
Bid Documents – Bid Number IFB 16-103

Proposed Bridge Rehabilitation Lawrence Street over Concord River

Lowell, Massachusetts

Prepared for **City of Lowell**
Engineering Department
375 Merrimack Street
Lowell, MA 01852



Prepared by **TEC, Inc.**
65 Glenn Street
Lawrence, MA 01843



169 Ocean Boulevard
Hampton, NH 03842

June 8, 2016

TABLE OF CONTENTS

INVITATION TO BID.....	INV-1-INV-2
INFORMATION FOR BIDDERS.....	IB-1-IB-7
BID PROPOSAL.....	BP-1-BP-15
CONTRACT.....	CON-1-CON-9
GENERAL CONDITIONS.....	GC-1-GC-29
SPECIAL CONDITIONS.....	SC-1-SC-7
SPECIAL PROVISIONS.....	SP-1-SP-49
APPENDIX A – PROJECT PLANS.....	18 PAGES
APPENDIX B – ENVIRONMENTAL PERMITS.....	58 PAGES
APPENDIX C – PREVAILING WAGE RATES.....	35 PAGES

INVITATION TO BID
Bid Number: IFB 16-103

**Proposed Bridge Rehabilitation Lawrence Street over the Concord River
Lowell, Massachusetts**

Sealed bids will be publicly opened on June 28, 2016 at City Hall in the Purchasing Department, Room 60, 375 Merrimack Street, Lowell, MA 01852, at 11:00AM, EST/EDST, for the work described herein. **BIDDERS ARE REQUIRED TO SUBMIT A BID INCLUDING ALL BID FORMS CONTAINED IN THIS PACKAGE. DO NOT REMOVE PAGES.**

A pre-bid meeting is scheduled for 11:00 A.M. on June 16, 2016 in the Mayors Reception Room, 375 Merrimack Street, Lowell, MA 01852.

The bids will be for all labor, materials, equipment, tools, appliances etc. necessary for construction of the **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER.**

Bid Documents, including Plans and Specifications may be obtained after June 8, 2016 at the City of Lowell Purchasing Department Room 60, 375 Merrimack Street, Lowell, MA 01852 and on the City's Website at the following address:

<http://www.lowellma.gov/Purchasing/Pages/General/OpenSolicitations.aspx>

Bid Number: IFB 16-103

For mailing of plans and specifications, the prospective bidder shall provide the recipients address and FedEx account number.

Each bid proposal must be secured by an accompanying deposit of five percent (5%) of the total bid amount and submitted in a sealed envelope clearly marked, "Proposal for PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER". The deposit shall be in the form of a Bid Bond, Certified Check, Cashier's or Treasurer's Check, made payable to the City of Lowell, or cash.

The successful bidder must furnish a Payment Bond and a Performance Bond of an amount equal to One Hundred (100%) percent of the total Contract Price, issued by a Surety Company, satisfactory to the Commissioner of Public Works.

Attention of the Bidders is particularly called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

Attention of the Bidders is particularly called to the requirements of the conditions of employment to be observed and the prevailing wage rates to be paid on this project, as determined by the State Department of Labor Division of Occupational Safety.

Bidders shall be prequalified by MassDOT in Bridge - Construction.

Note: Bidders must also comply with Certification of Compliance G.L.C. 30 & 39S Public Construction More Than \$10,000.00. See page BP-11.

The City of Lowell, acting through its Chief Procurement Officer, reserves the right to waive any informality in, to reject any or all bids or to accept the one which appears in the best interest of the City of Lowell.

MBE's are encouraged to submit proposals. EOE/AA.

Project Value: \$3,500,000

P. M. Vaughn - CHIEF PROCUREMENT OFFICER

ADVERTISED: Central Register, June 8, 2016
 Wednesday Lowell Sun, June 8, 2016

INFORMATION FOR BIDDERS

SUBSECTION

1. Receipt and Opening of Bids
2. Preparation of Bid
3. Blank
4. Blank
5. Qualifications of Bidder
6. Bid Security
7. Damages for Failure to Enter into Contract
8. Duration of Contract
9. Conditions of Work
10. Addenda and Interpretations
11. Security and Interpretations
12. Power of Attorney
13. Notice of Special Conditions
14. Laws and Regulations
15. Method of Award - Lowest Qualified Bidder
16. Obligation of Bidder
17. List of Utilities in the Area
18. Testing of Materials
19. Nondiscrimination in Employment
20. Affirmative Action
21. Sales Tax
22. Blank
23. Compliance with Air and Water Acts
24. Interest of Members, Officers, or Employees of the Owner,
Members of Local Governing Body, or other Public Officials

INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

The City of Lowell herein called the "Owner" invites sealed bids on the separate copies of Bid Forms furnished for that purpose, all blanks of which must be appropriately filled in. The bound-in Bid Forms in the Contract Documents are for continuity and the convenience of Bidders and are not to be detached from the Contract Documents, filled out or executed.

Bids will be received by the OWNER at the Office of the Chief Procurement Officer, P. Michael Vaughn, City Hall, Purchasing Department, 375 Merrimack Street, Room 60, Lowell, MA 01852 until 11:00 A.M. local time, June 28, 2016 and then at said Office publicly opened and read aloud. The envelope containing the bids for the **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER** shall be sealed, addressed to the City of Lowell, Purchasing Department and designated as "Bid for **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER**"

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. PREPARATION OF BID

Each bid for the **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER** shall be submitted on the Basis of Award Form found on page BP-3.

All blank spaces for bid prices must be filled in, with ink or typewriter, in both words and figures, and both of the foregoing Certifications must be fully completed and executed when submitted.

Each bid for the **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER** must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

3. BLANK

4. BLANK

5. QUALIFICATIONS OF BIDDER

The OWNER may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject

any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein. Conditional bids will not be accepted.

- A. Subject to the requirements of Chapter 29, Section 8B of the General Laws, each prospective Bidder proposing to bid on this project must be prequalified and certified by the Massachusetts Department of Transportation, Highway Division to perform this work in accordance with the "Regulations Governing Classification and Rating of Prospective Bidders."

Each bid **must include** evidence of the Bidder's ability to complete the Work in accordance with the Contract Documents. Each bid **must include** the name of the Superintendent who is to be used on this project, and his/her experience.

Each bid must include:

1. A comprehensive list of any and all citations and/or violations issued by regulatory agencies and/or judgments against bidder from a court of law.
2. All assessed penalties or liquidated damages, and the project in which they occurred.
3. Any and all contract terminations.
4. A list of at least five references.

6. BID SECURITY

Each bid shall be accompanied by cash, a certified check, treasurer's check, or cashier's check issued by a responsible bank or trust company, made payable to the City of Lowell in the amount of 5% of the bid or a bid bond prepared in the form of bid bond; duly executed by the bidder as principal and having as surety thereon a surety company listed on the Department of the Treasury's approved listing (Department Circular 570), licensed to do business in the Commonwealth of Massachusetts approved by the OWNER, in the amount of 5% of the bid, but in no event less than one hundred dollars not more than fifty thousand dollars.

Subbids shall be submitted for the following items for work: **NONE**

All bid deposits of general bidders, except those of the three lowest responsible and eligible bidders, will be returned within five (5) days, Saturdays, Sundays and legal holidays excluded, after the opening of the general bids.

The bid deposits of the three lowest responsible and eligible bidders shall be returned upon the execution and delivery of the Contract, or if no award is made, upon the expiration of 60 days, Saturdays, Sundays, and legal holidays excluded, except that, if any bidder fails to perform his agreement to execute a Contract and furnish a Performance Bond and also a Labor and Materials Payment Bond as stated in his bid, his bid deposit shall become and be the property of the City of Lowell as liquidated damages; provided that the amount of the bid deposit which

becomes the property of the City of Lowell shall not, in any event, exceed the difference between his bid price and the bid price of the next lowest responsible and eligible bidder; and provided further that, in case of death, disability or other unforeseen circumstances affecting the bidder, his bid deposit may be returned. The sixty day time limit shall not be applicable to the next lowest eligible bidder, with his and his subbidder's consent, if the original award made within the time limit is invalidated.

All bid deposits of subbidders, except (a) of the subbidders named in the general bids of the three lowest responsible and eligible general bidders, and (b) those of the three lowest responsible and eligible subbidders for each subtrade, will be returned within five days (Saturdays, Sundays, and legal holidays excluded), after the execution of the general contract; except that, if a selected subbidder fails to perform his agreement to execute a subcontract with the general bidder selected as the general contractor contingent upon the execution of the general contract and if requested to do so in the general bid by such a general bidder, to furnish a Performance and Payment Bond as stated in his subbid, the bid deposit which becomes the property of the City of Lowell shall not, in any event, exceed the difference between his subbid price and the subbid price of the next lowest responsible and eligible subbidder; and provided further that, in case of death, disability or other unforeseen circumstances affection any such subbidder, his bid deposit may be returned to him.

7. DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within 10 days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his bid.

8. DURATION OF CONTRACT

The contract shall be for the period beginning on or about **September 1, 2016** or as stated in the **NOTICE TO PROCEED, WHICHEVER IS LATER** and end on or before **September 1, 2018**.

Failure to complete the work by the dates herein specified, or any proper extensions thereof granted by the OWNER will be subject to liquidated damages.

9. CONDITIONS OF WORK

Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract insofar as possible the contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

10. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally.

Prospective bidders are required to submit all questions in writing to the Chief Procurement Officer by 1:00 P.M. on the Thursday before the scheduled bid opening date. Any questions received after this time will not be considered for review by the City.

Contractors should email questions and addendum acknowledgements to the following email address: pmvaughn@lowellma.gov. Please put LAWRENCE STREET BRIDGE REHABILITATION CONTRACTOR QUESTION in the subject line.

Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be e-mailed with return receipt requested to all prospective bidders (at the respective email addresses furnished for such purposes), not later than three days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligations under his bid as submitted. All addenda so issued shall become part of the contract documents.

