstanding the approval of the plans and reports incorporated herein and the applicable regulations [310 CMR 19.100 et seq., Part II- Landfill Design and Operational Standards] in effect on the date this permit is issued, MassDEP may order the Town to take all necessary actions to comply with the provision of 310 CMR 19.000 including, without limitation, the submission of plans, reports and monitoring data; financial assurance and modifications of approved operating, maintenance and environmental monitoring procedures.
10. MassDEP reserves the right to require design and/or operational modifications to the approved plans, and to rescind, suspend or modify this permit by the imposition of additional conditions based upon evaluation of landfill performance, a determination of actual or the threat of adverse impacts from the construction, operation, maintenance or closure of the facility.
11. MassDEP and its agents and employees shall have the right to enter upon the site at all reasonable times and without notice, to inspect the landfill and any equipment, structure or land located thereon, take samples, recover materials or discharges, have access to and photocopy records, to perform tests and to otherwise monitor compliance with this Permit and all environmental laws and regulations. This right of entry and inspection shall be in addition to MassDEP's access authorities and rights under applicable federal and state laws and regulations, as well as any permits or other

agreements between the Permittee and MassDEP.

RIGHT OF APPEAL

This Permit is being issued as a Final Permit and a provisional decision has not been issued.

Pursuant to 310 CMR 19.033(5):

(a) Appeal. Any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said permit decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A no later than 30 days following the date of issuance of the final permit decision to the applicant. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the final permit decision by a court of competent jurisdiction, the final permit decision shall be effective in accordance with 310 CMR 19.033(3).

(b) Notice of Action. Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application, if applicable, at least five days prior to the filing of an appeal.

(c) No allegation shall be made in any judicial appeal of a final permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

The MassDEP File Number for this Permit is 19-159-002. The appropriate addresses to which to send such notices are:

General Counsel
Department of Environmental Protection
One Winter Street-Third floor
Boston, MA 02108

Michael J. Gorski
Regional Director
Department of Environmental Protection
436 Dwight Street - Fifth Floor
Springfield, MA 01103

This approval pertains only to the solid waste management aspects of the proposal and does not negate the responsibilities of the owners or operators to comply with any other local, state or federal laws and regulations now or in the future.

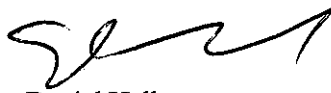
This approval pertains only to the solid waste management aspects of the proposal and does not negate the

responsibilities of the owners or operators to comply with any other local, state or federal laws and regulations now or in the future.

MassDEP has determined that the filing of an Environmental Notification Form ("ENF") with the Secretary of Environmental Affairs, for solid waste management purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act and Regulation 301 CMR 11.00, Section 11.04 provide certain "Fail-Safe Provisions" which allow the Secretary to require the filing of an ENF and/or Environmental Impact Report at a later time.

If you should have any questions or comments please feel free to contact Charles Clines of this office at (413) 755-2120.

Sincerely,



Daniel Hall
Section Chief
Solid Waste Management

DH/CAC/cac
1592MSW CAD.0519
Certified Mail # 7016 0340 0000 4822 7358, Return Receipt

cc: Board of Health
ecc: Jay P. Viamari PE, Tighe & Bond, jpviamari@tighebond.com
Jeffrey J. Thelen PG, Tighe & Bond, JThelen@tighebond.com

ATTACHMENT C
TOWN OF LONGMEADOW ORDER OF CONDITIONS

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 #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

A. General Information

1. Conservation Commission LONGMEADOW

2. Issuance a. OOC b. Amended OOC

3. Applicant Details

a. First Name MARIO b. Last Name MAZZA
c. Organization TOWN OF LONGMEADOW
d. Mailing Address 31 PONDSIDE RD.
e. City/Town LONGMEADOW f. State MA g. Zip Code 01106

4. Property Owner

a. First Name MARIO b. Last Name MAZZA
c. Organization 31 PONDSIDE RD.
d. Mailing Address 20 WILLIAMS STREET
e. City/Town LONGMEADOW f. State MA g. Zip Code 01106

5. Project Location

a. Street Address BIRNIE ROAD
b. City/Town LONGMEADOW c. Zip Code 01106
d. Assessors 492/108/192 AND 738/155/74/A e. Parcel/Lot# 6134 AND 109
Map/Plat#
f. Latitude 42.04299N g. Longitude 72.59532W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page
HAMPDEN	N/A	1617	472
HAMPDEN	N/A	8424	158

7. Dates

a. Date NOI Filed : 6/19/2019 b. Date Public Hearing Closed: 6/26/2019 c. Date Of Issuance: 7/1/2019

8. Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
PERMIT REVIEW SET / PROJECT LOCATION	TIGHE&BOND		May 2019,	scale as noted
NOTES & LEGENDS	JPV, JJT		09/07/2018,	scale as noted
EXISTING CONDITIONS, PLAN C-001	JPV, JJT		09/07/2018,	1" = 50'
PROPOSED CONDITIONS PLAN - PHASE I, C-002	JPV, JJT		09/07/2018,	1" = 30'

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 #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

PROPOSED

CONDITIONS

PLAN - PHASE II, JPV, JJT
C-003

09/07/2018, 1" = 50'

DETAILS - 1, C-004 JPV, JJT

09/07/2018, scale as noted

DETAILS - 2, C-005 JPV, JJT

09/07/2018, scale as noted

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act

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

Check all that apply:

a. <input checked="" type="checkbox"/> Public Water Supply	b. <input checked="" type="checkbox"/> Land Containing Shellfish	c. <input checked="" type="checkbox"/> Prevention of Pollution
d. <input checked="" type="checkbox"/> Private Water Supply	e. <input checked="" type="checkbox"/> Fisheries	f. <input checked="" type="checkbox"/> Protection of Wildlife Habitat
g. <input checked="" type="checkbox"/> Ground Water Supply	h. <input checked="" type="checkbox"/> Storm Damage Prevention	i. <input checked="" type="checkbox"/> Flood Control

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

Approved subject to:

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

Denied because:

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

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

a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

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 #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	<u> </u> a. linear feet	<u> </u> b. linear feet	<u> </u> c. linear feet	<u> </u> d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
6. <input type="checkbox"/> Land under Waterbodies and Waterways	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
	<u> </u> e. c/y dredged	<u> </u> f. c/y dredged		
7. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	<u>118800</u> a. square feet	<u> </u> b. square feet	<u>0</u> c. square feet	<u> </u> d. square feet
Cubic Feet Flood Storage	<u>0</u> e. cubic feet	<u> </u> f. cubic feet	<u>0</u> g. cubic feet	<u> </u> h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet		
Cubic Feet Flood Storage	<u> </u> c. cubic feet	<u> </u> d. cubic feet	<u> </u> e. cubic feet	<u> </u> f. cubic feet
9. <input checked="" type="checkbox"/> Riverfront Area	<u>66860</u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u>11365</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>55495</u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet

Coastal Resource Area Impacts:

Resource Area	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. c/y nourishment	<u> </u> d. c/y nourishment
14. <input type="checkbox"/> Coastal Dunes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. c/y nourishment	<u> </u> d. c/y nourishment
15. <input type="checkbox"/> Coastal Banks	<u> </u> a. linear feet	<u> </u> b. linear feet		

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

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

Provided by MassDEP:

MassDEP File #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.

5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP']
File Number : "205-0329"
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to

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 #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) is not (2) subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;
- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
 - b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures; *ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.
 - c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.* the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.* the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
 - d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.
 - e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation

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 #:205-0329
eDEP Transaction #:1117491
City/Town:LONGMEADOW

of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.
- g) The responsible party shall:
 - 1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 - 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 - 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- 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:

D. Findings Under Municipal Wetlands Bylaw or Ordinance

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

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

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

1. Municipal Ordinance or Bylaw _____

2. Citation _____

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

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

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 #:205-0329
eDEP Transaction #:1117491
City/Town:LONGMEADOW

1. Municipal Ordinance or Bylaw _____
LONGMEADOW
WETLANDS
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:

1. ALL OF THE PERMIT CONDITIONS (ITEMS 1 THRU 26) STATED ON MASSDEP LETTER SENT TO TOWN MANAGER STEPHEN CRANE ON 05/30/2019 MUST BE FOLLOWED. 2. COPIES OF ANY ENVIRONMENTAL MONITORING REPORTS PER SECTION B OF SAID DEP LETTER MUST BE SUBMITTED TO THE COMMISSION. 3. THE APPLICANT SHALL DEVELOP AND IMPLEMENT AN INVASIVE SPECIES MANAGEMENT CONTROL PLAN AND PROVIDE THE COMMISSION WITH YEARLY REPORTS. 4. THE COMMISSION MUST RECEIVE A STATEMENT FROM MA'S NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM PRIOR TO THE RELEASE OF THE ORDER OF CONDITIONS.

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 #:205-0329

eDEP Transaction #:1117491

City/Town:LONGMEADOW

E. Signatures

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

6/28/2019


1. Date of Original Order

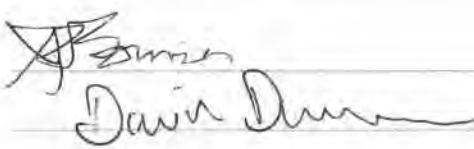
Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

5

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.

Signature: 


Dawn Dunne

by hand delivery on

by certified mail, return receipt requested, on

OCTOBER 21, 2019

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 for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

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

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

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Work of the Contract is shown and described in Drawings and Project Manual entitled:

Town of Longmeadow, MA
Birnie Road Landfill Closure Project – Phase II
Longmeadow, MA

Tighe & Bond, Inc.
Consulting Engineers
Westfield, Massachusetts

2. The Work includes the following major items:
 - a. Site Clearing and Site Preparation
 - b. Grading and Earthwork
 - c. Borrow Materials
 - d. Hyrdoseeding and Mulching
 - e. Erosion Control
 - f. Access Road Removal
3. The contractor and any subcontractors shall be responsible for obtaining any and all local permits or licenses necessary for the completion of the work.

B. Related Requirements

1. Section 00800 - Supplementary Conditions

1.2 SUBMITTALS

A. Informational Submittals

1. Submit copies of permits or approvals required for the Work, prior to initiating the Work.

PART 2 PRODUCTS

2.1 MATERIALS FURNISHED BY OWNER

- A. The Owner will not furnish any materials, labor or equipment under this Contract.

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Work Schedule
 - 2. Construction Constraints
 - 3. Available Work Area
 - 4. Site Usage Plan
- B. Related Requirements
 - 1. Section 01310 - Coordination
 - 2. Section 01325 - Scheduling of Construction

1.2 SUBMITTALS

- A. Incorporate the requirements of this Section in the project schedule submitted under Section 01325.
- B. Action Submittals
 - 1. Submit site usage plan within 30 days of the Notice to Proceed.

1.3 WORK SCHEDULE

- A. Conduct the Work during daylight hours on Monday through Friday, and within the time between 7:00 a.m. and 5:00 p.m. No work is to be done on Owner's holidays, Saturdays, Sundays or outside of the work hours described above.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 AVAILABLE WORK AREA

- A. Limits of construction are defined on the Drawings. No work will be permitted to be performed outside these boundaries.

3.2 SITE USAGE PLAN

- A. Submit a site usage plan showing all proposed staging areas, locations of all office and storage trailers, and material laydown areas. The site usage plan should be a drawing showing the proposed locations and shall include on-site traffic modifications and temporary utilities as may be applicable.

END OF SECTION

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 DIVISION 0 AND DIVISION 1 WORK INCIDENTAL TO THE CONTRACT PRICE

- A. No separate measurement or payment will be made for Work called for in Division 0 or Division 1 of the Specifications, unless specifically covered under the Bid items listed below. All costs associated with this Work will be considered incidental to the Contract Bid price.
- B. Division 2 Work will be measured and paid for at the Contractor's unit Bid price or lump sum item cost as indicated on the Bid form. Those payable Work items, and related prices as Bid, will be the basis for all compensation to the Contractor for Work performed under this Contract. Work not specifically included as a Bid item, but which is required to properly and satisfactorily complete the Work is considered ancillary and incidental to the Bid item Work, and payment for such Work is considered to be included in the values as Bid for payable items. Compensation for all unit Bid price Work will be made based on the measured quantity of Work under the appropriate Bid items.

1.2 MOBILIZATION AND DEMOBILIZATION (ITEM 1)

- A. Measurement
 - 1. There will be no measurement for the mobilization and demobilization to the Site as this Work will be on a lump sum basis.
- B. Payment
 - 1. Payment of the lump sum Bid price will be paid in two equal installments. The first installment will occur at the time the first payment requisition is submitted after the Contractor has initiated full-time construction activity. Payment for the second installment will be included in the first payment request after Substantial Completion has been reached and all equipment has been removed from the Site. In no case will the total of both installments exceed 5 percent of the base Bid price.