11. SECURITY AND INTERPRETATIONS

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company listed on the Department of the Treasury's approved listing (Department Circular 570), licensed to do business in the Commonwealth of Massachusetts and satisfactory to the OWNER.

12. POWER OF ATTORNEY

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

13. NOTICE OF SPECIAL CONDITIONS

The Bidder's attention is particularly called to those parts of the contract documents and specifications which deal with the following:

- A. Inspection and testing of materials
- B. Insurance requirements
- C. Wage rates
- D. Non-discrimination in employment

14. LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable State Laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as through herein written out in full.

15. METHOD OF AWARD – LOWEST QUALIFIED BIDDER

If at the time this contract is to be awarded, the lowest base bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the OWNER as available to finance the Project, the Contract will be awarded on the base bid. If such bid exceeds such amount, the OWNER may reject all bids.

16. OBLIGATION OF BIDDER

At the time of the opening of bids it is presumed that each bidder has inspected the site and has read and is thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his bid.

17. LIST OF UTILITIES IN THE AREA

Attention is called to the fact that the following Utility Companies have facilities in the area:

Lowell Water Utility	Erick Gitschier	978-674-1675
Lowell Engineering Department	Lisa DeMeo, P.E.	978-970-3331
National Grid Gas	Melissa Owens	781-907-2845
National Grid Electric	Jonathan Estes	781-907-3303
Verizon Telephone	Karen Mealey	774-409-3160
Comcast	Wendy Brown	978-848-5183

The Contractor shall notify the controlling utility agency at least 72 hours in advance of its intent to excavate in any way or manner, within six feet of any existing utility agency owned pole, anchor guy, underground duct, conduit, pipe, valve or manhole. No excavation shall take place within six feet of any existing utility agency owned pole, anchor guy, underground duct, conduit, pipe, valve or manhole owned by a utility agency without this notification. In addition, Dig Safe must be notified 72 hours prior to commencing excavation.

"DIG-SAFE" Call Center: Telephone 1-888-344-7233

18. TESTING OF MATERIALS

The bidder shall note that inspection of work and testing of materials is a requirement of this contract. The Bidder shall provide a list, including resume and qualifications of all anticipated third party inspectors, testing labs, etc. required to perform the work in accordance with the Contract Specifications.

19. NON-DISCRIMINATION IN EMPLOYMENT

Contracts for work under this proposal will obligate the Contractors and subcontractors not to discriminate in employment practices. Bidders must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive the award of the Contract. The successful bidder must be prepared to comply in all respects with the Contract Provisions regarding Equal Employment Opportunity which are located in the Special Conditions Section of these Specifications.

20. AFFIRMATIVE ACTION

The Bidder's attention is called to the Notice for Affirmative Action to ensure equal employment opportunity (Executive Order 11246 and 41CFR Part 60-4) and the notice of Minimum Minority Percentages to be applied to State and State Assisted Contracts within the Commonwealth. To meet the State and Federal requirements Construction Participation for this project are as follows: **MBE's (7.4%) and WBE's (6.9%)**

21. SALES TAX

Materials and equipment purchased for permanent installation in this project will be exempt from the Massachusetts Sales and Use Tax. The exemption certificate number will be furnished to the Contractor. Each bidder shall take this exemption into account in calculating his bid for the work.

22. BLANK

23. COMPLIANCE WITH AIR AND WATER ACTS

This contract is subject to the requirements of the Clean Air Act, as amended, 42 U.S.C. 1857 etc. seq., the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et. seq. and the regulations of the Environmental Protection Agency with respect thereto, 40 CFR Part 15, as amended from time to time.

24. INTEREST OF MEMBERS, OFFICERS, or EMPLOYEES of the OWNER, MEMBERS of LOCAL GOVERNING BODY, or OTHER PUBLIC OFFICIALS.

No member, officer, or employee of the OWNER, or its designees or agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure of for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with this Contract.

BID PROPOSAL

CITY OF LOWELL, MASSACHUSETTS

Project: **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER**

Location: Lowell, Massachusetts

To the City of Lowell, Massachusetts (hereinafter called OWNER)

Gentlemen:

The Bidder, in compliance with your invitation for bids for the construction of the proposed project having examined the plans and specifications with related documents as prepared by TEC, Inc., and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. This price is to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this Contract on or before a date to be specified in a written "notice to proceed" of the OWNER, meet interim specified milestones and to fully complete the Contract by **September 1, 2018**, as stipulated in the specifications.

Bidder understands that the OWNER reserves the right to reject any or all bids and to waive any informality in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of **30 calendar days** after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract within 10 days and deliver a Surety Bond or Bonds as required.

The Bid Security attached in the sum of _____

(\$ _____

is to become the property of the OWNER in the event the contract and bonds are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the OWNER caused thereby.

Bidder acknowledges receipt of the following addendum(s):

Bidder agrees to perform all the work described in the specifications and shown on the plans for the proposed lump sum bid price, plus allowance for police services.

NOTE: All prices should be written in ink, in words as well as figures, for the entire proposal. In case of discrepancy the amount shown in words will govern.

The CONTRACTOR agrees that its attention has been called to the provisions of the "Reserve System" Ordinance of the City of Lowell, which is now incorporated in "The Code of the City of Lowell, Massachusetts", passed by the City Council on April 26, 1988 and amendments thereto and that each purchase order, so-called, issued in accordance with Section 7-76 of Said Code to cover the services to be rendered under this contract shall be made a part hereof by reference. It is further agreed that no obligation shall be considered to have been incurred under this Contract unless and until a purchase order shall have been issued and approved. And further, that the obligation incurred shall be limited to the amount set forth in each purchase order, or purchase orders, duly issued and approved.

The CONTRACTOR further agrees that his attention has been called to the duration of contract on Pages IB-4 and SC-2 of this Contract.

BASIS OF AWARD

PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER

In accordance with the Specifications, and under the terms and conditions mentioned above, I (We) hereby offer to furnish and deliver to departments described above the following services which shall in all respects meet the attached specifications, as required during the terms mentioned above for the following prices:

TOTAL COST (except police services): _____

IN WORDS: _____

POLICE SERVICES ALLOWANCE: \$20,000

IN WORDS: Twenty Thousand Dollars

TOTAL COST (Add Total Cost and Police Services) _____

IN WORDS: _____

The BASIS OF AWARD is the lowest responsive and responsible bidder offering the lowest TOTAL COST.

Note 1: The contract unit bid prices shall include all Labor, Materials, Equipment and Incidental costs required to complete this work, except for Police Services, which will be paid for on a reimbursable basis.

Note 2: Bidders are to include a Twenty Thousand Dollar (\$20,000) allowance for the furnishing of police services in their bid (include in the Total Cost section).

Signature of Bidder: _____

Print Name and Title: _____

Company Name and Address:

Telephone Number: _____

CERTIFICATION OF COMPLIANCE
G.L.c.30, §39S
PUBLIC CONSTRUCTION MORE THAN \$10,000.00

I certify under the pains and penalties of perjury that:

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

Signature of Individual or Corporate
Name (Mandatory)

By: Corporate Officer
(Mandatory, if applicable)

Approval of a contact or other agreement will not be granted unless this certification clause is signed by the applicant.

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all requirements of the Plans and Specifications.

1. Have been in business under present business name of _____

for _____ years.

2. Ever failed to complete any work? _____

3. List one or more recent projects with names of Community and Engineer on which you served as general contractor similar to work required for this project.

a) _____

b) _____

c) _____

4. Bank Reference _____

The undersigned agrees that, if he is selected as general contractor, he will within ten (10) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of the general bid and furnish a performance bond and also a labor and materials or payment bond, each of a Surety company qualified to do business under the laws of the Commonwealth and satisfactory to the awarding authority and each in the sum of one hundred percent (100%) of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.

The undersigned hereby certifies that he is able to furnish labor and can work in harmony with all other elements of labor employed or to be employed on the work.

Date: _____

(Name of General Bidder)

BY

(Signature)

(Title of Signer)

(Business Address)

(City and State)

(Phone Number)

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)

ss

County of _____)

_____ being duly sworn,
deposes and says that:

(1) He is (owner, partner, office representative or agent) of _____

_____ the Bidder that has submitted the
attached bid;

(2) He is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

(3) Such bid is genuine and is not a collusive or sham bid;

(4) Neither the said bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted, or to refrain from bidding in connection with such contract, or has in any manner directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached bid, or of any other Bidder; or to fix any overhead, profit or cost element of the bid price, or the bid price of any other Bidder; or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the **CITY OF LOWELL** or any person interested in the proposed Contract;

PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD RIVER

(5) The price quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents representatives, owners, employees, or parties in interest, including this affiant.

(Signed)

(Title)

Subscribed and sworn to before me on
this _____ day of _____, 20__

Title
My commission expires _____

A. Contractors' Certification

A contractor will not be eligible for award of a contract unless such contractor has submitted the following certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____ certifies that:
Contractor

1. It intends to use the following listed construction trades in the work under the contract

_____;

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

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

(Signature of authorized representative of contractor)

B. Subcontractors' Certification

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

SUBCONTRACTORS' CERTIFICATION

_____ certifies that:
Subcontractor

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

_____;

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

3. Will obtain from each of the subcontractors prior to the award of any subcontract under this subcontract the subcontractor certification required by these bid conditions.

(Signature of authorized representative of subcontractor)

In order to ensure that the said subcontractors' certification becomes a part of all subcontractors under the prime contract, no subcontract shall be executed until an authorized representative of the state agency (or agencies) administering this project has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

**MINIMUM MINORITY PERCENTAGES TO BE APPLIED TO
STATE AND STATE ASSISTED CONTRACTS
WITHIN THE COMMONWEALTH OF MASSACHUSETTS**

The Construction Reform Law, Chapter 193 of the Acts of 2004, and the revisions it made to M.G.L. c. 23A, §44 and M.G.L. c. 7, §40N, include a new municipal affirmative marketing program. Municipalities (hereinafter Awarding Authorities) must now incorporate Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) goals into both their design and construction procurement for municipal contracts for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public work by any city or town that includes funding provided by the Commonwealth, in whole or in part (such as funding under the School Building Assistance Program, funding in any legislative appropriation, grant awards, reimbursements, municipal commitments to use state funds and the like). To count towards participation the business must be a State Office of Minority and Women Business Assistance (SOMWBA) certified WBE or MBE. Certification as a disadvantaged business enterprise (DBE), certification as an MBE/WBE by any agency other than SOMWBA, or submission of an application to SOMWBA for certification as an MBE/WBE shall not confer MBE or WBE status on a firm for purposes of participation credit. You can access the new law on The General Court of Massachusetts website:

<http://www.mass.gov/legis/laws/mgl/7-40n.htm> and

<http://www.mass.gov/legis/laws/mgl/23a-44.htm>

Affirmative Marketing Participation Goals Each Municipality must enforce the Affirmative Marketing Goals developed by the Division of Capital Asset Management (DCAM) in consultation with SOMWBA as follows:

Design Participation: MBEs (8%) and WBEs (4%)

Construction Participation: MBEs (7.4%) and WBEs (4%)

A list of currently certified MBEs and WBEs in the design and construction fields is available on SOMWBA's website at:

<http://www.somwba.state.ma.us>.

Construction Participation for this Project : MBEs (7.4%) and WBEs (6.9%)

EXHIBIT A

**SCHEDULE FOR PARTICIPATION
BY MINORITY/WOMEN BUSINESS ENTERPRISES**

Project Number _____
Project Location _____
Project Name _____

- A. Filed Sub-bidders utilizing MBE/WBE firms, and MBE/WBE Sub-bidders - attach to Filed Sub-bid.
- B. General Contractor must submit to the Awarding Authority within five (5) working days of the opening of General Bids.

BIDDER CERTIFICATION:

The Bidder agrees that if awarded the contract it will expend at least the amount of the contract set forth below for MBE/WBE participation. For purposes of this commitment, the MBE and WBE designation means that a business has been certified by SOMWBA as a MBE, WBE or MBE/WBE. The Bidder must indicate the MBE/WBE firms it intends to utilize on the project as follows (attach additional sheets if necessary):

Company Name & Address	MBE or WBE	Describe MBE/WBE Scopes of Work (clarify "Labor Only", "Material Only" or "Labor and Material")	If Supplier, Indicate Total Value of Supplies*	Total Dollar Value of Participation
1.				
2.				
3.				
4.				
5.				

***60% of Total Counts toward Participation**

MBE Goal: \$ _____ Total Dollar Value of MBE Commitment: \$ _____

WBE Goal: \$ _____ Total Dollar Value of WBE Commitment: \$ _____

The undersigned hereby certifies that he/she has read the terms and conditions of the contract with regard to MBE/WBE participation and is authorized to bind the Bidder to the commitment set forth above.

Name of Firm _____

Business Address _____

Print Name _____ Authorized Signature _____

Title _____

Telephone No. _____ Fax No. _____

Date _____

EXHIBIT B

**LETTER OF INTENT
MINORITY/WOMEN BUSINESS ENTERPRISES PARTICIPATION**

(To be completed by MBE/WBE, and submitted by the General Bidder to the Municipal Affirmative Marketing Construction Officer (AMCO) within five (5) working days of the opening of General Bids or by Filed Sub-bidder with its bid.)

Project Number _____

Project Name _____

Project Location _____

To _____

Name of General Bidder/Sub-bidder _____

Indicate SOMWBA Certification: _____ MBE _____ WBE _____ M/WBE

This firm intends to perform work in connection with the above project.

This firm is currently certified by SOMWBA to perform the work identified below, and has not changed its minority/women ownership, control, or management without notifying SOMWBA within thirty (30) days of such a change.

This firm understands that if the General Bidder/Sub-bidder referenced above is awarded the contract, the Bidder intends to enter into an agreement with this firm to perform the activity described below for the prices indicated.

This firm also understands that the above-referenced firm, as General Bidder/Sub-Bidder, will make substitutions only as allowed by the terms of the Contract.

This firm understands that under the terms of the contract, only work actually performed by an MBE/WBE will be credited toward MBE/WBE participation goals, and this firm cannot assign or subcontract out any of its work without prior written approval of the Awarding Authority, and that any such assignment or subcontracting will not be credited toward MBE/WBE participation goals.

MBE/WBE PARTICIPATION

Section/Item Number (if Applicable)	Describe MBE/WBE Scopes of Work (clarify "Labor Only", "Material Only" or "Labor and Material")	If Supplier, Indicate Total Value of Supplies*	Total Dollar Value of Participation
1.			

*60% of Total Counts toward Participation

Total Dollar Value: \$ _____

Name of MBE/WBE Firm _____

Business Address _____

Print Name _____ Authorized Signature _____

Title _____

Telephone No. _____ Fax No. _____

Date _____

EXHIBIT C

**CONTRACTOR PROGRESS PAYMENT REPORT
MINORITY/WOMEN BUSINESS ENTERPRISES PARTICIPATION**

Project Number: _____

Project Name: _____

Project Location: _____

Date: _____

Periodical Payment No.: _____

General Contractor: _____

MBE and/or WBE: _____

One copy of this report is to be submitted for each Minority Business Enterprise (MBE) and/or Women Business Enterprise (WBE) at the time of submitting a request for payment. Copies of the report must be sent to the Minority Business Enterprise (MBE) and/or Women Business Enterprise (WBE) named above and to the municipalities Affirmative Marketing Construction Officer (AMCO). The AMCO will forward a copy of each Contractor Progress Payment Report to SOMWBA on a quarterly basis.

1. The total price to be paid to the above-named Minority Business Enterprise _____ and/or Women Business Enterprise _____: \$_____
2. The amount remitted to the Minority Business Enterprise and/or Women Business Enterprise as of the above date for work performed under this project: \$_____
3. Balance due the Minority Business Enterprise and/or Women Business Enterprise as of the above date for work performed under the above-named project: \$_____
4. Comments or explanation of amounts indicated under items 1 and 2 above:

5. We hereby certify that the information supplied herein (including pages attached) is correct and complete.

General Contractor:

Minority and/or Women Business Enterprise

(Signed)

(Signed)

(Title)

(Title)

(Date)

(Date)

CITY OF LOWELL
AFFIRMATIVE ACTION CONTRACT REQUIREMENTS
CONTRACTORS' CERTIFICATION

**NAME OF PROJECT: PROPOSED BRIDGE REHABILITATION
 LAWRENCE STREET OVER CONCORD RIVER**

A contractor will not be eligible for award of a contract unless such contractor has submitted the following certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____ certifies that

1. It intends to use the following listed construction trades in the work under the contract _____

_____ ; and,
2. Will comply with the minority manpower ratio and specific affirmative action steps contained herein; and
3. Will obtain from each of its subcontractors and submit the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions.

(Signature of Authorized Representative of Contractor)

CITY OF LOWELL
AFFIRMATIVE ACTION CONTRACT REQUIREMENTS
SUBCONTRACTORS' CERTIFICATION

**NAME OF PROJECT: PROPOSED BRIDGE REHABILITATION
 LAWRENCE STREET OVER CONCORD RIVER**

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

SUBCONTRACTOR'S CERTIFICATION

_____ certifies that

1. It intends to use the following listed construction trades in the work under the subcontract _____

_____ ; and,
2. Will comply with the minority manpower ratio and specific affirmative action steps contained herein; and
3. Will obtain from each of its subcontractors prior to the award subcontract under this subcontract, the subcontractor certification required by these bid conditions.

(Signature of Authorized Representative of Contractor)

In order to ensure that the said subcontractor's certification becomes a part of all subcontracts under the Prime Contract, no subcontract shall be executed until an authorized representative of the City administering this project has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

CITY OF LOWELL
AFFIRMATIVE ACTION CONTRACT REQUIREMENTS
BIDDERS' CERTIFICATION

The bidder hereby certifies he shall comply with the minority manpower ratio and specific action steps contained in the Appendix EEO attached hereto, including compliance with the minority contractor compliance specified in Section V of said Appendix. The contractor receiving the award of the contract shall be required to obtain from each of its subcontractors and submit to the contracting or administering agency prior to the performance of any work under said contract a certification by said subcontractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in the Appendix EEO.

Signature of Bidder

Name of Firm

Title

Date

CONTRACT

THIS AGREEMENT, made this the _____ day of _____, 20____,
by and between the City of Lowell, Massachusetts acting herein through its Commissioner of
the Public Works Department, hereinafter called "OWNER" and

*(1)_____

an individual doing business as, a partnership, a corporation of the _____

Hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements
hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby
agrees with the OWNER to commence and complete the construction of Contract described as
follows: **PROPOSED BRIDGE REHABILITATION LAWRENCE STREET OVER CONCORD
RIVER** hereinafter called the Project for the sum of:

_____ Dollars (\$)_____

and all extra work in connection therewith, under the terms as stated in the General and Special
Conditions of the Contract; and at his/her (its or their) own proper cost and expense to furnish
all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance and
other accessories and services necessary to complete the said Project in accordance with the
conditions and prices stated in the Proposal, the General and Special Conditions of the Contract,
the Plans, which include all maps, plates, blue prints, and other drawings and printed or written
explanatory matter thereof, the Specifications and contract documents therefore as prepared by
TEC, Inc. on behalf of the City of Lowell, City Engineer herein entitled "Engineer", and as herein
enumerated all of which are made a part hereof and collectively evidence and constitute the
contract.

The Contractor hereby agrees to commence work under this Contract on or before a date to be
specified in a written "Notice to Proceed" of the OWNER, to meet interim specified milestones
and to fully complete the project 2 calendar years thereafter. The OWNER agrees to pay the
CONTRACTOR in current funds for the performance of the Contract, subject to additions and
deductions, as provided in the General Conditions of the Contract, and to make payments on
account thereof as provided in Paragraph 25, "Progress Payments", of the General Conditions.