1.3 DUST CONTROL MEASURES (ITEM 2)

- A. Measurement
 - 1. There will be no measurement for approved dust control measures as this Work will be on a lump sum basis.
- B. Payment
 - 1. The Contractor shall be paid the lump sum bid price specified in the proposal under Bid Item 2 for all dust control measures required during construction including furnishing and placement of approved dust control materials, use of water during active construction, and sweeping and cleaning of roads and other surfaces to prevent dust.

1.4 STORMWATER POLLUTION PREVENTION PLAN (ITEM 3)**A. Measurement**

1. There will be no measurement for the Stormwater Pollution Prevention Plan as this work will be on a lump sum basis.

B. Payment

1. Payment of the lump sum Bid price will be full compensation for all labor, equipment and materials required for or incidental to preparation and maintenance of the required Stormwater Pollution Prevention Plan for the project.

1.5 EROSION CONTROL BARRIER (ITEM 4)**A. Measurement**

1. Measurement for erosion control measures will be on a linear foot basis. The length of combined straw wattles and siltation fence will be the actual approved length of combined straw wattles and siltation fence measured in place by the Engineer.

B. Payment

1. Payment of the Bid price for erosion control measures will be full compensation for the installation, maintenance, and removal of the straw wattles and siltation fence, and the restoration of the area disturbed by their placement including all labor, equipment and materials required for or incidental to the Work.

1.6 EROSION CONTROL BLANKET (ITEM 5)**A. Measurement**

1. Measurement for erosion control blankets will be on a square yard basis as measured in the field by the Engineer.

B. Payment

1. Payment of the Bid price for erosion control blanket will be full compensation for the installation, maintenance, and the restoration of the area disturbed by their placement including all labor, equipment and materials required for or incidental to the Work.

1.7 CLEARING AND GRUBBING (ITEM 6)**A. Measurement**

1. The number of acres for clearing and grubbing shall be determined by the field measurements made by the Engineer.
2. Measurements will only be to the limits designated on the plans or as directed by the Engineer. In no case will payment be made for Work beyond the area to be cleared and grubbed, as shown on the plans.
3. The final as-built survey of the landfill will be used to calculate the total amount of area cleared and grubbed.

B. Payment

1. Payment of the Bid price for clearing and grubbing will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.8 VEGETATIVE SUPPORT MATERIAL FOR DEFICIENT AREAS (ITEM 7)**A. Measurement**

1. The cubic yard quantity of vegetative support material for deficient areas will be determined by field measurements of the in-place material as made by the Engineer. No adjustments to the calculated quantity will be made to account for compaction, material outside of the limits shown on the plans, or for depths in excess of the specified 9" minimum depth.
2. The final as-built survey of the landfill surface will be used to calculate the total amount of vegetative support material placed.
3. Measurement will be made only to the lines and grades as indicated on the plans or as directed by the Engineer.

B. Payment

1. Payment of the Bid price for vegetative support material for deficient areas will be full compensation for furnishing, hauling, placing, compacting, and tracking the vegetative support material to the lines and grades shown on the plans and specified herein including all labor, equipment, and materials required for or incidental to the Work.
2. Vegetative support material for areas disturbed by the Contractor outside of the limits of work shown on the plans will not be paid for under this item.

1.9 VEGETATIVE SUPPORT MATERIAL FOR SHAPING AND GRADING (ITEM 8)**A. Measurement**

1. The final as-built survey of the landfill surface will be used to calculate the total amount of vegetative support material for shaping and grading placed.
2. Measurement will be made only to the lines and grades as indicated on the plans or as directed by the Engineer.

B. Payment

1. Payment of the Bid price for vegetative support material for shaping and grading will be full compensation for furnishing, hauling, placing, compacting, and tracking the vegetative support material to the lines and grades shown on the plans and specified herein including all labor, equipment, and materials required for or incidental to the Work.
2. Vegetative support material for areas disturbed by the Contractor outside of the limits of work shown on the plans will not be paid for under this item.

1.10 LOW PERMEABILITY MATERIAL (ITEM 9)**A. Measurement**

1. The cubic yard quantity of low permeability material will be determined by field measurements of the in-place material as made by the Engineer. No adjustments to the calculated quantity will be made to account for compaction, material outside of the limits shown on the plans, or for depths in excess of the specified 15" minimum depth.
2. The final as-built survey of the landfill surface will be used to calculate the total amount of low permeability material placed.
3. Measurement will be made only to the lines and grades as indicated on the plans or as directed by the Engineer.

B. Payment

1. Payment of the Bid price for low permeability material will be full compensation for furnishing, hauling, placing, compacting, and tracking the low permeability material to the lines and grades shown on the plans and specified herein including all labor, equipment, and materials required for or incidental to the Work.

1.11 GRAVEL ACCESS ROAD REMOVAL (ITEM 10)

A. Measurement

1. Measurement for gravel access road will be on a square yard basis as measured in the field by the Engineer.

B. Payment

1. Payment of the Bid price for gravel access road will be compensation for the removal and offsite disposal of the gravel access road as shown on the Plans and specified herein, including all labor, equipment and materials required for or incidental to the Work.

1.12 HYDROSEEDING AND MULCHING (ITEM 11)

A. Measurement

1. The number of acres of landfill surface tracked, hydroseeded, and mulched shall be determined by field measurements made by the Engineer.
2. Measurements will only be to the limits designated on the plans or as directed by the Engineer. Areas disturbed by the contractor's operations beyond the designated work area shall be hydroseeded and mulched in accordance with these specifications at the contractor's expense.
3. The final as-built survey of the landfill will be used to calculate the total acres tracked, hydroseeded, and mulched. Areas outside of the cap limits that are hydroseeded at the direction of the Engineer will be field measured.

B. Payment

1. Payment of the Bid price for hydroseeding and mulching will be full compensation for tracking the landfill surface and furnishing and placing hydroseed and mulch (including bonded fiber matrix) on the landfill surface as

shown on the plans and specified herein including all labor, equipment, and materials required for or incidental to the Work.

2. Actual payments will be based on the Engineer's evaluation of the success of the vegetative growth that results from the hydroseeding. Initial payment will be limited to a maximum of 50% when areas of hydroseeding and mulching are first completed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01310

COORDINATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Project Management
 - 2. Coordination
 - 3. Project Meetings
- B. Related Requirements
 - 1. Section 01140 - Work Restrictions
 - 2. Section 01325 - Scheduling of Construction
- C. Related Work Not Included
 - 1. Operation of existing facilities will be performed by the Owner unless otherwise specified. The Owner will assist in arranging operation of any existing facilities or equipment required by the Contractor to connect to existing facilities, and the Contractor shall not operate existing valves or equipment. Only the Owner will operate Owner valves.

1.2 SUBMITTALS

- A. Incorporate the requirements of this Section, as well as Work which may impact the existing system operation, or the operations of any adjacent utility, in the project schedule submitted under Section 01325.
- B. Informational Submittals
 - 1. Submit to the affected utility company, the Owner, and the Engineer, in writing, all requests for temporary shutdowns of facilities or interruption of operations. No shutdowns or interruptions to existing operations will be permitted except as outlined in this Section. Submit requests at least 2 weeks prior to the beginning of the Work requiring shutdown or interruption. No shutdown shall occur without the approval of the utility company or the Owner.
 - 2. At the pre-construction conference, supply to the Owner the cell phone number of a responsible person who may be contacted during off-hours for emergencies 24 hours a day, seven days a week.
 - 3. Prepare a contact list of phone numbers, including cell phone numbers, and emails for all Project personnel and submit to the Engineer at the pre-construction conference. Include Contractor, Owner, Engineer, and Town personnel including police, fire, and ambulance.

1.3 PROJECT MANAGEMENT

- A. Retain a full-time Superintendent, satisfactory to the Owner and Engineer. The Superintendent shall not be changed except with the consent of the Owner and Engineer. The Superintendent shall be in full charge of the Work.
- B. Complete the Work in a continuous uninterrupted operation. Use sufficient personnel and adequate equipment to complete the Work within the Contract Time.

1.4 COORDINATION

- A. Do not interfere with the operation of the existing facilities.
- B. Coordinate with appropriate utility companies, as well as with the Owner, where the Work crosses or is adjacent to existing utilities.

1.5 PROJECT MEETINGS

- A. Pre-Construction Conference
 - 1. The Contractor shall be prepared to discuss the following subjects at the Pre-Construction Conference. Documentation for these items is required to be submitted within the time frames included in individual specification sections.
 - a. Project scheduling
 - b. Sequencing of critical path Work items
 - c. Shop Drawing procedures
 - d. Project changes and clarification procedures
 - e. Use of sites, access to Work areas, office and storage areas, security and temporary facilities
 - f. Contractor safety plan and representative
 - g. Progress payments and procedures
 - h. Required documentation
 - i. Project personnel contact list
- B. Progress Meetings
 - 1. Progress meetings will be held every 2 weeks and at other times as requested by the Owner or as required by the Progress of the Work.
 - 2. The Contractor's Superintendent shall attend all progress meetings.
 - 3. At a minimum, progress meetings will review Work progress, schedule, Shop Drawing submission schedule, Applications for Payment, and other matters needing discussion and resolution.
 - 4. Review the schedule with all parties to be affected by upcoming work.
 - 5. Review the monthly construction report required under Section 01325.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.1 GENERAL**

- A. Notify DIGSAFE at 1-888-344-7233 at least 72 hours prior to any digging, trenching, rock removal, demolition, borings, backfill, grading, landscaping, or any other earth moving operations.

3.2 COORDINATION WITH THE OWNER'S OPERATIONS

- A. Notify the Owner and Engineer, in writing, a minimum of 1 week in advance of commencing Work on site. Work on site shall not occur until all required permits are obtained.
- B. Notify the Owner and Engineer, in writing, a minimum of 1 week before commencing any work which may affect the Owner's operations.
- C. Perform all construction activities so as to avoid interference with operations of the facility and the work of others.
- D. The Owner has the authority to order the Work stopped which could unreasonably result in stopping the necessary functions of the site. Any costs and/or delays associated with these work stoppages due to the Contractor's operation shall be borne by the Contractor.

3.3 SEQUENCE OF CONSTRUCTION

- A. The Contractor will be allowed reasonable flexibility in scheduling the construction activities. Provide a detailed construction schedule as required in Section 01325.

END OF SECTION

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SECTION 01325

SCHEDULING OF CONSTRUCTION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Milestones
 - 2. Progress Schedule
- B. Related Requirements
 - 1. Section 01140 - Work Restrictions
 - 2. Section 01310 - Coordination

1.2 REFERENCES

- A. The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry, an Associated General Contractors (AGC) of America publication.

1.3 MILESTONES

- A. Milestone No. 1: The work will be substantially completed on or before September 1, 2020.
- B. Milestone No. 2: The work will be completed and ready for final payment on or before October 1, 2020.
- C. If, in the opinion of the Owner, the progress of the Work is insufficient to achieve the scheduled completion of the milestone, the Contractor shall be required to take such measures as are necessary to achieve completion by the milestone date. Such measures may include, but shall not be limited to, employing additional equipment and personnel, working overtime, added shifts or any combination thereof, all at no additional cost to the Owner.

1.4 PROGRESS SCHEDULE

- A. Network Analysis
 - 1. Prepare an electronic network analysis using the critical path method under concepts and methods outlined in the current edition of AGC's "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry."
- B. Graphically show the order and interdependence of activities, sequence of Work, how the start of a given activity depends on completion of preceding activities, and how completion of an activity may restrain the start of subsequent activities.
- C. The Work shall be planned by the Contractor and his Project field superintendent in coordination with all Subcontractors and Suppliers whose Work is shown on the Progress Schedule.

- D. Include, at a minimum, the following activities on the Progress Schedule:
1. Project mobilization
 2. Submittal and approval of Shop Drawings
 3. Procurement of equipment and critical materials
 4. Installation of equipment and critical materials
 5. Fabrication of special equipment and material, and its installation and testing
 6. Final inspecting and testing
 7. Punchlist
 8. Final cleanup
 9. Other activities that may be critical to the Progress Schedule
 10. All activities of the Owner and the Engineer which affect progress and/or affect required dates for completion of the Work
 11. Milestone completion dates
- E. Take into consideration Shop Drawing submittal and approval time, the delivery times of equipment and materials, Subcontractors' Work, availability and abilities of workmen, weather conditions, any restrictions in operations at the Work site, and all other items that may affect completion of the Work within the Contract Time and specified milestones.
- F. The Progress Schedule shall reflect the requirements and constraints outlined in Section 01310, Coordination.
- G. The Progress Schedule shall reflect Work restrictions outlined in Section 01140.
- H. Show information in such detail that duration times of activities will range from one to 15 days. The selection and number of activities shall be subject to the approval of the Owner and Engineer.
- I. The Progress Schedule should show preceding and following event numbers for each activity, description of each activity, and activity duration in calendar days.
- J. Submit the Progress Schedule on maximum sheet size 30-inches high by the width required.