IN WITNESS WHEREOF, the parties to these presents have executed this Contract in five (5) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

ATTEST:

Secretary

CITY OF LOWELL, MASSACHUSETTS

Witness

BY _____
City Manager, Kevin J. Murphy

Secretary

BY _____
Contractor

Witness

Address

APPROVED AS TO FORM

City Solicitor, Christine P. O'Connor

BY _____
Chief Procurement Officer, P.M. Vaughn

APPROVED AS TO AVAILABILITY OF FUNDS

City Auditor, Bryan Perry

*(1) Strike out inapplicable terms. Secretary of the OWNER should attest. If Contractor is corporation, Secretary should attest. Give proper title of each person executing Contract.

DUAL OBLIGEE RIDER

TO BE ATTACHED TO AND MADE A PART OF PERFORMANCE AND PAYMENT BONDS
NO. _____

ISSUED BY _____ (SURETY) ON BEHALF

OF _____ (PRINCIPAL) IN

THE AMOUNT OF _____

_____ (\$ _____) AND DATED _____

IN FAVOR OF _____ (OBLIGEE).

In consideration of \$1.00 and other valuable consideration the receipt whereof is acknowledged, the name (s) of _____ shall be added to said Bonds as a named Dual Obligee.

The Dual Obligee shall have the same rights and be subject to the same conditions and obligations as the original Obligee under the Bonds. Nothing in this Dual Obligee Rider shall be interpreted to extend or increase the liability of the Surety beyond that provided by the Bonds. At Surety's election, any payment due either Obligee may be made by its check issued jointly to both.

(Principal)

By: _____

(Obligee)

By: _____

(Surety)

By: _____

(Dual Obligee)

By: _____

PERFORMANCE BOND

Bond Number: _____

Contract Number: _____

CONTRACTOR PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, That We,
_____ ("Principal"), and

_____, a _____ corporation, as Surety ("Surety"), are held firmly bound unto _____ ("Owner") and such other obligees as listed in the attached Obligee Rider (Owner and such other obligees are together referred to as the "Obligees"), in the sum of _____ Dollars (\$_____) for payment of which well and truly to be made we bind ourselves, our heirs, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has entered into a contract with Owner dated _____ ("Contract"), requiring Principal to furnish, install and perform the work on the _____ ("Project"), all as more fully described And detailed in the Contract; the provisions, terms and conditions of the Contract, being fully incorporated herein and made part of this Bond with the same force and effect as if fully set forth herein;

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall faithfully perform and fulfill the Contract in the manner and at the times required by the Contract, and shall fully indemnify and save the Obligees harmless from all liability, cost, damage, expense, delay and/or schedule related damages, liquidated damages, and attorneys' fees and expenses related to the Principal's default (such attorneys' fees and expenses include, without limitation, the costs and fees associated with any mediation, arbitration, and litigation proceeding, and any effort to realize or execute on any award), which the Obligees may suffer by reason of Principal's default under the Contract, and if the Principal shall fully reimburse and repay the Obligees for making good any such default, including but not limited to guaranty and warranty obligations and claims, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety, for value received, agrees that no change, extension of time, alteration, addition, omission and/or any other modification to the Contract, to the Plans or Specifications referenced therein, or to any of the work to be performed thereunder, nor any forbearance on the part of either the Principal or the Obligees shall in any way impair or affect its obligations under this Bond and hereby waives notice of any and all such changes, extensions of time, alterations, additions, omissions and/or any other modifications or any forbearance on the part of either the Principal or Obligees.

In addition, the Surety, for value received, agrees that in the event that the Principal is declared by Owner to be in default of the Contract, the Surety shall, within twenty calendar days of written notice of Owner's election:

commence and then continue to promptly complete the Contract in accordance with its terms and conditions; or

obtain a bid or bids for submission to Owner for completion of the Contract in accordance with its terms and conditions, and upon determination by Owner of the lowest responsible and acceptable bidder for such work, arrange for a contract between such bidder and Owner in a form and under terms and conditions which are acceptable to Owner, and make available as the work progresses (even should there be a default or a succession of defaults under the contract or contracts of completion arranged under this subparagraph) sufficient funds to pay for the costs of completion of the Contract work and the other costs and damages for which the Surety may be liable hereunder, less the Balance of the Contract Price. As used in this Subparagraph "Balance of the Contract Price" shall mean the total amount payable by Owner to the Principal under the Contract and any amendments thereto as shown on the most recent application for payment or requisition submitted by Principal and approved by Owner in the immediate month preceding the default declared by Owner, less the amount previously paid by Owner and less other offsets or credits due Owner from the Principal under the Contract or otherwise.

Should the Surety fail to so promptly perform Owner's election, Owner shall have the right, in its sole discretion and without further notice to the Surety, to arrange for full completion of the Contract Work and the Surety shall, in addition to its other obligations and liabilities, be liable for all costs and expenses related to such completion of the Contract Work.

The Surety's obligations under this Bond shall not be satisfied by, and the amount of this Bond shall not be reduced or limited by, any payments made by Surety to or on behalf of subcontractors, suppliers, claimants or other creditors of Principal or to any claimant under any payment or lien bond issued for or on behalf of Principal related to the Project.

No right of action shall accrue under this Bond to or for the use of any person or corporation other than the Obligees or their successors or assigns. Surety shall be liable to the Obligees for all liabilities, costs, damages, expenses, delay and/or schedule related damages, liquidated damages, and attorneys' fees and expenses related to the Principal's default. Such attorneys' fees and expenses include, without limitation, the costs and fees associated with any mediation, arbitration, and litigation proceeding (and any effort to realize or execute on any award), which the Obligees may suffer by reason of Principal's default under the Subcontract and/or in the Obligee's enforcement of their rights under this Performance Bond.

Judgment and/or arbitration award in favor of any Obligee against the Principal shall be fully binding on the Surety, including, without limitation, an assessment of punitive or statutory damages of any kind arising from the actions of the Principal.

IN WITNESS WHEREOF, the Principal and Surety have hereunto executed this Bond as an instrument under Seal executed by a duly authorized representative below as of the _____ day of _____, 20____.

PRINCIPAL

SURETY

By: _____

By: _____

Printed Name:

Printed Name:

Its Duly Authorized:

Its Duly Authorized Attorney In Fact

ATTEST: _____

ATTEST: _____

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

PAYMENT BOND

Bond Number: _____

Contract Number: _____

CONTRACTOR PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, That We,
_____ ("Principal"), and

_____, a corporation, as Surety
("Surety"), are held firmly bound unto _____
("Owner") and such other Obligees as listed in the attached Dual Obligee Rider
(Owner and such Obligees are together referred to as the "Obligees), in the sum of
_____ Dollars (\$_____)
for payment of which well and truly to be made we bind ourselves, our heirs,
executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Owner and Principal have entered into a Contract dated _____,
20____, requiring Principal to furnish, install and perform the work on the Project
("Contract"), all as more fully described and detailed in the Contract; the provisions,
terms and conditions of the Contract being fully incorporated herein and made part
of this Bond with the same force and effect as if fully set forth herein;

NOW, THEREFORE, the condition of this obligation is such that if the Principal
shall promptly pay persons having just claims for (a) labor, materials, services,
insurance, supplies, machinery, equipment, rentals, fuel, oils, implements, tools,
and/or appliances and any other items of whatever nature, furnished for, used or
consumed in prosecution of the Subcontract work and all any all modifications
thereto, whether lienable, non-lienable and whether or not permanently incorporated
in said work; (b) pensions, welfare, vacation and/or any supplemental employee
benefit contributions payable under collective bargaining agreements with respect to
persons employed upon said work; (c) federal, state, and local taxes and
contributions required by law to be withheld and or paid with respect to the
employment of persons upon said work; and (d) otherwise fully indemnify and save
the Obligees harmless from and against any claims or liens asserted by any party as a
result of payment claimed due or concerning the Contract, including attorneys' fees
and expenses; then this obligation shall be null and void; otherwise it shall remain in
full force and effect.

The Surety, for value received, agrees that no change, extension of time, alteration, addition, omission and/or any other modification to the Contract or to any of the work to be performed thereunder or any forbearance on the part of either the Principal or the Obligees shall in any way impair or affect its obligations under this Bond and hereby waives notice of any and all such changes, extensions of time, alternations, additions, omissions and/or any other modifications or any forbearance on the part of either the Principal or the Obligees.

The Principal and the Surety, for value received, agree that this Bond shall inure to the benefit of all persons with just claims as aforesaid whether or not they have any direct contractual relationship with the Principal, as well as to the benefit of the Obligees, and that such persons may maintain independent actions based upon this Bond in their names.

IN WITNESS WHEREOF, the Principal and Surety have hereunto executed this Bond as an instrument under Seal executed by a duly authorized representative below as of the _____ day of _____, 20__.

PRINCIPAL

SURETY

By: _____

By: _____

Printed Name:

Printed Name:

Its Duly Authorized:

Its Duly Authorized Attorney In Fact

ATTEST: _____

ATTEST: _____

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

CONTRACT

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned
the duly authorized and acting legal representative, of the City of Lowell, Massachusetts,
do hereby certify as follows:

I have examined the foregoing Contract and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations and provisions thereof.

Date: _____

GENERAL CONDITIONS

SUBSECTION

1. Definitions
2. Notice
3. Intent
4. Codes, Regulations and Issue Date of Standard Specifications
5. Drawings and Specifications
6. Conflicting Conditions
7. Samples
8. Quality of Equipment and Materials
9. Shop Drawings
10. Equipment and Material Approval
11. Rejected Work and Materials
12. Separate Contracts
13. Rights of Various Interests
14. Notice to Proceed
15. Time for Completion and Liquidated Damages and Incentives
16. The Contractor's Duties and Rights
17. The Engineer's Authority
18. The Owner's Duties and Rights
19. Assignment
20. Oral Agreements
21. Insurance
22. Contract Security
23. Extra Work
24. Extension of Contract Time
25. Progress Payments
26. Acceptance and Final Payment
27. Correction of Faulty Work after Final Payment
28. Substitutions and Deletions
29. Provisions Required by Law Deemed Inserted
30. Protection of Lives and Health
31. Obstructions Encountered
32. Standard Specifications

GENERAL CONDITIONS

1. DEFINITIONS

1. CONTRACT AND CONTRACT DOCUMENTS.

The Contract comprises the following documents, including all additions, deletions and modifications incorporated therein before the execution of the Contract:

- a. Legal and Procedural Documents
 1. Invitation to Bid
 2. Information for Bidders
 3. Bid Proposal
 4. Certifications of Bidders
 5. Contract Agreement
 6. Performance Bond
 7. Payment Bond
 8. Certificate of OWNER'S Attorney
 9. Form for Sub-bid (when required)
 - b. General Conditions
 - c. Special Conditions
 - d. Technical Specifications, Drawings, and Addenda as enumerated in the Special Conditions.
2. ENGINEER: City of Lowell, City Engineer or TEC, Inc.
 3. STATE: The Commonwealth of Massachusetts
 4. OWNER, AWARDED AUTHORITY OR MUNICIPALITY: The party of the first part designated in the Contract or any board, officer or agent duly authorized to act for the said party of the first part in the matter covered by the Contract. The OWNER is the City of Lowell, acting through its Commissioner of the Department of Public Works.
 5. CONTRACTOR: The General Contractor, and is the CONTRACTOR, and is the CONTRACTOR named in the Contract Documents.
 6. SUBCONTRACTOR: Any person, firm or corporation with a direct contract with the CONTRACTOR who acts for or in behalf of the CONTRACTOR in executing any part of the Contract, but does not include one who merely furnishes material.
 7. WORK ON (AT) THE PROJECT: Work to be performed at the location of the project, including the transportation of materials and supplies to or from the location of the project by employees of the CONTRACTOR and any Subcontractor.

8. DIRECTED, REQUIRED APPROVED, ACCEPTABLE: Whenever they refer to the work or its performance, "Directed", "Required", "Permitted", "Ordered", "Designated", "Prescribed" and words of like import shall imply the direction, requirement, permission, order, designation or prescription of the ENGINEER, and "Approved", "Acceptable", "Satisfactory", "In the Judgement of" and words of like import shall mean approval by, or acceptable to, or satisfactory to or in the judgement of the ENGINEER.
9. PROPOSAL: The offer of a bidder to perform the work described by the Contract Documents when made out and submitted on the prescribed form properly signed and guaranteed.
10. PROPOSAL GUARANTEE: The bid deposit accompanying the proposal submitted by the bidder, as a guaranty that the bidder will enter into a Contract with the OWNER for the construction of the work if the Contract is awarded to him.
11. CONTRACT: The agreement covering the performance of the work described in the Contract Documents and Plans including all supplemental agreements thereto and all general and special provisions pertaining to the work or materials therefor.
12. PERFORMANCE AND PAYMENT BONDS: the approved forms of security furnished by the CONTRACTOR and his Surety as a guaranty of good faith on the part of the CONTRACTOR to execute the work in accordance with the terms of the Contract.
13. SURETY: The person, firm or corporation who executes the CONTRACTOR'S Performance and Payment Bonds.
14. SPECIFICATIONS: The Legal and Procedural Documents, General Conditions, Special Conditions and Technical Specifications with all addenda thereto.
15. DRAWINGS: Those listed herein in the Special Conditions.
16. PROVIDE: Furnish and install.
17. SHOP DRAWINGS: Fabrication and erection drawings and instructions.
18. ACT OF GOD: An earthquake, flood, cyclone, or other cataclysmic phenomenon of nature. Rain, wind, flood, or other natural phenomenon of normal intensity for the locality shall not be construed as an Act of God and no reparation shall be made to the CONTRACTOR for damages to the work resulting therefrom.
19. EXTRA WORK: Work other than that required either expressed or implied by the Contract in its present form.

20. SITE: The area upon or in which the CONTRACTOR'S operations are carried on and such other areas adjacent thereto as may be designated as such by the ENGINEER.
21. CHANGE ORDER: A written order issued by the ENGINEER to the CONTRACTOR directing certain changes, additions, or reductions in the work or in the materials or methods to be used.

2. NOTICE

Written notice shall be considered as served when delivered in person or sent by certified mail to the individual, firm or corporation or to the last business address known to him who serves the Notice. It shall be the duty of each party to advise the other parties to the Contract as to any change in his business address until completion of the Contract.

3. INTENT

1. The intent of the Contract Documents is that the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.
2. Any work performed after regular working hours, on Sundays or Legal Holidays, shall be performed without additional expense to the OWNER.

4. CODES, REGULATIONS, AND ISSUE DATE OF STANDARD SPECIFICATIONS

1. Where standard specifications, codes, regulations and similar publications of governmental agencies, technical societies, manufacturer's associations and regulatory groups or bureaus are referred to in these specifications, the applicable portion thereof shall be of the same effect as if fully printed herein, and the work done in full accordance therewith. The edition current as of the date of issue of this specification shall be used except where publication date is specifically stated.

5. DRAWINGS AND SPECIFICATIONS

1. Except as provided for otherwise, all required copies of Drawings and Specifications necessary for the execution of the work shall be furnished to the CONTRACTOR without charge. One complete set of all Drawings and Specifications shall be maintained at the job site and shall be available to the ENGINEER at all times.
2. All Drawings and Specifications and other data prepared by the ENGINEER shall remain the property of the ENGINEER, and they shall not be reused on other work.

3. Figured dimensions on the Plans will be used in preference to scaling the Drawings. Where the work of the CONTRACTOR is affected by finish dimensions, these shall be determined by the CONTRACTOR at the site, and he shall assume the responsibility therefore.
4. Any discrepancies found between the Drawings and Specifications and site conditions of any errors or omissions in the Drawings and Specifications shall be immediately reported to the ENGINEER, who shall promptly correct such error or omission in writing. Any work done by the CONTRACTOR after his discovery of such discrepancies, errors or omissions without notifying the ENGINEER shall be done at the CONTRACTOR'S risk.

6. CONFLICTING CONDITIONS

1. In the event of a discrepancy between the contract, the specifications and/or the drawings, the contract shall take precedence over the specifications and the specifications shall take precedence over the drawings where the discrepancy is not an omission.
2. On the Plans, the dimensions shown shall govern in case of any discrepancy between a scaled distance and the figures shown. Neither party shall take advantage of any obvious error or omission in the contract documents. Any apparent discrepancies shall be submitted to the ENGINEER for determination. The decision of the ENGINEER thereupon shall be conclusive.
3. The fact that specific mention of a fixture, or any part of the work is omitted in the Specifications, whether intentionally or otherwise, when the same is clearly shown or indicated on the Plans, or is usually and customarily required to complete fully such work as is specified herein, will not entitle the CONTRACTOR to consider action in the manner of any claim for extra compensation, but the same fixtures or work, or both, must be installed or done the same as if called for by both the Plans and Specifications.

7. SAMPLES

All samples called for in the Specifications or required by the ENGINEER shall be furnished by the CONTRACTOR at his expense and shall be submitted to the ENGINEER for his approval. Samples shall be furnished so as not to delay fabrication, allowing the ENGINEER reasonable time for the consideration of the samples submitted. CONTRACTOR shall furnish such samples of materials, and workmanship shall be in accordance with approved samples.

8. QUALITY OF EQUIPMENT AND MATERIALS

1. Everything furnished and provided shall be new and all materials and equipment shall be of the quality specified. All unspecified materials and equipment shall be equal in grade and quality to specified materials.

2. In order to establish standards of quality, ENGINEER has, in the detailed Specifications, referred to certain products by name and catalog number. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design.
3. The CONTRACTOR shall furnish one complete list of proposed desired substitutions prior to signing of the Contract, together with such engineering catalog data and sketches the ENGINEER may require.
4. The CONTRACTOR shall abide by the ENGINEER'S judgment when proposed substitute materials or items or equipment are judged to be unacceptable and shall furnish the specified materials or item of equipment in such cases. All proposals for substitutions shall be submitted in writing by the General CONTRACTOR and not by individual trades or material suppliers. The ENGINEER will approve or disapprove proposed substitutions in writing within a reasonable time. No substitute materials shall be used unless approved in writing.

9. SHOP DRAWINGS

1. The Contractor shall submit shop drawings and working drawings for all items fabricated or manufactured to be incorporated into the work, including but not limited to concrete reinforcement, structural details, piping layouts (including hangers and supports), materials fabricated especially for the Contract, and materials and equipment for which such drawings are specifically requested. All submittal of shop drawings will consist of six (6) BLACK LINE prints. Electronic submission for initial reviews are acceptable and to be coordinated upon contract award.
2. Such Drawings shall show the principal dimensions, weight structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the Drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the Drawings shall be certified by the manufacturer or fabricator as correct for the Contract.
3. When so specified or if considered by the ENGINEER to be acceptable, manufacturer's specifications, catalog data, descriptive matter, illustrations, etc., may be submitted for approval in place of shop and working drawings. In such case the requirements shall be as specified for shop and working drawings, insofar as applicable.
4. The CONTRACTOR shall be responsible for the prompt and timely submittal of all shop and working drawings so that there shall be no delay to the work due to the absence of such drawings.