1.5 SUBMITTALS

- A. Informational Submittals
1. Submit four prints of the preliminary Progress Schedule prepared in accordance with Article 2.05 of Section 00700 and the requirements of this section. Progress schedule must be submitted within 10 days after the Effective Date of the Agreement. Progress Schedule must be approved by the Owner and Engineer before the first progress payment will be made.
 2. Revised analyses - Within 10 days after receipt of the review comments, submit four prints of the Progress Schedule revised in accordance with those comments.

3. Periodic reports - On the first progress meeting of each month, submit four prints of the updated Progress Schedule, as well as a report of construction activities in the prior month.
4. Before initiating the Work, submit an estimated monthly rate of Contractor payments for the project. If the payment schedule deviates from the original projection, submit a revised rate of expenditure schedule.

1.6 PERIODIC REPORTS

- A. At the first scheduled progress meeting of each month, present four copies of a construction report which details the Work performed during the preceding period. The report shall include the following at a minimum:
 1. Actual progress of Work. Update the Progress Schedule accordingly.
 2. The Progress Schedule, or revised Progress Schedule, should show the portions of the Progress Schedule impacted by the Work progress.
 3. Activities or portions of activities completed during the reporting period, and their total value as basis for Contractor's periodic request for payment. Payment made will be based on the total value of such activities completed or partially completed after verification by the Engineer.
 4. State the percentage of the Work actually completed and scheduled as of the report date, and the progress along the critical path in terms of days ahead of or behind the dates defined in the Progress Schedule.
 5. If the Work is behind the dates set forth in the Progress Schedule, also report progress along other paths with negative slack.
 6. Include a narrative which includes:
 - a. A description of problem areas, anticipated and current
 - b. Delaying factors and their impact
 - c. An explanation of corrective actions taken or proposed
 7. Show the date of latest revision.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Action Submittals
 - 2. Informational Submittals

1.2 DEFINITIONS

- A. Action Submittals – includes written and graphic information submitted by Contractor that requires Engineer’s approval.
- B. Informational Submittals – includes information submitted by Contractor that does not require Engineer’s approval. The Engineer will acknowledge receipt of such documents and provide comments when the submittals lack the detail required by the Contract Documents.

1.3 ACTION SUBMITTALS

- A. Shop Drawings
 - 1. Shop Drawings as defined in the General Conditions, and as specified in individual work sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation drawings, schedule information, piece part drawings, actual shop work manufacturing instructions, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certification, as applicable to the Work.
 - 2. Shop Drawings shall be of standardized sizes to enable the Owner to maintain a permanent record of the submissions. Approved standard size drawings shall be
 - a. 24 inches by 36 inches
 - b. 22 inches by 34 inches
 - c. 11 inches by 17 inches
 - d. 8.5 inches by 11 inches
 - 3. Submit Shop Drawings at the proper time to prevent delays in delivery of materials. Coordinate submittals for related or interdependent equipment.
 - 4. Advise the Engineer in writing of any deviations from the requirements of the Contract Documents.
 - 5. Check all Shop Drawings regarding measurements, size of members, materials, and details to determine if they conform to the Contract Documents. Shop Drawings found to be inaccurate, not in compliance, or otherwise in error shall

be returned to the Subcontractors or Suppliers for correction before submission to the Engineer. Drawings that are current shall be marked with the date, name, and approval stamp of the Contractor.

6. All details on Shop Drawings submitted for approval shall show clearly the relation of the various parts to the main members and lines of the structure, and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the Shop Drawings before being submitted for approval.
 7. Detailed installation drawings (sewers, equipment, piping, electrical conduits and controls, HVAC work, and plumbing, etc.) shall be drawn to scale and fully dimensioned.
 8. No material or equipment shall be purchased or fabricated until the required Shop Drawings have been submitted and approved. Materials and equipment and the work involved in their installation or incorporation into the Work shall then be as shown in and represented by the Shop Drawings.
 9. Until the necessary approval has been given, do not proceed with any portion of the work, the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which approval is required.
 10. If submitted equipment requires modifications to the structures, piping, layout, or other details shown on the Drawings, details of the proposed modifications must also be submitted for approval. If such equipment and modifications are approved, perform all Work necessary to make such modifications at no additional cost to the Owner.
- B. Product Data: Product data as specified in individual Sections, include, but are not necessarily limited to, standard prepared data for manufactured products (catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing, and printed product warranties, as applicable to the Work.
- C. Samples and color selection charts: Provide sample, when requested by individual Specification to establish conformance with the Specifications, and as necessary to define color, texture and pattern selections available.
- D. Operation and Maintenance Manuals: In accordance with Section 01770.
- E. Site Usage Plan: In accordance with Section 01140.

1.4 INFORMATIONAL SUBMITTALS

A. Schedule of Submittals

1. Submit a preliminary Schedule of Submittals within 10 days of the Effective Date of the Agreement in accordance with Article 2.05 of Section 00700.

- B. Schedule of Manufacturers and Suppliers
 - 1. Submit a schedule of manufacturers and Suppliers within 7 days after Notice to Proceed including the names and addresses of the manufacturers and Suppliers of materials and equipment to be incorporated into the Work.
- C. Schedule of Major Products
 - 1. Submit a schedule of major products within 30 days after Notice to Proceed including a complete list of major products proposed for use, with specification section number, name of manufacturer, trade name, and model number of each product.
- D. Product Listing and Manufacturers Qualifications
 - 1. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards. Specifically identify the products, the anticipated schedule for delivery and storage, and the estimated value thereof for materials which the Contractor intends to request approval for off-site storage.
- E. Certificates of Compliance
 - 1. General:
 - a. Submit sworn certificates from the manufacturer or material supplier that the materials and fabrications provided under the Specification section conform with the Contract Documents.
 - b. Certificates shall be signed by an officer of the manufacturer's corporation and witnessed by a Notary Public.
 - 2. Welding: Submit in accordance with individual Specification sections.
 - 3. Installer: Prepare written statements on manufacturer's letterhead certifying that installer complies with requirements as specified in individual Specification sections.
 - 4. Material Test: Prepared by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
 - 5. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency, or when specified in individual Specification sections.
 - 6. Manufacturer's Certificate of Compliance: In accordance with individual Specification sections.
- F. Application for Payment
 - 1. Submit applications for payment in accordance with Section 01270, Measurement and Payment or Section 01290, Application and Certificate for Payment.
 - 2. Submit schedule of stored materials when requesting payment for materials not yet installed.

- G. Construction Photography and Videography: Provide preconstruction, progress, and post-construction photography and videography in accordance with Sections 01320 and 01321.
- H. Contract Closeout Submittals: In accordance with Section 01770.
- I. Contractor Design Data
 - 1. Written and graphic information
 - 2. List of assumptions
 - 3. List of performance and design criteria
 - 4. Summary of loads or load diagram
 - 5. Calculations
 - 6. List of applicable codes and regulations
 - 7. Name and version of software
 - 8. Information requested in individual Specification section
- J. Manufacturer's Instructions: Written or published information that documents manufacturer's recommendations, guidelines, and procedures in accordance with individual Specification sections.
- K. Schedules - Submit construction progress schedules and schedule updates in accordance with Section 01325.
- L. Statement of Qualifications: Submit evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty subcontractor, trade, specialist, consultant, installer, and other professionals.
- M. Submittals Required by Laws, Regulations, and Governing Agencies
 - 1. Submit promptly notifications, reports, certifications, payrolls, and other required information as may be required, directly to the applicable federal, state, or local governing agency or their representative.
 - 2. Transmit to Engineer for Owner's records, one copy of correspondence and transmittals (including enclosures and attachments) between Contractor and governing agency.
- N. Test and Inspection Reports
 - 1. Submit test and inspection reports as required by individual Specification sections.
 - 2. Test and inspection reports shall contain signature of person responsible for test or report.
 - 3. Reports shall include identification of product and Specification, project name, date and time of test, type of test, location, test results, corrective action required if report indicates test is not in compliance with Contract Documents,

interpretation of test results, and other information as required in individual Specification sections.

- O. Equipment Data: Submit information on equipment to be used in the performance of the Work as required by individual Specification sections.
- P. Testing and Start-up Data: Prepare and submit testing procedures proposed to perform testing required by individual Specification sections.
- Q. Vendor Training Plan: At least two weeks prior to scheduling training of Owner's personnel, submit lesson plans for vendor training in accordance with individual Specification section and manufacturer's Operations and Maintenance Manuals.
- R. Health & Safety Plans: When specified in individual Specification sections, prepare and submit a Health and Safety Plan modified or supplemented to include job-specific considerations.
- S. Submittals stamped by another Professional Engineer: When specified in individual Specification sections, prepare and submit calculations and/or drawings stamped by a Professional Engineer licensed in the State where the work is being performed.
- T. Coordination Drawings: When specified in individual Specification sections, prepare and submit drawings to show how multiple system and interdisciplinary work will be coordinated. Examples are conduit routing diagrams, duct layouts, utility coordination drawings, sprinkler plans etc.
- U. Work Plans: When specified in individual Specification sections, prepare and submit copies of all work plans needed to demonstrate to the Owner that Contractor has adequately thought-out the means and methods of construction and their interface with existing facilities.
- V. Erosion Control Plan: When specified in Contract Documents or required by local ordinances or regulations, prepare and submit copies of erosion control plans.
- W. Traffic Control Plan: When specified in Contract Documents or required by local ordinances or regulations, prepare and submit copies of traffic control plans.
- X. Shutdown Requests: Submit notification of any outages required (electrical, flow processes, etc.) as may be required to tie-in new work into existing facilities. Unless otherwise specified, provide outage requests a minimum of 7 days' notice shall be provided.
- Y. Equipment Data: When specified in other Specification sections, information on equipment used by the Contractor to complete the Work, such as compaction equipment and closed-circuit television inspection equipment.

1.5 PROCEDURES

A. Coordination

1. Prepare and submit documentation in advance of fabrication and product manufacturer, so that the installation will not be delayed, other related work can be properly coordinated, and there is adequate time for review and resubmission, if required.

2. Provide no less than 30 days for review of submittals from the time received by the Engineer. For submittals of major equipment, that require more than 30 days to review, due to complexity and detail or those requiring review by multiple engineering disciplines, Engineer will notify Contractor of the circumstances and identify the anticipated date when the submittal will be returned.
 3. Re-submittals will be subject to same review time.
 4. No extension of time will be authorized due to failure to provide approvable submittals sufficiently in advance of the Work.
- B. Review Shop Drawings, product data, and samples prior to submission and verify and determine:
1. Field measurements
 2. Conformance with the Contract Documents. Advise the Engineer in writing of any deviations from the requirements of the Contract Documents.
 3. Delete or strike out information that is not applicable to the Work.
- C. Upload the electronic submittal files via Procore. Access to Procore will be provided by the Engineer. Files must be in .pdf format. The submittals will be returned in electronic .pdf format via Procore.
- D. Numbering: Submissions shall be accompanied by a transmittal form referencing the project name and applicable Specification section. Submittals shall be numbered sequentially, with the applicable Specification section and a hyphen preceding the number. (*e.g.* Submittal number 11330-01). Resubmittals shall bear the same transmittal number with a revision number commencing with "1" (*e.g.* Submittal number 11330-01-1).
- E. Provide a copy of the Submittal Certification Form (copy attached at the end of this section) which shall be attached to every copy of each submittal as required under Article 7.16 A.2 of Section 00700. Apply the Contractor's stamp and initials or signature certifying that the submission has been thoroughly reviewed for completeness, compliance with the Contract Documents, coordination with adjacent construction and dimensional compatibility. Items submitted without the stamp or that are incomplete will be returned by the Engineer for rework and resubmission.
- F. Provide a copy of the PE Certification Form (copy attached at the end of this section) which shall be attached to every copy of each submittal stamped by another Professional Engineer. Items submitted without the completed certification form will be returned by the Engineer for resubmission.
- G. Distribute copies of reviewed submittals along with the Engineer's transmittal to concerned parties with instructions to promptly report any inability to comply with the provisions or integrate the requirements with interfacing work.
- H. Partial and Incomplete Submittals
1. Shop Drawings shall be submitted as a complete package by Specification section, unless otherwise reviewed and approved by the Engineer. It is the intent that all information, materials, and samples associated with each

Specification section be included as a single submittal for the Engineer's review.