5. No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and approved as conforming to the Contract requirements. All such materials and equipment and the work involved in their installation or incorporation into the work shall then be as shown on and represented by said drawings.
6. Until the necessary approval has been given, the CONTRACTOR shall not proceed with any portion of the work (such as the construction of foundations), 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.
7. All shop and working drawings shall be submitted to the ENGINEER by and /or through the CONTRACTOR, who shall be responsible for obtaining shop and working drawings from drawings from his subcontractors and returning approved drawings to them. All drawings shall be clearly marked with the names of the OWNER, CONTRACTOR, and building, equipment, or structure to which the drawing applies, and shall be suitably numbered. Each shipment of drawings shall be accompanied by a letter of transmittal giving a list of the drawing numbers and the names mentioned above.
8. Only drawings which have been checked and corrected by the fabricator should be submitted to the CONTRACTOR by his subcontractors and vendors. Prior to submitting drawings to the ENGINEER, the CONTRACTOR shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. ALL DRAWINGS WHICH ARE CORRECT SHALL BE MARKED WITH THE DATE, CHECKER'S NAME AND SUBMITTED TO THE ENGINEER: OTHER DRAWINGS SHALL BE RETURNED FOR CORRECTION.
9. The approval of shop and working drawings, etc., will be general only and shall not relieve or in any respect diminish the responsibility of the CONTRACTOR for details of design, dimensions etc., necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.
10. Should the CONTRACTOR submit for approval equipment that requires modifications to the structures, piping, layout, etc., detailed on the Drawings, he shall also submit for approval details of the proposed modifications. Any modifications to structures or substitute designs submitted for approval must carry the stamp of a Registered Professional ENGINEER with the State. If such equipment and modifications are approved, the CONTRACTOR, at no additional cost to the OWNER, shall do all work necessary to make such modifications.
11. One marked-up electronic copy of the shop and working drawings or two marked-up copies of catalog cuts will be returned to the CONTRACTOR. The CONTRACTOR shall furnish additional copies of such drawings or catalog cuts when so requested.

10. EQUIPMENT AND MATERIAL APPROVAL

1. As soon as practical and within fifteen (15) days after date of award of Contract and before any materials, fixtures or equipment are purchased, the CONTRACTOR shall furnish three copies of complete catalog data for every manufactured item of equipment and all components to be used in the work, including specific performance data, material description, rating, capacity, working pressure and general type. This submittal shall be compiled by the CONTRACTOR and approved by the ENGINEER before any of the equipment is ordered. Each data sheet or catalog in the submittal shall be indexed according to specifications section and paragraph for easy reference.
2. If prior to the expiration of the above specified period or of any authorized extension thereof, the CONTRACTOR fails to submit a list of materials, fixtures and equipment as specified above, the selection made by the ENGINEER shall be final and binding and all items shall be furnished and installed by the CONTRACTOR without change in contract price or time of completion.
3. Where conformance to any standard is specified, the catalog data for that item shall state that the item conforms to that standard; or after the ENGINEER'S approval of the item subject to conformance to the standard, the CONTRACTOR shall furnish a notarized affidavit on the manufacturer's letterhead signed by an officer certifying compliance to the standard. The CONTRACTOR shall stamp all such affidavits by which it is understood that the item certified is the item provided.
4. The name and address of and organization authorized by the manufacturer to service each item of equipment shall be included with the submittal. Proof of authorization shall be furnished on request. If the ENGINEER decides that the service organization is too far distant for practical servicing, such equipment shall be rejected.
5. After written approval, this submission shall become a part of the Contract, and may not be deviated from except upon written approval of the ENGINEER.
6. Catalog data for equipment approved by the ENGINEER does not in any case supersede the ENGINEER'S Contract Documents. The approval of the ENGINEER shall not relieve the CONTRACTOR from responsibility for deviations from Drawings or Specifications unless he has in writing called to the ENGINEER'S attention such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any in the items submitted. The CONTRACTOR shall check the work described by the catalog data with the ENGINEER'S Contract Documents for deviations and errors.
7. It shall be the responsibility of the Contractor to ensure that items to be furnished fit the space available. He shall make necessary field measurements to ascertain space requirements, including those for connections, and shall order

such sizes and shapes of equipment that the final installation shall suit the true intent and meaning of the Drawings and Specifications.

8. Where equipment requiring different arrangement of connections from those shown is approved, it shall be the responsibility of the CONTRACTOR to install the equipment to operate properly and in harmony with the intent of the Drawings and Specifications, and to make all changes in the work required by the different arrangement of connections.
9. Manufactured articles, material and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer unless herein specified to the contrary.
10. After the execution of the Contract, substitution of equipment of makes other than those named in the Contract will be considered only if the equipment proposed for substitution is equal in construction and/or efficiency to that named in the Contract. It will be assumed that the cost to the CONTRACTOR of the equipment proposed to be substituted is less than the equipment named in the Contract and if the substitution is approved, the Contract Price shall be reduced a corresponding amount.

To receive consideration, requests for substitution must be accompanied by documentary proof of the actual difference in cost to the CONTRACTOR in the form of certified copies of Equipment Company's quotation to the CONTRACTOR covering the original equipment and also equipment proposed for substitution or other proof satisfactory to the OWNER. It is the intention that the OWNER shall receive the full benefit of the savings in cost involved in any substitution. In all cases the burden of proof that the equipment offered for substitution is equal or superior in construction and/or efficiency to that named in the Contract shall rest on the CONTRACTOR, and unless the proof is satisfactory to the OWNER, the substitution will not be approved. Requests for substitution on the grounds that better delivery can be obtained on the equipment proposed for substitution will not be approved for it will be assured that the CONTRACTOR in his proposal has named equipment on which he has received proposals from equipment manufacturers giving a delivery time which will permit completion of the project within the contract time. Requests for substitution of equipment which the CONTRACTOR cannot prove to the satisfaction of the OWNER to be equal or superior in construction and/or efficiency to that so named in the Contract will not be approved.

In the event that the CONTRACTOR obtains the ENGINEER'S approval on equipment other than that which is shown on the Plans and specified herein, the CONTRACTOR shall, at his own expense, make any changes in the structures, buildings or piping necessary to accommodate the equipment.

11. REJECTED WORK AND MATERIALS

1. All materials which do not conform to the requirements of the Contract Documents, are not equal to samples approved by the ENGINEER, or are in any way unsatisfactory or unsuitable for the purpose, for which they are intended,

shall be rejected. Any defective work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause, shall be removed within ten (10) days after written notice is given by the ENGINEER, and the work shall be re-executed by the CONTRACTOR. The fact that such defective work may not have been reported on previous inspections shall not constitute an acceptance of any part of it.

2. Should the CONTRACTOR fail to remove rejected work or materials within ten (10) days after written notice to do so, the OWNER may remove the rejected work and then may store the materials.
3. The removal of rejected work or materials and storage of materials by the OWNER shall be paid for by the CONTRACTOR within thirty (30) days after the written notice to pay is given by the OWNER. If the CONTRACTOR does not pay the expense of such removal and after ten (10) days written notice being given by the OWNER of his intent to sell the materials, the OWNER may sell the materials at auction or at a private sale and shall pay to the CONTRACTOR the net proceeds therefrom after deducting all the costs and expenses that should have been borne by the CONTRACTOR.

12. SEPARATE CONTRACTS

The OWNER may let other contracts in connection with the work of the CONTRACTOR. The Contractor shall cooperate with other CONTRACTORS with regard to storage of materials and execution of their work. It shall be the CONTRACTOR'S responsibility to inspect all work by other CONTRACTORS affecting his work and to report to the ENGINEER any irregularities which will not permit him to complete his work in a satisfactory manner. His failure to notify the ENGINEER of such irregularities shall indicate the work of other CONTRACTORS has been satisfactorily completed to receive his work. The CONTRACTOR shall not be responsible for defects of which he could not have known which develop in the work of others after the work is completed. It shall be the responsibility of the CONTRACTOR to measure the completed work in place and report to the ENGINEER immediately any difference between completed work by others and the Drawings.

13. RIGHTS OF VARIOUS INTERESTS

Whenever work being done by the OWNER'S forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the ENGINEER, to secure the completion of the various portions of the work in general harmony.

14. NOTICE TO PROCEED

Following the execution of the Contract by the OWNER, Written Notice to Proceed with the work shall be given to the CONTRACTOR. Computation of

Contract Time shall commence on a date to be specified in the Notice to Proceed and every calendar day following, except as herein provided, shall be counted in the time for completion.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES AND INCENTIVES

1. It is hereby understood and mutually agreed by and between the CONTRACTOR and the OWNER, that the date of beginning and the time for completion as specified in the Information to Bidders of the Work to be done hereunder are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall commence on a date to be specified in the "NOTICE TO PROCEED".
2. The CONTRACTOR agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
3. If the said CONTRACTOR shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extensions thereof granted by the OWNER, then the CONTRACTOR does hereby agree, as a part consideration for the awarding of this Contract, to pay to the OWNER the \$500 per day, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract for completing the work.
4. The said amount (\$500 per day) is fixed and agreed upon by and between the CONTRACTOR and the OWNER because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER would in such event sustain, and said amount is agreed to be the amount of damages which the OWNER would sustain and said amount shall be retained from time to time by the OWNER from current periodic estimates.
5. It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract and additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the CONTRACTOR shall not be charged with liquidated damages or any excess cost when the OWNER determines that the CONTRACTOR is without fault and the CONTRACTOR'S reasons for the time extension are acceptable to the OWNER: provided, further, that the CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due;

- a. To any preference, priority or allocation order duly issued by the Government;
 - b. To unforeseeable cause beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to Acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and severe weather.
6. The CONTRACTOR shall begin within ten (10) days from the beginning of any such delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter.