2. Engineer will return entire submittals if preliminary review deems it incomplete including:
 - a. Missing or incomplete Submittal Certification Form
 - b. Insufficient number of copies
 - c. Missing content
 3. Partial submittals may be considered, at Engineer's option, only when necessary to expedite the Project.
 4. Partial submittals shall be clearly identified as such on the transmittal to identify missing components.
- I. Submittals not required by the Specification will be returned without review or action code.
- J. Resubmission
1. Make corrections and modifications required by the Engineer and resubmit until approved.
 2. Clearly identify changes made to submittals and indicate other changes that have been made other than those requested by the Engineer.
 3. A maximum of two re-submissions of each shop drawing will be reviewed, checked and commented upon without charge to the Contractor (total of 3 submittals). Any additional submissions which are required by the Engineer to fulfill the stipulations of the Contract Documents will be charged to the Contractor as described in paragraph 7.16.E.2 of Section 00700.
- K. Distribution
1. Distribute approved Shop Drawings and approved product data to the Project Site and elsewhere as required to communicate the information to Suppliers, Subcontractors, and field personnel.

1.6 ENGINEER'S REVIEW

- A. The Engineer will review submittals for design, general methods of construction and detailing. The Engineer's review and approval of submittals shall not be construed as a complete check nor does it relieve the Contractor from responsibility for any departures or deviations from the requirements of the Contract Documents unless he has, in writing, called the Engineer's attention to such deviations at the time of submission. It will not extend to means, methods, technique, sequences, or procedures of construction (except where specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto.
- B. The Engineer's review of the submittals shall not relieve the Contractor from the responsibility for proper fitting of the Work, or the responsibility of furnishing any work required by the Contract Documents which may not be indicated on the

submittals. The Contractor shall be solely responsible for any quantities shown on the submittals.

- C. If the Contractor considers any correction indicated on the submittals to constitute a change to the Contract Documents, the Contractor shall provide written notice to the Engineer at least 7 working days prior to release for manufacture.
- D. When the submittals have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.
- E. Action submittals as defined in paragraph 1.2 will be reviewed and returned under one of the following codes:
 - 1. Approved (Action Code 1) is assigned when there are no notations or comments on the submittal. Equipment or materials may be released for manufacture, provided that it complies with requirements of the Contract Documents.
 - 2. Approved as Noted (Action Code 2) is assigned when there are notations or comments on the submittal, but the equipment or materials may still be released for manufacture. All notations and comments must be incorporated in the final product. Resubmission is not necessary.
 - 3. Revise and Resubmit (Action Code 3) is assigned when there are notations and comments requiring a resubmittal of the package. Work cannot proceed until the submittal is revised and resubmitted for review.
 - 4. Not Approved (Action Code 4) is assigned when the submittal contains non-specified items or does not meet the requirements of the Contract Documents. It may also be assigned when there is a significant amount of missing material required for the Engineer to perform a complete review. The entire package must be resubmitted, revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the requirements of the Contract Documents.
- F. Informational submittals as defined in paragraph 1.2 do not require approval by the Engineer. Such submittals will be returned under one of the following codes:
 - 1. Receipt Acknowledged (Action Code 5) is assigned when the submittal is provided for documentation purposes and is acknowledged as received. Comments may be noted using this action code.
 - 2. Revise and Resubmit (Action Code 6) is assigned when there are notations and comments requiring a resubmittal of the package.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SUBMITTAL CERTIFICATION FORM

PROJECT: _____
ENGINEER: _____ ENGINEER'S PROJECT NO.: _____
CONTRACTOR: _____ CONTRACTOR'S PROJECT
NO.: _____

TRANSMITTAL NO.: _____ SUBMITTAL NO.: _____
SPECIFICATION NO.: _____ DRAWING NO: _____
DESCRIPTION: _____
MANUFACTURER: _____

The above referenced submittal has been reviewed by the undersigned and I/we certify that the materials and/or equipment meets or exceeds the project specification requirements; that field measurements, dimensions, quantities, specified performance criteria, installation requirements, materials, catalog numbers and related materials have been verified; that all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the work has been determined and verified; that review includes all information related to the contractor's sole responsibility for means, methods, techniques, sequences, and procedures of construction and safety; and item has been coordinated with the overall project with:

- NO DEVIATIONS

- A COMPLETE LIST OF DEVIATIONS AS FOLLOWS:

SUBMITTED BY: _____ DATE: _____

GENERAL CONTRACTOR'S STAMP

PE CERTIFICATION FORM

The undersigned hereby certifies that he/she is a Professional Engineer registered in the Commonwealth of Massachusetts and that he/she has been employed by

_____ to design
(Name of Contractor)

(Insert PE Responsibilities)

In accordance with Specification section _____ for the

(Name of Project)

The undersigned further certifies that he/she has performed the said design in conformance with all applicable local, state and federal codes, rules and regulations; and, that his/her signature and PE stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

(Insert Name of Owner)

or Owner's representative within seven days following written request therefor by the Owner.

PE Name

Contractor's Name

Signature

Signature

Title

Title

Address

Address

SECTION 01350

HEALTH & SAFETY PLAN

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Furnish all labor, equipment and materials and perform all operations in connection with monitoring air quality, decontaminating equipment and providing worker health and safety protection for all Contractor personnel.
2. Develop a site specific Health and Safety Plan (HASP) specifically addressing the potential hazards that may be encountered. This plan shall meet all OSHA requirements.
3. Review the requirements and data presented and supplement the program with any additional measures deemed necessary to fully comply with regulatory requirements and adequately protect personnel on the site.

1.2 REFERENCES

- A. OSHA Regulation 29 CFR 1910.120
- B. OSHA Regulation 29 CFR 1926.62
- C. Massachusetts Contingency Plan, 310 CMR 40

1.3 DEFINITIONS

- A. Site Safety Official (SSO) - The individual located on a hazardous waste site who is responsible to the Contractor and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.
- B. Uncontrolled Hazardous Waste Site - An area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both.

1.4 SUBMITTALS

A. Informational Submittals

1. Submit the following within ten (10) days after the Effective Date of the Agreement.
 - a. Site-specific HASP including the Emergency Response Plan for review, including provisions for decontamination and a contingency plan for unforeseen emergencies. The Engineer's review is only to determine if the HASP meets basic regulatory requirements and the minimum requirements of this section. The review will not determine the adequacy of the HASP to address all potential hazards, as that remains the sole responsibility of the Contractor.

- 1) The HASP must be reviewed, approved, and signed by a Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP).
 - b. Current certification of employee's health and safety training and certification of employee's baseline medical exam status.
 - c. Certification of additional required health and safety training for supervisors.
 - d. Qualifications and experience of the SSO for approval.
2. Submit minutes of weekly safety meetings at periodic progress meetings.

1.5 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor is solely responsible for the health and safety of workers employed by the Contractor, any subcontractor and anyone directly or indirectly employed by any of them.
- B. Work under this contract is not being performed on an "Uncontrolled Hazardous Waste Site," as defined in 29 CFR 1910.120 and Article 1.3 B, above. Develop and follow a site specific Health & Safety Plan (HASP) in accordance with the requirements of 29 CFR 1910.120 and paragraph 1.6.
- C. Provide a full-time SSO regardless of whether or not the Work is at a defined Uncontrolled Hazardous Waste Site.
- D. Pre-arrange emergency medical care services at a nearby hospital, including establishment of emergency routes of travel.
- E. Conduct weekly safety meetings with all site personnel, documenting attendance and topics covered.
- F. Train all workers assigned to areas where contaminated media are likely to be encountered in accordance with 29 CFR 1910.120.
- G. In areas where contaminated media are likely to be encountered, monitor air quality in and around work area using appropriate air monitoring equipment, as indicated in Part 2. Record all readings and maintain record on site. Stop work and/or upgrade respiratory protection or personal protective equipment levels if action levels established in the HASP are exceeded. Ensure that degree and type of respiratory protection provided is consistent with the monitored concentrations and individual chemical parameters. Lawfully dispose of all contaminated clothing and equipment that cannot be decontaminated.
- H. At all times, prevent oil or other hazardous substances from entering the ground, sewers, drainage areas and piping systems.

1.6 HEALTH & SAFETY PLAN (HASP) REQUIREMENTS

- A. The following items shall be addressed in the HASP:
 1. safety and health hazard assessment;
 2. procedures for emergency medical treatment and first aid;

3. map indicating route to hospital for emergency medical care;
4. equipment decontamination procedures;
5. personal protective equipment and decontamination;
6. physical hazard evaluation and abatement including:
 - a. equipment operation;
 - b. confined space entry;
 - c. slips and falls;
 - d. building collapse;
 - e. falling debris;
 - f. encountering unmarked utilities;
 - g. cold and heat stress;
 - h. hot work (cutting and welding);
 - i. excavation entry;
7. training requirements;
8. recordkeeping requirements;
9. emergency response plan that includes:
 - a. names of three (3) Emergency Response Contractors, experienced in the removal and disposal of oils and hazardous chemicals, that the Contractor intends to use in the event of an emergency;
 - b. evacuation routes and procedures;
 - c. emergency alerting and response procedures.

1.7 CONTINGENCY MEASURES & NOTIFICATIONS

- A. The potential for encountering hazardous buried objects or materials that could pose a threat to human health or the environment exists beneath the temporary soil cover material. In the event that potentially hazardous materials are encountered during the work under this contract, the responsibilities of the Contractor and the Engineer are described herein.
- B. The procedures and protocols to be used by the SSO in defining materials that are potentially hazardous include screening with a photo-ionization detector, odor, visual appearance of a material, and obvious oil or chemical contaminated materials.
- C. Upon encountering suspected hazardous buried objects or materials as described above, cover the excavation immediately if no imminent danger, as defined by the SSO, is present. If there is an imminent danger, as defined by the SSO, Evacuate the area immediately. The SSO shall then notify the Engineer and the Owner of the situation.

- D. Establish, properly barricade, and mark the area as an exclusion zone under the direction of the SSO. The SSO shall establish the exclusion zone boundaries based upon air quality monitoring using a photo-ionization detector and other equipment as appropriate. The exclusion zone shall be established at a minimum 50-foot radius around the location where the potentially hazardous material is encountered. Work within the exclusion zone shall be discontinued until the hazardous condition has been remediated and testing indicates that a hazard does not exist. Other activities of the site, outside the limits of the exclusion zone shall continue. Ambient air quality monitoring shall be performed by the SSO to demonstrate that ambient air quality in other portions of the site is not adversely impacted by the exclusion zone condition.
- E. Notify the Engineer and the Owner regarding the presence of potentially hazardous materials. The Owner may direct the Contractor to notify regulators and to obtain necessary regulatory approvals for remediation.
- F. Mobilize the appropriate equipment and personnel to sample and test the hazardous material within the exclusion zone to determine the remedial action required, subject to the Engineer's direction. The Contractor may be directed to remove and legally dispose of the material. Compensation for the removal and disposal of hazardous material will be as a Change in Work and Change in Contract Price in accordance with the General Conditions, if not covered under a specific bid item.

PART 2 PRODUCTS

2.1 AIR MONITORING EQUIPMENT

- A. Provide and maintain portable photo-ionization detector or organic vapor analyzer capable of detecting organic vapors or total hydrocarbons. Equipment shall be sensitive to the 0.5 parts per million (PPM) level.
- B. Provide and maintain an oxygen analyzer to measure oxygen concentration in any trench or confined space prior to entry, as determined by the SSO.
- C. Provide and maintain an explosimeter whenever the potential for accumulation of explosive gases exists, as determined by the SSO.
- D. All air monitoring equipment shall remain the property of the Contractor.
- E. Contractor is responsible for monitoring fugitive dust emissions in accordance with applicable local, state, and federal regulations. Equipment shall be sensitive to particulate matter less than 10 micrometer in size (PM-10) at a level of 100 micrograms per cubic meter (mcg/m³). Contractor will outline the dust monitoring program in their Health & Safety Plan.
- F. All readings must be recorded and be available for State (DEP and DPH) personnel to review.

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01450

QUALITY CONTROL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Quality assurance and control of the Work
 - 2. Testing and inspection services
 - 3. Product test reports
 - 4. Manufacturer's field service
- B. Related Requirements
 - 1. Section 01451 - Independent Testing Services
 - 2. Section 02320 - Borrow Materials
 - 3. Section 02921 - Vegetative Support Material
 - 4. Testing requirements are described in various Sections of the Project Manual.

1.2 SUBMITTALS

- A. Informational Submittals
 - 1. Product test reports

1.3 QUALITY ASSURANCE

- A. Monitor quality control over Suppliers, products, services, site conditions, and workmanship to produce Work of specified quality.
- B. Comply fully with manufacturer's instructions. Should these instructions conflict with the Specifications, request clarification from the Owner before proceeding.
- C. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or requirements indicate higher standards or more precise workmanship.

1.4 TESTING SERVICES FURNISHED BY CONTRACTOR

- A. Furnish all testing services required for materials and equipment proposed to be used in the Work, and quality control tests made in the field including:
 - 1. Modified proctor analyses for all borrow materials used on the Project
 - 2. Permeability analysis for all low permeability borrow material to be used on the project.
 - 3. Soil structure and nutrient analyses for all vegetative support material used on the Project

4. Compaction tests performed during borrow material placement.
 5. All other tests and engineering data as required in the Contract Documents.
- B. Testing agencies must meet the requirements of Section 01451.
 - C. An independent commercial testing laboratory, with current Massachusetts certification, shall perform all tests that require the services of a laboratory to determine compliance with the Contract Documents. Independent testing laboratory requirements are defined under Section 01451.
 - D. Secure and deliver the required number of samples to the laboratory as required by the Contract Documents.
 - E. Notify Owner and Engineer of time, location and material being sampled.
 - F. Schedule necessary testing laboratory services.
 - G. Furnish written reports of each test within 48 hours of completion of testing.
 - H. Notify the Engineer 48 hours prior to operations requiring inspections and laboratory testing services so the Engineer may witness testing. All failed test areas shall be re-worked and re-tested until passing results are obtained.
 - I. The Owner may hire its own independent testing laboratory for quality control tests made in the field or laboratory on materials and equipment during and after their incorporation in the Work. Cooperate with the Owner and independent testing laboratory and furnish samples of materials, design, mix, equipment, tools, storage, and assistance as requested.
 - J. Re-work all failed test areas until passing results are obtained. All re-tests required as a result of the Contractor's failure to perform the work in accordance with the Contract Documents shall be at the Contractor's expense.

1.5 CODE COMPLIANCE TESTING

- A. Provide inspections and tests required by codes or ordinances, or by a legally constituted authority having jurisdiction over the Work.

1.6 PRODUCT TEST REPORTS

- A. Submit 2 copies of product test reports where required by the Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01451

INDEPENDENT TESTING SERVICES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Testing laboratory services

B. Related Requirements

1. Section 01450 - Quality Control
2. Section 02315 - Excavation, Backfill, Compaction and Dewatering
3. Section 02320 - Borrow Material
4. Section 02921 - Vegetative Support Material

1.2 REFERENCES

A. General

1. ASTM E329 - Standard Specifications for Agencies Engaged in the Testing and/or Inspection of Materials used in Construction

1.3 SUBMITTALS

A. Informational Submittals

1. Qualifications, experience, and certifications of each proposed testing service
2. Certificate of calibration for testing equipment
3. Inspection and test reports

1.4 QUALITY ASSURANCE

A. General

1. Comply with the requirements of Section 01450, Quality Control, for testing and inspection requirements.
2. Testing services shall have the following general qualifications:
 - a. Minimum five years as a firm with the type of testing specified.
 - b. Ability to provide timely field testing services to minimize the impact of the testing requirements on construction progress.
 - c. Certification to perform the specified services in the state in which the Work is to be performed.
3. Testing services proposed by the Contractor shall be subject to review by the Owner and Engineer. Any testing firm not acceptable to the Owner or Engineer will be rejected.

- B. All testing agencies and laboratories must meet the requirements of ASTM E329.
- C. Testing company shall have been in business for a minimum of the last 5 years providing applicable testing services.
- D. Testing equipment shall be calibrated at maximum 12 month intervals by devices of accuracy traceable to National Bureau of Standards. Submit copy of certificate of calibration made by accredited calibration agency.
- E. Testing shall be in accordance with applicable codes and regulations referenced in individual Specification Sections, and with selected standards of the American Society for Testing and Materials.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 TESTING SERVICES – GENERAL

- A. Provide testing services meeting the following:
 - 1. Provide qualified personnel promptly on notice.
 - 2. Perform inspections required by the Contract Documents. Sample and test materials and observe methods of construction to determine compliance with applicable standards and with the requirements of the Contract Documents.
 - 3. Take specimens and samples for testing, as required in individual Specification Sections. Provide all sampling equipment and deliver all specimens and Samples.
 - 4. Promptly notify the Owner and the Engineer of irregularities or deficiencies in the Work which are observed during performance of services.
 - 5. Promptly submit 2 copies of reports of inspections and tests to the Owner, and one copy to the Engineer including:
 - a. Date issued
 - b. Project title and number
 - c. Testing laboratory or agency name and address
 - d. Name and signature of inspector
 - e. Date of inspection or sampling
 - f. Record of temperature and weather
 - g. Date of test
 - h. Identification of product and Specification Section
 - i. Location of Project
 - j. Type of inspection or test
 - k. Results of tests and observations regarding compliance with Contract Documents

- B. Perform additional tests and services as required to assure compliance with the Contract Documents.
- C. Obtain Owner's approval of testing laboratory before performing testing services.
- D. Coordinate with testing laboratory.

3.2 COORDINATION WITH TESTING LABORATORY

- A. Provide testing laboratory personnel access to site and manufacturer's operations.
- B. Provide laboratory with representative samples of materials to be tested in required quantities.
- C. Furnish labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To facilitate inspections and tests.
 - 3. For laboratory's exclusive use for storage and curing of test samples.
 - 4. to provide forms for preparing concrete test beams and cylinders.
- D. Notify laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- E. Arrange with laboratory and pay for additional inspections, samples, and tests required for Contractor's convenience.

END OF SECTION

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SECTION 01520

CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Temporary sanitary and first-aid facilities

1.2 QUALITY ASSURANCE

- A. Maintain temporary construction facilities in proper and safe condition throughout the progress of the Work.

1.3 TEMPORARY SANITARY AND FIRST AID FACILITIES

- A. Provide suitably enclosed chemical or self-contained toilets for the use of the labor force employed on the Work. Toilets shall be located near the Work sites and secluded from observation insofar as possible. Toilets shall be serviced weekly, kept clean and supplied throughout the course of the Work.
- B. Contractor shall enforce proper use of sanitary facilities.
- C. Provide a first aid station at the site.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 01720

FIELD ENGINEERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Establishment of lines, benchmarks, and elevations required to layout and construct the Work
2. Property line survey and delineation

1.2 SUBMITTALS

A. Informational Submittals

1. Submit the qualifications of the Registered Professional Engineer and/or Registered Land surveyor to be hired to perform various portions of the Work, as applicable.
2. Submit documentation verifying the accuracy of field engineering work.
3. Submit 4 copies of final record drawings of field engineering layouts and as-built survey.
4. Submit certificate signed by registered (licensed) engineer or surveyor certifying that elevations and locations of Work are in conformance with Contract Documents. Explain deviations.

1.3 RECORDS

- A. Maintain a complete, accurate log of control and survey work as it progresses.

1.4 QUALITY ASSURANCE

- A. Employ a qualified engineer, registered with the Commonwealth of Massachusetts as a Professional Engineer or a competent surveyor, registered with the Commonwealth of Massachusetts as a Land Surveyor, as required for the particular characteristics of the work being performed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROCEDURES

- A. The Registered Professional Engineer or Land Surveyor provided shall establish and maintain lines, elevations and reference marks needed during the progress of the Work and shall re-establish stakes and marks placed by the Engineer that are lost or destroyed through the course of the Work. Verify such work by instrument or other appropriate means.
- B. The Engineer shall be permitted at all times to check the lines, elevations and reference marks, set by the Contractor, who shall correct any errors disclosed by such check. Such a check shall not be construed to be an approval of the Contractor's work and

shall not relieve or diminish the responsibility of the Contractor for the accurate and satisfactory construction and completion of the entire Work.

- C. Make, check, and be responsible for measurements and dimensions necessary for the proper construction of and the prevention of misfittings in the Work.
- D. Furnish all protective stakes and temporary structures for marking and maintaining points and lines for the building of the Work, and give the Engineer such facilities and materials for verifying said lines and points as he may require.
- E. Revisions to the layout and elevations of the Work as defined by the Contract Documents shall be approved by the Engineer.
- F. Maintain and prepare final electronic record drawings of field engineering layouts and as-built survey conducted after completion of the Work.
- G. Set grade stakes on a 50 foot grid over the entire project area. This survey work shall be completed prior to beginning any construction.
- H. Use the new survey information to make adjustments, if necessary, to the final grading plan for the landfill. Changes to the final grading plan based on revised survey information shall be reviewed and approved by the Engineer.
- I. Furnish and set control staking. Rough stakes may be used to denote top and bottom of slopes, edge of refuse, centerline of ditches, etc.
- J. Complete topographic surveys following the placement of fill to determine finished grade elevations.

END OF SECTION

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SECTION 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Documentation required for the transfer of the completed Work to the Owner

1.2 SUBMITTALS

A. Closeout Submittals

1. As-built drawings
2. Evidence of payment and release of liens
3. List of Subcontractors, service organizations, and principal vendors

1.3 SUBSTANTIAL COMPLETION

- A. Refer to Article 15.03 in 00700, General Conditions, for procedures relating to obtaining Substantial Completion. Refer to 00520, Agreement, for Contract Times.

1.4 PROJECT CLOSEOUT DOCUMENTS

- A. As-Built Drawings - Submit as-built drawings for review, approval, or comment. The as-built drawings shall show the completed work, including all deviations from the original Drawings. As-built drawings shall depict the location of all piping and valves installed under this Contract, as well as field changes. Take swing ties to all underground work from a minimum of two horizontal locations. Vertical dimensions to all below grade work shall also be obtained. All fittings, bends, valves and other appurtenances shall be shown. At a minimum, the following information shall be shown on the as-built drawings.

1. Topographic as-built survey of the final grades at the top of each layer of the Borrow Material, including subgrade preparation.
2. Ties to all buried fittings (including tees, crosses, bends, reducers, wyes, offsets, adapters, sleeves, caps, plugs), valves, services and structures from two horizontal measurements to permanent surface reference points, and depth below permanent grade. Permanent surface reference points are manholes, catch basins, power poles, and above-grade structures.
3. Ties to all surface structures (including manholes, catch basins, vaults, valve boxes, hydrants, curb stops, cleanouts, wet wells, outlets, etc.) from two horizontal measurements to permanent surface reference points. Re-station surface structures if stationed on Drawings.
4. Ties to other utility crossings, abandoned pipelines, and sewer service stubs, from two horizontal measurements to permanent surface reference points include depth below permanent grade and spacing between crossing utilities.

5. Invert and rim elevation of all gravity pipelines and structures including manholes, catch basins, below-grade structures, wet wells, septic tanks and distribution boxes as appropriate.
- B. Provide warranties and bonds for items so listed in pertinent sections of the Project Manual.
- C. Provide evidence of compliance with requirements of governmental agencies having jurisdiction.
- D. As specified in Article 15.06.A of Section 00700, provide evidence that all Work, materials and equipment will pass to Owner free and clear of any Liens or other title defects upon final payment. Such evidence may take the form of receipts or releases from all Subcontractors and Suppliers and an affidavit from Contractor as to the completeness of the receipts and releases as described in Section 00700 Article 15.06.A.3.
- E. Provide list of Subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

1.5 FINAL PAYMENT

- A. Refer to Article 15.05 and 15.06 in 00700, General Conditions, for procedures relating to final inspection and payment.
- B. The Contract shall be considered complete and final payment made, only when:
 1. All provisions of the Contract Documents have been strictly adhered to.
 2. The project and premises have been left in good order, including removal of all temporary construction, Contractor-owned and extraneous materials.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 CLEANING

- A. Remove and entirely dispose of material or debris that has washed, flowed or has been placed in existing watercourses, ditches, gutters, drains, pipe, or structures, for work done under the Contract work limits. Leave ditches, channels, drains, pipes, structures, and watercourses in a clean and neat condition upon completion of the Work.
- B. Restore or replace any public or private property damaged or removed during the course of the Work. Property shall be returned to a condition at least equal to that existing immediately prior to the beginning of operations. Complete all highway or driveway, walk, and landscaping work using suitable materials, equipment and methods. Perform restoration of existing property, signs or structures promptly as work progresses; do not leave restoration work until the end of the Contract Time.