16. THE CONTRACTOR'S DUTIES AND RIGHTS

1. The CONTRACTOR shall begin and shall prosecute the work regularly and uninterruptedly after Notice to Proceed has been given (unless otherwise directed in writing by the OWNER) with such force as to secure the completion of the work, in and acceptable manner, within the time stated in the Proposal.
2. The CONTRACTOR shall submit at such times as may reasonably be requested by the ENGINEER, schedules which shall show the order in which the CONTRACTOR proposes to carry on the work, with dates at which the CONTRACTOR will start the several parts of the work, and estimated dates of completion of the several parts.
3. For Lump Sum items the CONTRACTOR shall within ten (10) days of receipt of Notice to Proceed, submit a complete breakdown of the Contract Amount showing the value assigned to each part of the work, including an allowance for profit and overhead. Upon approval of the breakdown of the Contract Amount by the Engineer, it shall be used as the basis for all Requests for Payments.
4. The CONTRACTOR shall utilize the services of specialty subcontractors on those parts of the work which under normal contracting practices are performed by specialty subcontractors; provided that if the ENGINEER shall determine that the specialty work in question has been customarily performed by the CONTRACTOR'S own organization and that such organization is presently competent to perform such work, the CONTRACTOR shall be permitted to do so; provided further that, if the ENGINEER shall determine that the performance of any specialty work by specialty subcontractors will result in materially increased costs or inordinate delays, the requirements of this paragraph shall not apply. At the time specified by the Contract Documents or when requested by the ENGINEER, the CONTRACTOR shall submit in writing to the OWNER for the ENGINEER, the names of the subcontractors proposed for the work. Subcontractors may not be changed except at the request of the CONTRACTOR

with the approval of the ENGINEER. The CONTRACTOR is responsible to the OWNER for the acts and omissions of his subcontractors, and of their direct and indirect employees to the same extent as he is responsible for the acts and omissions of his employees. The Contract Documents shall not be construed as creating any contractual relation between any subcontractor and the OWNER. The CONTRACTOR shall bind every subcontractor by the terms of the Contract Documents. For convenience of reference the Specifications are separated into titled sections. Such separations shall not, however, operate to make the ENGINEER an arbiter to establish limits to the contracts between CONTRACTOR and Subcontractors.

The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the CONTRACTOR by the terms of the Contract Documents insofar as applicable to the work of subcontractors and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the Contract Documents.

5. The CONTRACTOR shall develop and make all detail surveys necessary for construction, including setting the construction baselines, slope stakes, batter boards, lines and elevations. The ENGINEER will provide base lines ties and bench marks for the use of the CONTRACTOR in laying out the work. The CONTRACTOR shall be responsible for the accuracy of all lines and levels and of the work as built in accordance therewith. The CONTRACTOR shall have the responsibility to carefully preserve bench marks, reference points and stakes established by the ENGINEER and in the case of destruction thereof by the CONTRACTOR or resulting from his negligence, resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points and stakes.
6. The CONTRACTOR, if required, shall employ at his own expense a competent surveyor or engineer registered in the STATE as a Professional Engineer or Land Surveyor, and necessary assistants who shall stake out all structures and other parts of the work, using as reference the base lines and bench marks established by the ENGINEER. The CONTRACTOR shall be responsible for the accuracy of all levels of the work as built in accordance therewith.
7. The CONTRACTOR shall secure and pay for all permits and licenses necessary for the prosecution of the work.
8. The CONTRACTOR shall give all notices and comply with all Federal, State and Local laws, or ordinances and regulations in any manner affecting the conduct of the work, and all such orders and decrees as exist, or may be enacted by bodies or tribunals having any jurisdiction or authority over the work, and shall indemnify and save harmless the OWNER against any claim or liability arising from or based on, the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employee.

9. The CONTRACTOR shall pay all royalties and license fees for any design, device, material or process covered by letters, patent or copyright by legal agreement with the owner of the patent or a duly authorized licensee of such owner, and shall save harmless the OWNER from any and all loss or expense on account thereof, including its use by the OWNER.
10. The CONTRACTOR shall confine his apparatus and storage of materials and operation of his workmen to those areas described in the Drawings and Specifications and such additional areas which he may provide as approved by the ENGINEER.
11. The CONTRACTOR shall not enter upon private property for any purpose without obtaining permission, and he shall be responsible for the preservation of all public property, trees, monuments, etc., along and adjacent to the street and/or right -of-way, and shall use every precaution necessary to prevent damage or injury thereto. He shall use suitable precautions to prevent damage to pipes, conduits, and other underground structures, and shall protect carefully from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.
12. The CONTRACTOR shall provide adequate signs, barricades, red lights and watchman and take all necessary precautions for the protection of the work and the safety of the public. All barricades and obstructions shall be protected at night by red signal lights which shall be of substantial construction and shall be painted white or whitewashed to increase their visibility at night. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades, or detours exist.
13. The CONTRACTOR shall conduct his work at all times to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to ensure the protection of persons and property in a manner satisfactory to the ENGINEER. No road or street shall be closed to the public except with the permission of the ENGINEER and proper governmental authority. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to ensure the use of sidewalks and the proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches, which shall not be obstructed except as approved by the ENGINEER.
14. The CONTRACTOR shall secure written permission from the proper authority before executing new construction when such new construction crosses highways, railroad, streets or utilities under jurisdiction of State, County, or other public agency, public utility or private entity. A copy of this written permission must be filed with the ENGINEER or OWNER before any work is done.

The CONTRACTOR will be required to furnish a release from the proper authority before final acceptance of the work.

15. The CONTRACTOR shall provide and maintain such sanitary accommodations for the use of his employees and those of his subcontractors as may be necessary to comply with the requirements and regulations of the Local and State Departments of Health and as directed by the ENGINEER.
16. The CONTRACTOR shall maintain on the work a qualified superintendent who is acceptable to the ENGINEER, and who shall give efficient supervision to the work until its completion. The Superintendent shall have full authority to act in behalf of the CONTRACTOR, and all directions given to the Superintendent shall be considered given to the CONTRACTOR. In general, the ENGINEER'S instructions shall be confirmed in writing and always upon written request from the CONTRACTOR.
17. The CONTRACTOR shall be responsible for the conduct and discipline of his employees and/or any subcontractor or persons employed by subcontractors. All workmen must have sufficient knowledge, skill, and experience to perform properly the work assigned to them. Any foreman or workman employed by the CONTRACTOR or subcontractor who, in the opinion of the ENGINEER, does not perform his work, in a skillful manner or appears to be incompetent or to act in a disorderly or intemperate manner shall, at the written request of the ENGINEER, be discharged immediately and shall not be employed again in any portion of the work without approval of the ENGINEER.
18. The CONTRACTOR shall provide suitable on-site storage for all equipment and materials necessary for use in construction of the project. All materials improperly stored shall be subject to rejection by the ENGINEER. Private property shall not be used for storage purposes without the written permission of the owner or lessee.
19. The CONTRACTOR shall perform any work and shall furnish and install any materials and equipment necessary during an emergency endangering life or property. In all cases he shall notify the ENGINEER of the emergency as soon as practical but he shall not wait for instructions before proceeding to properly protect both life and property.
20. The CONTRACTOR shall do all necessary cutting and patching of the work that may be required to properly receive the work of the various trades or as required by the Drawings and Specifications to complete the structure. He shall restore all such cuts or patch work as directed by the ENGINEER. Cutting of existing structures that shall endanger the work, adjacent property, workmen or the public shall not be done unless approved by the ENGINEER and under his direction.
21. The CONTRACTOR shall keep the OWNER'S property free at all times from accumulations of waste materials or rubbish and shall remove from the OWNER'S property, and from all public and private property, all temporary structures, rubbish, and waste materials resulting from his operation or caused by his

- employees, and remove all surplus materials resulting from his operation or caused by his employees, leaving the site smooth, clean and true to line and grade.
22. The CONTRACTOR shall pay for all transportation and utility services not later than the twentieth day of the calendar month following that in which such services are rendered; pay for all materials, tools and other expendable equipment to the extent of 90 percent of the cost thereof, not later than the twentieth day of the calendar month following that in which such materials, tools and equipment are delivered at the site of the project, and the balance of the cost thereof not later than the thirtieth day following the completion of that part of the work in or on which such materials, tools and equipment are incorporated or used; and pay to each of his subcontractors not later than the fifth day following each payment to the CONTRACTOR, the respective amounts allowed to CONTRACTOR on account of the work performed by his subcontractors, to the extent of each subcontractor's interest therein.
23. The CONTRACTOR shall at the termination of this Contract before acceptance of the work by the ENGINEER, remove all his equipment, tools and supplies from the property of the OWNER. Should the CONTRACTOR fail to remove such equipment, tools and supplies, the OWNER shall have the right to remove them, and the CONTRACTOR shall pay all costs incurred by the OWNER in removing them.
24. The CONTRACTOR shall deliver to the OWNER a complete release of all liens arising out of this Contract before the retained percentage or before the final Request for Payment is paid. If any lien remains unsatisfied after all payments are made, the CONTRACTOR shall refund to the OWNER such amounts as the OWNER may have been compelled to pay in discharging such liens including all costs and a reasonable attorney's fee.
25. The CONTRACTOR shall warrant all material and equipment furnished and work performed by him for a period of one year from the date of written acceptance of the work, and furnish all guarantees applicable to definite parts of the work as stipulated in the sections of the Technical Provisions.
26. The CONTRACTOR shall have the right to suspend work or terminate the Contract upon ten (10) days written notice to the OWNER and the ENGINEER, for any of the following reasons:
- a. If an order of any court, or other public authority caused the work to be stopped or suspended for a period of ninety (90) days through no act of the CONTRACTOR or his employees.
 - b. If the ENGINEER should fail to act upon any Request for Payment within fifteen (15) days after it is presented in accordance with the General Conditions of the Contract.
 - c. If the OWNER should fail to act upon any Request for Payment within thirty (30) days after its approval by the ENGINEER.

27. Blank
28. When a set of drawings has been produced for a job the CONTRACTOR shall maintain at the site a set of the drawings. On this set shall be accurately shown the actual installation of all work under each section, indicating thereon any variations from the Contract Drawings, including changes in sites, locations and dimensions. For this purpose the ENGINEER will furnish two sets of black or blue line on white drawings. At the conclusion of the work, both sets of prints showing the entire work as actually installed shall be delivered to the ENGINEER for approval and shall become property of the OWNER.