END OF SECTION

DIVISION 2 - SITE CONSTRUCTION

SECTION 02075

GEOSYNTHETICS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes
 - 1. Temporary degradable erosion control blankets

1.2 REFERENCES

- A. ASTM D1248 - Specification for Polyethylene Plastics Molding and Extrusion Materials
- B. ASTM D1388 - Test Methods for Stiffness of Fabrics
- C. ASTM D3786 - Test Method for Hydraulic Bursting Strength of Knitted Goods and Non-woven Fabrics: Diaphragm Bursting Strength Tester Method
- D. ASTM D4218 - Test Method for Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique
- E. ASTM D4491 - Test Methods for Water Permeability of Geotextiles by Permittivity
- F. ASTM D4533 - Test Method for Trapezoid Tearing Strength of Geotextiles
- G. ASTM D4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles
- H. ASTM D4751 - Test Method for Determining the Apparent Opening Size of a Geotextile
- I. ASTM D4833 - Test Method for Index Puncture Resistance of Geotextiles Geomembranes and Related Products
- J. ASTM D5261 - Test Method for Measuring Mass per Unit Area of Geotextiles
- K. ASTM D5262 - Standard Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics
- L. GRI-GG1 - Geogrid Rib Tensile Strength

1.3 SUBMITTALS

- A. Product samples and data for all geosynthetics proposed for use on this project.
- B. Manufacturer-approved construction quality assurance/quality control manual for all of the geosynthetics proposed for use on this project.
- C. Manufacturing quality control testing data specified. Submit certification of required performance testing on all geosynthetics by an independent laboratory and label and identify all geosynthetic products delivered to the site.
- D. Manufacturer's recommended installation and fastening details for the erosion control blankets and turf reinforcement matrices. The following details are required:

1. Typical stapling pattern and spacing. List staple density in terms of staples per square yard.
2. Anchoring details for channels and slopes.
3. Transverse blanket lap splice details, as well as longitudinal lap splice details if parallel blankets are to be installed.
4. Termination details for the origin and termination of the channels and slopes.

1.4 QUALITY ASSURANCE

- A. Obtain from the geosynthetic product manufacturers a warranty that their products are free from defects in materials and workmanship at the time of delivery to the project site.
- B. Material found to be defective or which does not conform to these specifications will be rejected.

1.5 DELIVERY, STORAGE AND PROTECTION

- A. The Engineer reserves the right to reject and require replacement of any damaged materials delivered to the site, at no additional cost to the Owner.
- B. Stockpile and store the materials in accordance with the manufacturer's recommendations.
- C. Label and bag all geosynthetic rolls in packing that is resistant to photo degradation by ultraviolet (UV) radiation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Temporary Degradable Erosion Control Blankets
 1. "LANDLOK C2" as manufactured by Propex,
 2. "C125" as manufactured by North American Green,
 3. Or equal

2.2 MATERIALS

- A. Temporary, degradable erosion control blankets (ECBs) shall be composed of a core of 100% coconut fiber and two external confining meshes of degradable material. The minimum manufacturer's suggested design life of the ECB shall be 12 months.
 1. As a minimum, degradable ECBs shall be recommended by the manufacturer for use on 2:1 slopes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect all products prior to the installation for any defects that may have been the result of storage and handling. The Engineer reserves the right to reject and require replacement of any damaged product, at no additional cost to the Owner.

3.2 INSTALLATION

- A. Install geosynthetic products in accordance with the approved manufacturer's QA/QC manuals, project details, and pertinent sections of these Specifications.

3.3 QUALITY CONTROL

- A. The Engineer may remove a sample (i.e. a strip that is 3 feet long by the entire roll width) from a maximum of 1 roll of each 10 rolls of all geosynthetic materials delivered to the project, and submit the samples to an independent laboratory for analysis of the product to ensure that the geosynthetics meet the specifications herein.

END OF SECTION

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SECTION 02200

SITE PREPARATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes
 - 1. Clearing
 - 2. Grading and Compaction

1.2 SUBMITTALS

- A. Submit construction methods and equipment that will be utilized for the clearing, grubbing, and waste material disposal specified within this Section.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CLEARING

- A. All trees within the limit of clearing shall be cut and removed from the site. All stumps are to be removed or ground in place to a minimum of one foot below existing grade.
- B. Protect trees or groups of trees, designated by the Engineer to remain, from damage by all construction operations by erecting suitable barriers, or by other approved means. Conduct clearing operations to prevent falling trees from damaging trees designated to remain.
- C. Protect areas outside the limits of clearing from damage. No equipment or materials shall be stored in these areas.
- D. No stumps, trees, limbs, or brush shall be buried in fills or embankments.

3.2 DISPOSAL OF MATERIALS

- A. Remove all tree trunks, limbs, roots, brush, foliage, other vegetation and objectionable material from the site and dispose of in a legal manner.
- B. Burning or direct burial of cleared and grubbed materials on-site will not be permitted.

3.3 GRADING AND COMPACTION

- A. Perform grading to the lines, grades and elevations shown on the Drawings, and otherwise directed by the Engineer and perform in such a manner that the requirements for formation of embankments can be followed. All material encountered, regardless of its nature, within the limits indicated, shall be removed and disposed of as directed. During the process of grading, maintain the subgrade in such condition that it will be well drained at all times. Install temporary drains and drainage ditches to intercept or divert surface water that may affect the work when necessary.
- B. Newly shaped areas are subject to Massachusetts DEP Regulations 310 CMR 19.000, regarding sanitary landfill operation. The Contractor shall be responsible for covering

any exposed waste at the end of each day with a minimum of 6-inches of clean soil. Necessary clean cover soil shall be provided by the Contractor.

- C. If at the time of grading it is not possible to place material in its final location, stockpile material in approved areas for later use. No extra payment will be made for the stockpiling or double handling of excavated material.
- D. All fill areas shall be compacted to 90% of maximum density based on Standard Proctor (ASTM D698). Compaction shall be uniform and satisfactory to the Engineer.

3.4 FIELD QUALITY CONTROL

- A. Final stamped as-built survey plans shall be provided by the Contractor.
- B. The Engineer reserves the right to make minor adjustments or revisions in lines or grades if found necessary as the work progresses in order to obtain satisfactory grades for the cap construction.
- C. Compaction tests shall be performed at a minimum frequency of 5 tests per acre.

END OF SECTION

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SECTION 02315

EXCAVATION, BACKFILL, COMPACTION AND DEWATERING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Excavation, backfill and compaction for subsurface utilities
- B. Related Sections
 - 1. Section 02320 - Borrow Materials

1.2 REFERENCES

- A. ASTM D1557-07 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))
- B. ASTM D1556-07 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
- C. ASTM D2487-06e1 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- D. ASTM D6938-08a - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- E. 29 CFR Part 1926 Subpart P - OSHA Excavation Regulations 1926.650 through 1926.652 including Appendices A through F
- F. 520 CMR 14.00 Excavation and Trench Safety
- G. 780 CMR 1705.0 Requirements for Structural Tests and Inspections
- H. Commonwealth of Massachusetts Highway Department "Standard Specifications for Highways and Bridges," 1988 Edition as amended

1.3 DEFINITIONS

- A. Benching - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.
- B. Earth Retention Systems - Any structural system, such as sheeting and bracing or cofferdams, designed to retain in-situ soils in place and prevent the collapse of the sides of an excavation in order to protect employees and adjacent structures.
- C. Excavation - Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.
- D. Protective System - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include earth retention systems,

sloping and benching systems, shield systems, and other systems that provide the necessary protection.

- E. Registered Professional Engineer - A person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.
- F. Shield System - A structure that is designed to withstand the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 29 CFR 1926.652(c)(3) or (c)(4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."
- G. Sloping - A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.
- H. Temporary Dewatering System - A system to lower and control water to maintain stable, undisturbed subgrades at the lowest excavation levels. Dewatering shall be provided for all pipelines, structures and for all other miscellaneous excavations.
- I. Trench - A narrow excavation (in relation to its length) made below the surface of the ground, of at least three feet in depth. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m).

1.4 SUBMITTALS

- A. Drawings and calculations for each Earth Retention System required in the Work. The submittal shall be in sufficient detail to disclose the method of operation for each of the various stages of construction required for the completion of the Earth Retention Systems.
 - 1. Submit calculations and drawings for Earth Retention Systems prepared, signed and stamped by a Professional Engineer registered in the state where the work is performed.
- B. Performance data for the compaction equipment to be utilized
- C. Modified Proctor Test (ASTM D1557) results and soil classification (ASTM D2487) for all proposed backfill materials at the frequency specified below:
 - 1. For suitable soil materials removed during Excavation, perform one test for every 1,000 cubic yards of similar soil type. Similarity of soil types will be as determined by the Engineer.
 - 2. For borrow materials; perform tests at frequency specified in Section 02320, Borrow Materials.

- D. Compaction test results (i.e. ASTM D6938 or ASTM D1556) at a frequency of one test for every 100 cubic yards of material backfilled or at a minimum of one test per lift. The Engineer will determine the locations and lifts to be tested. The Contractor shall plan his operations to allow adequate time for laboratory tests and to permit taking of field density tests during compaction.
1. Methods and equipment proposed for compaction shall be subject to prior review by the Engineer. Compaction generally shall be done with vibrating equipment. Static rolling without vibration may be required by the Engineer on sensitive soils that become unstable under vibration. Displacement of, or damage to existing utilities or structure shall be avoided. Any utility or structure damaged thereby shall be replaced or repaired as directed by the Engineer.
 2. Additional compaction testing may be required when there is evidence of a change in the quality of moisture control or the effectiveness of compaction.
 - a. Any costs associated with correcting and retesting as a result of a failure to meet compaction requirements shall be borne by the Contractor.
 3. If all compaction test results within the initial 25% of the total anticipated number of tests indicate compacted field densities equal to or greater than the project requirements, the Engineer may reduce frequency of compaction testing. In no case will the frequency be reduced to less than one test for every 500 cubic yards of material backfilled.
 4. The Contractor is cautioned that compaction testing by nuclear methods may not be effective where trenches are so narrow that trench walls impact the attenuation of the gamma radiation, when adjacent to concrete that impacts the accuracy of determining moisture content, or where oversize particles (i.e. large cobbles or coarse gravels) are present. In these cases, other field density testing methods may be required.

1.5 QUALITY ASSURANCE

- A. All Excavation, Trenching, and related Earth Retention Systems shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926 Subpart P), 520 CMR 14.00, and other State and local requirements. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.

1.6 PROJECT CONDITIONS

- A. Notify Dig Safe and obtain Dig Safe identification numbers.
- B. Notify utility owners in reasonable advance of the work and request the utility owner to stake out on the ground surface the underground facilities and structures. Notify the Engineer in writing of any refusal or failure to stake out such underground utilities after reasonable notice.
- C. In accordance with 520 CMR 14.00, no person shall, except in an emergency, make an excavation in any public way, public property, or privately owned land until a permit is obtained from the appropriate designated permitting authority. For this project, the permit should be obtained from the Town of Longmeadow Department of Public Works.

PART 2 PRODUCTS**2.1 SOIL MATERIALS**

- A. Fill material is subject to the approval of the Engineer and may be either material removed from excavations or borrow from off site. Fill material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill.
- B. Satisfactory fill materials shall include materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, SW, and SP. Additional requirements are included in Section 02320.
- C. Satisfactory fill materials shall not contain trash, refuse, vegetation, masses of roots, individual roots more than 18 inches long or more than 1/2 inch in diameter, or stones over 6 inches in diameter. Unless otherwise stated in the Contract Documents, organic matter shall not exceed minor quantities and shall be well distributed.
- D. Satisfactory fill materials shall not contain frozen materials nor shall backfill be placed on frozen material.
- E. Excavated surface and/or pavement materials such as gravel or trap rock that are salvaged may be used as a sub-grade material, if processed to the required gradation and compacted to the required degree of compaction. In no case shall salvaged materials be substituted for the required gravel base.

PART 3 EXECUTION**3.1 PREPARATION**

- A. Public Safety and Convenience
 - 1. Adhere to the requirements of 520 CMR 14.00 for all excavation work.
 - 2. Take precautions for preventing injuries to persons or damage to property in or about the Work.
 - 3. Provide safe access for the Owner and Engineer at site during construction.
 - 4. Do not obstruct site drainage, natural watercourses or other provisions made for drainage.

3.2 CONSTRUCTION

- A. Earth Retention Systems
 - 1. Provide Earth Retention Systems necessary for safety of personnel and protection of the Work, adjacent work, utilities and structures.
 - 2. Maintain Earth Retention Systems for the duration of the Work.
 - 3. Sheeting
 - a. Systems shall be constructed using interlocking corner pieces at the four corners. Running sheet piles by at the corners, in lieu of fabricated corner pieces, will not be allowed.

- b. Drive sheeting ahead of and below the advancing excavation to avoid loss of materials from below and from in front of the sheeting.
 - c. Sheet piling is to be driven to at least the depth specified by the designer of the earth retention system, but no less than 2 feet below the bottom of the Excavation.
- 4. Remove earth retention system, unless designated to be left in place, in a manner that will not endanger the construction or other structures. Backfill and properly compact all voids left or caused by the withdrawal of sheet piling.
 - a. Remove earth retention systems, which have been designated by the Engineer to be left in place, to a depth of 3 feet below the established grade.

B. Excavation

- 1. Perform excavation to the lines and grades indicated on the Drawings. Backfill unauthorized over-excavation in accordance with the provisions of this Section.
- 2. Excavate with equipment selected to minimize damage to existing utilities or other facilities. Hand excavate as necessary to locate utilities or avoid damage.
- 3. Sawcut the existing pavement in the vicinity of the excavation prior to the start of excavation in paved areas, so as to prevent damage to the paving outside the requirements of construction.
- 4. Perform excavation in such a manner as to prevent disturbance of the final subgrade. The Engineer or Owner may require the final six inches of excavation be performed by hand, with the use of a smooth-faced bucket, or other means acceptable to the Engineer or Owner, at no additional cost if subgrade disturbance is considered excessive as judged by the Engineer or Owner.
- 5. During excavation, material satisfactory for backfill shall be stockpiled in an orderly manner at a distance from the sides of the excavation equal to at least one half the depth of the excavation, but in no case closer than 2 feet.
 - a. Excavated material not required or not suitable for backfill shall be removed from the site.
 - b. Perform grading to prevent surface water from flowing into the excavation.
 - c. Pile excavated material in a manner that will endanger neither the safety of personnel in the excavation nor the Work itself. Avoid obstructing sidewalks and driveways.
 - d. Hydrants under pressure, valve pit covers, valve boxes, manholes, curb stop boxes, fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the Work is completed.
- 6. Grade or create berms or swales to direct surface water from excavations to appropriate structures designed to accommodate storm water. If no structures

exist, direct water to areas that minimize impacts to adjacent structures and properties.

7. Make pipe trenches as narrow as practicable and keep the sides of the trenches undisturbed until backfilling has been completed. Provide a clear distance of 12 inches on each side of the pipe.
8. Perform the excavation in such a manner as to prevent disturbance of the final subgrade. If excessive subgrade disturbance is occurring, as judged by the Owner or Engineer, then the final 6 inches of the excavation shall be performed by hand, with the use of a smooth-faced bucket, or other means acceptable to the Engineer or Owner.
 - a. Grade the excavation bottom to provide uniform bearing and support for the bottom quadrant of each section of pipe.
 - b. Excavate bell holes at each joint to prevent point bearing.
 - c. Remove stones greater than 6 inches in any dimension from the bottom of the trench to prevent point bearing.
9. If satisfactory materials are not encountered at the design subgrade level, excavate unsatisfactory materials to the depth directed by the Engineer and properly dispose of the material. Backfill the resulting extra depth of excavation with satisfactory fill materials and compact in accordance with the provisions of this Section.

C. Backfill and Compaction

1. Unless otherwise specified or indicated on the Drawings, use satisfactory material removed during excavation for backfilling trenches. The Engineer may require stockpiling, drying, blending and reuse of materials from sources on the Project.
2. Spread and compact the material promptly after it has been deposited. When, in the Engineer's judgment, equipment is inadequate to spread and compact the material properly, reduce the rate of placing of the fill or employ additional equipment.
3. Soil bearing surfaces shall be protected against freezing and the elements before and after concrete placement. If construction is performed during freezing weather, structures shall be backfilled as soon as possible after they are constructed. Insulating blankets or other means shall be used for protection against freezing at the discretion of the Engineer or Owner.
4. When excavated material is specified for backfill and there is an insufficient amount of this material at a particular location on the Project due to rejection of a portion thereof, consideration will be given to the use of excess material from one portion of the Project to make up the deficiency existing on other portions of the Project.
 - a. Use borrow material if there is no excess of excavated material available at other portions of the Project.

5. Backfilling and compaction methods shall attain 95% of maximum dry density at optimum moisture content as determined in accordance with ASTM D1557.
6. Do not place stone or rock fragment larger than six inches in greatest dimension in the backfill.
7. Maximum loose lift height for backfilling existing or borrow material shall be 12 inches, unless satisfactory compaction is demonstrated otherwise to the Engineer through field-testing. In no case shall loose lift height for backfilling exceed 3 feet.
8. Do not drop large masses of backfill material into the trench endangering the pipe or adjacent utilities.
9. Install pipe in rock excavated trenches on a dense graded stone bedding with a minimum depth of 6 inches. Shape the stone bedding at the pipe bells to provide uniform support. Encase the pipe in the dense graded crushed stone bedding to a grade 6 inches over the top of the pipe and 12 inches on each side of the pipe.
10. Backfill from the bottom of the trench to the centerline of the pipe with the specified material. This initial backfill is to be placed in layers of no more than 6 inches and thoroughly tamped under and around the pipe. This initial backfilling shall be deposited in the trench for its full width on both sides of the pipe, fittings and appurtenances simultaneously.
11. Electrical conduit not encased in concrete, shall be backfilled with sand borrow conforming to the requirements of Section 02320. The backfill shall be placed in the trench for its full width and shall extend to 12 inches over the conduit.
12. Where excavation is made through permanent pavements, curbs, paved driveways, or paved sidewalks, or where such structures are undercut by the excavation, place the entire backfill to sub-grade with granular materials and compact in 6 inch layers. Use approved mechanical tampers for the full depth of the trench. If required, sprinkle the backfill material with water before tamping so as to improve compaction. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required to correct the problem, and shall then be refilled and properly compacted with the surface restored to required grade at no additional expense.
13. The Contractor shall not place backfill against or on structures until they have attained sufficient strengths to support the loads to which they will be subjected, without distortion, cracking, or other damage. As soon as possible after the structures are adequate, they shall be backfilled with suitable backfill material.
14. Place and compact backfill around manholes, vaults, pumping stations, gate boxes or other structures in six inch layers, from a point one foot over the pipe. Exercise care to protect and prevent damage to the structures.
15. Install impervious trench dams where stone borrow is used for pipe bedding to prevent groundwater from following along the stone bedding. Install dams every 100 feet.

3.3 PROTECTION

A. Protection of Existing Structures

1. All existing foundations, conduits, wall, pipes, wires, poles, fences, property line markers and other items which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the Contractor. Should such items be damaged, they shall be restored by the Contractor to at least as good condition as that in which they were found immediately before the Work began.

B. Accommodation of Traffic

1. Streets and drives shall not be unnecessarily obstructed. The Contractor shall take such measures at his own expense to keep the street or road open and safe for two-way traffic unless otherwise indicated.
2. Construct and maintain such adequate and proper bridges over excavations as may be necessary or as directed for the safe accommodation of pedestrians and vehicles. Provide substantial barricades at crossings of trenches, or along the trench to protect the traveling public.
3. Where deemed necessary, such additional passageways as may be directed shall be maintained free of such obstructions. All material piles, open excavations, equipment, and pipe which may serve as obstructions to traffic shall be protected by proper lights, signage, or guards as necessary.
4. All traffic controls shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition.

C. Erosion and Sedimentation Control

1. Take all necessary steps to prevent soil erosion.
2. Plan the sequence of construction so that only the smallest practical area of land is exposed at any one time during construction.
3. Temporary vegetation and/or mulching shall be used to protect critical areas exposed during construction as judged by the Engineer.

END OF SECTION

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SECTION 02320

BORROW MATERIALS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Low Permeability Borrow
- B. Related Sections
 - 1. Section 02315 – Excavation, Backfill, Compaction and Dewatering

1.2 REFERENCES

- A. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- B. ASTM C117 - Standard Test Method for Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
- C. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil using Standard Effort (12,400 ft-lbf/ft³)
- D. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
- E. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb./ft³)
- F. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head)
- G. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- H. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- I. AASHTO – Standard Specification for Transportation Materials and Methods of Sampling and Testing, 1986 Edition as amended
- J. Commonwealth of Massachusetts Highway Department “Standard Specification for Highways and Bridges,” 1988 Edition as amended

1.3 SUBMITTALS

- A. Representative Samples of borrow materials taken from the source. Tag, label, and package the Samples as requested by Engineer. Provide access to the borrow site for field evaluation and inspection.
- B. Provide sieve analysis (ASTM C136) and permeability analysis (ASTM D2434) from a certified soils testing laboratory for all borrow materials.

- C. Provide modified proctor analysis (ASTM D1557) from certified soils testing laboratory for all borrow materials.
 - 1. Take and test a sample of borrow soil for each 5,000 cy of material placed, or as directed by the Engineer.
 - 2. Borrow materials may be tested more frequently if deemed necessary by the Engineer due to material variation.
- D. Provide sieve analysis (ASTM 422) from certified soils testing laboratory for all borrow materials (including hydrometer analysis for silts and clays).
 - 1. Take and test a sample of sand for each 1,500 cy of material placed or as directed by the Engineer.
 - 2. Test all other borrow materials once unless more frequent testing is deemed necessary by the Engineer due to material changes.
- E. Provide permeability analysis from certified soils testing laboratory for low permeability borrow materials.
 - 1. Take and test a sample using ASTM Method D2434 for each 3,000 cy of material placed, or as directed by the Engineer.
- F. The Engineer reserves the right to require more frequent testing than that which is specified above should the borrow characteristics change.

1.4 QUALITY ASSURANCE

- A. No borrow shall be placed prior to the approval of Samples by the Engineer.

1.5 PROJECT/SITE CONDITIONS

- A. Existing Conditions
 - 1. Comply with any environmental requirements and restrictions.
 - 2. Keep all public and private roadway surfaces clean during hauling operations and promptly and thoroughly remove any borrow or other debris that may be brought upon the surface before it becomes compacted by traffic. Frequently clean and keep clean the wheels of all vehicles used for hauling to avoid bringing any dirt upon the paved surfaces.

PART 2 PRODUCTS

2.1 LOW PERMEABILITY BORROW

- A. Low permeability soil shall be free from litter and foreign materials.
- B. Low permeability material shall be consistent with that specified in Section 19.112 – 6.b.1 of the Massachusetts Solid Waste Management Facility Regulations (310 CMR 19.00). The permeability shall be no greater than 1×10^{-5} cm/s. at 95% compaction.
- C. Low permeability material shall be consistent with one of the following USCS designations:
 - OC – Clayey gravels, gravel-sand-clay mixtures.

SC – Clayey sands, sand-clay mixtures.

CH – Inorganic clays of high plasticity index, fat clays

CL – Inorganic clays of low to medium plasticity index, gravelly clays, sandy clays, silty clays, lean clays.

OH – Organic clays of medium to high plasticity.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Prior to the placement of borrow material, site preparation shall be completed as required by the Contract Documents, and approved by the Engineer.
- B. Ensure that all materials are properly stockpiled on site to prevent contamination by other materials.
- C. Place borrow material over the entire area in uniform lifts and compact in accordance with Section 02315.
- D. Utilize on-site soils prior to using off-site borrow provided on-site soils meet the requirements of the specifications.
- E. Utilize gravel borrow in all locations where a surface treatment has not been specified but requires a firm finish surface.
- F. Borrow shall be used as a replacement for unsuitable materials where poor soil conditions are encountered during the progress of the work, where approved by the Engineer. Borrow type will be determined by the Engineer. Borrow material used as a replacement for unsuitable soil is not intended to be an aid to dewatering.
- G. Place all borrow to keep it free of other materials and to prevent segregation.
- H. Low permeability borrow shall be placed in 6 inch lifts, shall be compacted to 95% of maximum dry density and shall have an in-place permeability of less than 1×10^{-5} cm/sec.
- I. Carry out compaction testing in accordance with ASTM D1556 (sand cone), or D6938 (Nuclear Methods), as specified in Section 02315.
- J. Maintain and repair all eroded areas during the life of this contract at no additional cost to the Owner.

END OF SECTION

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SECTION 02921

VEGETATIVE SUPPORT MATERIAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Vegetative Support Material

1.2 SUBMITTALS

- A. Provide representative samples of borrow materials taken from the source. Tag, label, and package the samples as requested by the Engineer. Provide access to the borrow sites for field evaluation and inspection.
- B. Provide analytical test results at the rate specified. All samples shall be representative and analyzed for the following:
 - pH
 - Nitrogen
 - Phosphorus
 - Potash
 - Grain size
 - Organic content
- C. Provide specific recipe and mixture percentages for any blended or manufactured materials as required by the MassDEP CAD approval.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Vegetative Support Material
 - 1. Vegetative support material shall consist of fertile, friable, natural material without admixture of refuse or other foreign materials. It shall be reasonably free of stumps, roots, heavy or stiff clay, stones, lumps, noxious weeds, sticks, brush, or other materials larger than 2-inch in diameter,. Vegetative support material as delivered to the site or stockpiled shall have pH between 6.0 and 7.0 and shall contain not less than 8 percent organic matter as determined by loss of ignition of moisture-free samples dried at 100 degrees Celsius.
 - 2. It is anticipated that soil amendments or additives, such as compost, will need to be incorporated into the soil to meet the 8 percent organic matter content requirement. The Contractor is responsible for providing a vegetative support material with organic content of 8 percent that will meet condition No. 25 of the MassDEP CAD Approval permit, attached. The Contractor shall provide material information required by condition No. 25 of the MassDEP CAD Approval permit for any proposed blended or manufactured topsoil prior to its delivery and use. The submittal information shall include a specific recipe and analytical test results for the proposed vegetative support material. Owner

approval of the proposed material will be contingent upon MassDEP/WERO written approval of the proposed mixture of materials proposed for use. Such MassDEP approval may be subject to field demonstration that the materials meet performance standards and will not create any nuisance conditions. Topsoil amendments or additives shall not include short paper fiber or biosolids.

2.2 EQUIPMENT

- A. Adequate types and number of equipment shall be used to ensure that the vegetative support material is spread evenly and at the proper depth to all areas intended to be covered without damaging underlying soil layers or structures.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Vegetative support material shall be placed over approved areas to a depth sufficiently greater than required so that after natural settlement and light rolling, the complete work will conform to the lines, grades and elevations indicated. No material shall be spread in water or while frozen or muddy.
- B. The vegetative support material shall be hauled, deposited, spread, compacted, tracked and raked to the lines and grades shown on the Plans or as directed by the Engineer. After the vegetative support material has been spread, it shall be carefully prepared for seeding by spading or harrowing, and raking. All large, stiff clods, lumps, stones, brush, roots, stumps, and other foreign material greater than 2 inches shall be removed.
- C. The compaction shall be equivalent to that produced by a hand roller weighing from 75 to 100 pounds per foot of width. The compaction may be obtained by rolling, dragging or any method that produces satisfactory results. All depressions caused by settlement or rolling shall be filled with additional materials and the surfaces shall be regraded and rolled until it presents a reasonably smooth and even finish and is up to the required grade.
- D. Following compaction, the vegetative support surface shall be tracked by dozer in order to create a rippled surface which will impede stormwater runoff velocities. Dozers shall track straight up and down slopes, not cross slope, at a constant and slow enough rate to leave 1 to 2 inch deep grouser track marks perpendicular to the slope. Tracking of the vegetative support surface shall be completed prior to any hydroseeding work.
- E. During hauling operations, all public and private roadway surfaces shall be kept clean and any topsoil or other dirt which may be brought upon the surface shall be removed promptly and thoroughly before it becomes compacted by traffic. If necessary, the wheels of all vehicles used for hauling shall be cleaned frequently and kept clean to avoid bringing any dirt upon the surface.

3.2 QUALITY CONTROL

- A. The responsibility for satisfactory results on work carried out under this item rests entirely on the Contractor regardless of the prior approval of the materials and methods on the part of the Engineer.

- B. The Contractor shall provide laboratory test results for the vegetative support material intended for use as specified herein, at a frequency of 1 round per 1,000 cy of material, including organic content.
- C. The Engineer may randomly sample the material and have a certified analytical laboratory perform testing as described herein. The testing shall be a verification of the results submitted by the Contractor and shall be entirely at the Contractor's expense.

END OF SECTION

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SECTION 02922

HYDROSEEDING & MULCHING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Lime
 - 2. Fertilizer
 - 3. Seed
 - 4. Bonded Fiber matrix
 - 5. Water
- B. Related Sections
 - 1. Section 02921 – Vegetative Support Material

1.2 SUBMITTALS

- A. Results of vegetative support material nutrient analysis and recommendation for limestone and fertilizer application rates.
- B. Product data and specifications for the Bonded Fiber Matrix
- C. Product data and specifications for the fertilizer and lime.
- D. Product data for seed mixtures.
- E. Based on results of vegetative support material nutrient analysis required by Section 02921, submit recommendation for limestone and fertilizer application rates.

1.3 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- C. Deliver lime in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.4 TESTS

- A. Provide vegetative support material structure and nutrient analysis made by an independent laboratory approved by the Engineer in accordance with Section 02921, and provide limestone and fertilizer in accordance with the types and rates specified by said laboratory.

- B. A certified statement shall be furnished to the Engineer by the Contractor prior to the start of work, stating the number of pounds of limestone, fertilizer, seed, and mulch, per 100 gallons of water and the number of square yards of seeding that can be covered with the solution.

PART 2 PRODUCTS

2.1 LIME

- A. Lime shall consist of pulverized limestone obtained by grinding either calcareous or dolomitic limestone so that 100% of the material will pass a No. 1 sieve, 80% shall pass a 100-mesh sieve and 45% shall pass a 200-mesh sieve. The ground limestone shall have a neutralizing value satisfactory to the Engineer. Lime as herein described shall be applied at the rate of not less than 50 pounds per 1,000 square feet, or higher, depending upon soil requirements as determined above.

2.2 FERTILIZER

- A. Fertilizer shall be a commercial grade, chemical fertilizer for lawns, the elements of which are derived from organic sources and shall contain the percentages by weight recommended in the laboratory analyses.
- B. The availability of the various elements shall conform to the standards of the "Association of Official Agricultural Chemists". A minimum of 50% of the nitrogen content by weight shall be derived from organic materials.
- C. All fertilizer shall arrive on the job site in standard size bags, bearing the manufacturer's name, the content, weight and guaranteed analysis.
- D. The Contractor shall be responsible in every respect for the fertilizer, and it shall be stored in a weatherproof enclosure on dunnage in such a manner that its effectiveness will not be impaired.

2.3 SEED

- A. Seed shall be of the previous year's crop.
- B. Required ranges:
 - 1. Purity > 90%
 - 2. Germination > 80%
 - 3. Crop < 0.5%
 - 4. Weed < 0.3%
 - 5. Noxious Weed - 0%
 - 6. Inert < 8%
- C. The standard seed mixture shall be applied at a minimum rate of 175 lbs./acre, 4 lbs/1,000 s.f.
- D. Grass seed shall be a New England Conservation Wildlife Mix and include the following species:

Species Common Name	Scientific Name	Indicator Status	Native/Introduced ¹
Big Bluestem	<i>Andropogon gerardii</i>	FAC-	N
Switchgrass	<i>Panicum virgatum</i>	FAC	-- ²
Little Bluestem	<i>Schizachyrium scoparium</i>	-- ³	N
Canada Wild Rye	<i>Elymus canadensis</i>	FAC	N
Fox Sedge	<i>Carex vulpinoidea</i>	OBL	N
Partridge Pea	<i>Chamaecrista fasciculata</i>	FACU	N
Fringed Bromegrass	<i>Bromus ciliatus</i>	FACW	N
Pennsylvania Smartweed	<i>Polygonum pensylvanicum</i>	FACW	N
Common Milkweed	<i>Asclepias syriaca</i>	FACU-	N
Showy Tick-Trefoil	<i>Desmodium canadense</i>	FAC	N
New England Aster	<i>Aster novae-angliae</i>	FAC	-- ²
Flat-top Aster	<i>Aster umbellatus</i>	FACW	N
Nodding Bur-Marigold	<i>Bidens cernua</i>	OBL	N

¹ Based on *The Vascular Plants of Massachusetts: A County Checklist* (Sorrie and Somers, 1999) for Hampden County, Massachusetts.

² Species not included in *The Vascular Plants of Massachusetts: A County Checklist* (Sorrie and Somers, 1999).

³ Species not included in the *National List of Vascular Plants that Occur in Wetlands: 1996 National Summary*

- E. All seed shall comply with State and Federal seed laws.
- F. A sworn certificate indicating each variety of seed, weed content, germination of seed, net weight, date of shipment and manufacturer’s name shall accompany each seed shipment. Regardless of approval by the Engineer to sow the seed, complete responsibility for satisfactory results shall rest entirely on the Contractor.

2.4 BONDED FIBER MATRIX

- A. Bonded fiber matrix shall be a hydraulically applied system of long strand residual wood fibers produced by thermo-mechanical defibration of wood chips and joined together by a high-strength non-toxic adhesive to create a continuous three dimensional blanket that adheres to the soil surface to form a bonded fiber matrix. The system shall be applied to the soil as a viscous mixture, which upon drying creates a high-strength, porous and erosion resistant mat. Upon drying, the matrix shall not inhibit the germination and growth of plants in and beneath the layer. The matrix shall retain its form despite rewetting.
- B. The bonded fiber matrix shall be hydraulically applied at the rate of 4,000 pounds per acre, or in accordance with the manufacturer's recommendations and application requirements/specifics. The resultant coverage must be at least 1/8 inch thick over the entire surface area. The bonded fiber matrix shall be applied from alternate directions to alleviate shadowing. Bonded fiber matrix shall not be applied within 24 hours of an expected rainfall.
- C. Production Specifications:
 - 1. Composition - Refined wood fiber 90% by weight, blended hydrocolloidal based binder 10% by weight
 - 2. Color - Natural

3. Moisture - 9%-15%
4. Application - Conventional hydraulic seeding equipment with mechanical agitation at a rate of 4,000 pounds per acre
5. Thickness 1/8-1/4 inch after application
6. Mixing 40 pounds of fiber per 100 gallons of water

2.5 WATER

- A. Provide water for hydroseeding.
- B. Make arrangements with the local authorities to obtain water for hydroseeding.

PART 3 EXECUTION

3.1 HYDROSEEDING & MULCHING

- A. Tracking of the vegetative support layer prior to hydroseeding shall be completed in accordance with Section 02921 and Part 3.1(H) below.
- B. Lime, fertilizer, seed, and mulch shall be simultaneously applied in one operation by the use of an approved spraying 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 water. The spraying equipment shall be so designed that when the solution is sprayed over an area, the resulting deposits of limestone, fertilizer, seed, and mulch shall be equal in quantity to those specified above.
- C. Bonded fiber matrix shall be applied to all seeded areas, except for those designated to receive erosion control blankets. The thickness of the matrix after application shall be 1/8 inch to 1/4 inch thick.
- D. Seed shall be sown only between the periods from April 15th to June 1st, and from August 15th to October 1st.
- E. If as a result of rain, the prepared seedbed becomes eroded, the Contractor shall rework the topsoil until it is smooth and re-hydroseed such reworked areas.
- F. No seeded area will be acceptable until it is covered with a satisfactory, healthy stand of quality grass of the variety specified. A satisfactory stand of grass, as determined by the Engineer, shall consist of a uniform stand of at least 60% established permanent grass species, with a uniform count of at least 100 plants per square foot. If the results of the spray operation are unsatisfactory, the Contractor will be required to repeat the hydroseeding process as needed to achieve a thick stand of grass.
- G. The Contractor shall protect seeded areas from damage and shall repair and maintain all areas at his own expense at no additional cost to the Owner until a certificate of final acceptance is issued by the Engineer. The Contractor shall repair and reseed all defective or non-growth grass areas during the following season.
- H. After side slopes have received vegetative support material, they shall be traversed by a bulldozer to create ridges running perpendicular to the slope to impede the travel of stormwater runoff. The tracking shall be done prior to hydroseeding.

- I. The Contractor is fully responsible for providing adequate amounts of water to the seeded areas to provide an adequate growth.
- J. All areas to be seeded shall be hydroseeded. Hand seeding will not be allowed.

3.2 MAINTENANCE AND PROVISIONAL ACCEPTANCE

- A. Keep all planted areas watered and mowed and in good condition, all areas if and when necessary until a good, healthy, uniform growth is established over the entire area and shall maintain all these areas in an approved condition until final acceptance.
- B. The Engineer will inspect all work for provisional acceptance at the end of the 10 week maintenance period, upon the written request received at least 10 days before the anticipated date of inspection. The maintenance period must occur during the growing season between March 31 and October 1 and shall include a minimum of three mowings.
- C. A satisfactory turf will be defined as:
 - 1. No bare spots larger than 2 sq. ft.
 - 2. No more than 10 percent of total area with bare spots larger than 1 sq. ft.
 - 3. No more than 15 percent of total area with bare spots larger than 6-in. square.
- D. After the inspection has occurred but prior to provisional acceptance, a soil test shall be performed to determine if additional soil fertilization should occur. If necessary additional fertilizer not to exceed 30 lbs/1,000 sq. ft. of 20-10-10 shall be applied as directed by the Engineer.
- E. Furnish full and complete written instructions for maintenance of the planted areas to the Owner at the time of provisional acceptance.
- F. The inspection by the Engineer will determine whether maintenance shall continue. Continue maintenance until all areas of the site meet the minimum requirements specified above.
- G. After all necessary corrective work and clean-up has been completed, and maintenance instructions have been reviewed by the Owner, the Engineer will certify in writing the provisional acceptance of the turf areas. Maintenance of all turf areas shall cease on receipt of provisional acceptance.

3.3 GUARANTEE PERIOD AND FINAL ACCEPTANCE

- A. All seeded areas shall be guaranteed for not less than 1 full year from the time of final acceptance.
- B. At the end of the guarantee period, inspection will be made by the Engineer upon written request submitted at least 10 days before the anticipated date. Seeded areas not demonstrating satisfactory stands as outlined above, as determined by the Engineer, shall be renovated, reseeded and maintained meeting all requirements as specified herein.
- C. After all necessary corrective work has been completed, the Engineer shall certify in writing the final acceptance of the seeded areas.

END OF SECTION

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