17. THE ENGINEER'S AUTHORITY

1. The ENGINEER shall have general supervision and direction of the work. The ENGINEER shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, rate of progress of work, interpretation of Drawings and Specifications and all questions as to the acceptable fulfillment of the Contract on the part of CONTRACTOR. All claims of the OWNER or the CONTRACTOR shall be presented to the ENGINEER for decision which shall be made in writing within a reasonable time. All decisions of the ENGINEER shall be final.
2. The ENGINEER shall have the authority to suspend the work, wholly or in part, for such period or periods, as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for prosecution of the work, or failure on the part of the CONTRACTOR to carry out the provisions of the Contract or to supply materials meeting the requirements of the Specifications. The CONTRACTOR shall not suspend operations due to unsuitable weather without the ENGINEER'S permission.
3. In the event of temporary suspension of work or during inclement weather or whenever the ENGINEER shall direct, the CONTRACTOR will and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the ENGINEER, any work or materials shall have been damaged or injured from the weather, by reason of failure on the part of the CONTRACTOR or any of his subcontractors so to protect his work, such materials shall be removed and replaced at the expense of the CONTRACTOR.
4. The ENGINEER shall have the authority at all times to inspect all materials and each part or detail of the work and the CONTRACTOR will be held strictly to the true intent of the Specifications in regard to quality of materials, workmanship and the diligent execution of the Contract. Such inspection may include mill, plant or shop inspection, and any material furnished under these Specifications is subject to such inspections. The ENGINEER shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the CONTRACTOR as is required to make a complete detailed inspection.

5. The ENGINEER shall have the authority at any time before acceptance of the work to direct the CONTRACTOR to remove or uncover any portions of the finished work. After examination, the CONTRACTOR shall restore said portions of the work to the standard required by the Specifications. Should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed shall be paid for as Extra Work, but should the work so exposed or examined prove unacceptable, the uncovering, removing and replacing shall be at the CONTRACTOR'S expense.
6. The ENGINEER shall have the authority to direct the CONTRACTOR to correct work that has been damaged or that was not performed in accordance with the Contract Documents. An equitable deduction from the Contract Amount shall be made to compensate the OWNER from the uncorrected work.

18. THE OWNER'S DUTIES AND RIGHTS

1. The OWNER will provide the land shown on the Drawings upon which the work under the Contract is to be performed and to be used for rights-of-way for access. Any delay in furnishing these lands by the OWNER shall be deemed proper cause for adjustment in the Contract Amount and in time of completion.
2. The OWNER shall have the right to suspend the work or any portion thereof at any time provided that he gives the CONTRACTOR five (5) days written notice of suspension which shall set forth the date on which work is to be resumed. The CONTRACTOR shall resume the work upon written notice from the OWNER and within ten (10) days after the date set forth in the notice of suspension, the CONTRACTOR may abandon that portion of the work so suspended and shall be entitled to payment for all work done on the portions so abandoned, plus 15 percent of the value of the abandoned work to compensate for overhead, plant expense, and anticipated profit.
3. The OWNER, acting upon the recommendation of its ENGINEER, shall have the authority to suspend the work wholly or in part, for such period or periods, as may be deemed necessary, due to unsuitable weather, or such other conditions as are considered unfavorably for prosecution of the work, or failure on the part of the CONTRACTOR to carry out the provisions of the Contract or to supply materials meeting the requirements of the Specifications. The CONTRACTOR shall not suspend operations due to unsuitable weather without the OWNER'S permission.
4. In the event of temporary suspension of work or during inclement weather or whenever the OWNER, acting upon the recommendation of the ENGINEER, shall direct, the CONTRACTOR and his subcontractors will protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the OWNER, acting upon the recommendation of the ENGINEER, any work or materials shall have been damaged or injured from the weather, by reason of failure on the part of the CONTRACTOR or any of his subcontractors to

protect his work, such materials shall be removed and replaced at the expense of the CONTRACTOR.

5. The OWNER shall have the right to correct any deficiencies, without prejudice to any other remedy he may have, upon failure of the CONTRACTOR to perform the work in accordance with the CONTRACT documents, including any requirements with respect to the Schedule of Completion, after five (5) days written notice to the CONTRACTOR and receipt of written approval from the ENGINEER. The cost of the work so performed by the owner shall be paid for by the CONTRACTOR.
6. The OWNER, acting upon the recommendation of the ENGINEER, shall have the authority to direct the CONTRACTOR not to correct work that has been damaged, or that was not performed in accordance with the Contract Documents. An equitable deduction from the Contract Amount shall be made to compensate the OWNER for the uncorrected work.
7. The OWNER shall have the right to terminate the employment of the CONTRACTOR giving ten (10) days written notice of termination to the CONTRACTOR in the event of any default by the CONTRACTOR and upon receiving written notice from the ENGINEER certifying cause for such action in the event of such termination, the OWNER may take possession of the work and of all materials, tools and equipment thereon and may finish the work by whatever method and means he may select. It shall be considered a default by the CONTRACTOR whenever he shall:
 - a. Declare bankruptcy, become insolvent, or assign his assets for the benefit of his creditors.
 - b. Disregard or violate important provisions of the Contract Documents of the ENGINEER'S instructions, or fail to prosecute the work according to the agreed Schedule of Completion including extensions thereof.
 - c. Fail to provide a qualified superintendent, competent workmen or subcontractors, or proper materials, or fail to make prompt payment therefore.

If the right of the CONTRACTOR to proceed is so terminated, the OWNER may take possession of and utilize in completing the work such materials, appliances, supplies, plant and equipment as may be on the site of the work, and necessary therefor. Upon termination of the Contract by the OWNER, no further payments shall be due the CONTRACTOR until the work is completed. If the unpaid balance of the Contract Amount shall exceed the cost of completing the work including all overhead costs, the excess shall be paid to the CONTRACTOR.

If the cost of completing the work shall exceed the unpaid balance, the Contractor and his sureties shall pay the difference to the OWNER. The cost incurred by the OWNER, as herein provided, and the damage incurred through the CONTRACTOR'S default, shall be certified by the OWNER, and approved by the ENGINEER.

8. The OWNER shall have the right to order changes in the work through additions, deletions or modifications without invalidating the Contract. Compensation and time completion affected by the change shall be adjusted at the time of ordering such change.
9. The OWNER shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired; but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the completion of uncompleted work or causes refinishing of completed work, the CONTRACTOR shall be to such extra compensation, or extension of time or both, as the ENGINEER may determine.

19. ASSIGNMENT

Neither the CONTRACTOR nor the OWNER shall sublet, sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

20. ORAL AGREEMENTS

No oral order, objection, claim or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modification.

21. INSURANCE

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required hereunder and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Approval of the insurance by the OWNER shall not relieve or decrease the liability of the CONTRACTOR hereunder. The amounts of such Insurance shall not be less than those enumerated hereinafter. Certificates from the CONTRACTOR'S insurance, carriers stating the coverage provided, the limits of liability, and expiration dates shall be filed in triplicate with the ENGINEER before operations are begun.

- 21.1** The CONTRACTOR shall carry public liability insurance with an insurance company satisfactory to the City so as to save the City harmless from any and all claims for damages arising out of bodily injury to, or death of, any person or persons and for all claims for damages arising out of injury to, or destruction of, property caused by accidents resulting from the use of implements, equipment or labor used in the performance of the Contract or from any neglect, default

omission or want of proper care or misconduct on the part of the CONTRACTOR or of any one in his employ during the execution of the work. Such insurance shall include coverage for blasting and explosion, if explosives are to be used.

21.2 The CONTRACTOR shall carry any other types of insurance as may be required elsewhere in the Contract Documents.

21.3 General Requirements

21.3.1 All insurance policies required in the Contract Documents shall be provided by companies satisfactory to the City. Any insurance carrier utilized to fulfill the insurance requirements of this Contract shall be licensed by the Massachusetts Division of Insurance to do business in the Commonwealth of Massachusetts shall have a minimum A.M. rating. The CONTRACTOR must provide the required insurance at its own expense.

21.3.2 CONTRACTOR shall either (1) require each subcontractor to procure and to maintain during the life of its subcontract, Subcontractor's General Liability and Property Damage Insurance of the same type and in the same manner as specified herein, or (2) insure activities of his subcontractors in his own policy.

21.3.3 Each policy must list the City as an additional insured and shall be primary to and non-contributory to any coverage maintained by the City.

21.3.4 All insurance shall be written on an occurrence basis, unless the City approves in writing coverage on a claims-made basis. Insurance coverage whether written on an occurrence or a claims-made basis shall be maintained without interruption from the date of commencement of the work until the date of final payment and termination of any coverage required to be maintained after final payment.

21.3.5 Certificates of Insurance acceptable to the City and confirming the insurance coverage required herein are attached to the Contract. Certificates of Insurance evidencing (1) either the claims-made or occurrence form coverage, (2) work description/location, (3) CONTRACTOR's corporate name, and (4) naming the City as an additional insured must be furnished to the City within five (5) business days after presentation of the Contract to the CONTRACTOR for execution. The City shall have no obligation to execute the Contract and may award the Contract to the next lowest responsible and responsive bidder, if such insurance certificates have not been provided to the City. The Certificate must provide that the insured will give Notice of Accident and Notice of Claim to the insurance company as soon as practicable after receiving such notice. The CONTRACTOR shall promptly provide the City with Certificates of Insurance evidencing policies' annual renewal.

21.3.6 In the event of paid claims, the CONTRACTOR shall bear costs of any amount deductible.

21.3.7 All insurance policies must contain a minimum thirty (30) day written notice of cancellation clause, and provide that the insurance company will notify the City via registered mail, of any cancellation, change or expiration of the policy. The CONTRACTOR shall furnish to the City copies of any said cancellation, change or

expiration. Prior to the effective date of any such cancellation the CONTRACTOR shall take out new insurance to cover the policies so cancelled. The Insurance Companies shall remain liable, however, until new and satisfactory insurance policies have been delivered to, and accepted by, the City.

21.3.8 In the event of the cancellation of any policy during the term of this Contract, or the failure to keep in effect the insurance required by this section, the City may, on twenty-four (24) hours' notice and at its option, procure or renew such insurance on the account of the CONTRACTOR. The CONTRACTOR agrees to repay the City's expense with interest thereon at the rate of eighteen percent (18%) annually from the date of the expenditure by the City.

21.3.9 The insurance required under 21.4 through shall include all major divisions of coverage and shall be on a comprehensive general basis including Premise and Operations (including X-C-U), Owner's Protective (as a separate policy), Products and Completed Operations, and Owned, Non-owned, Leased, and Hired Vehicles. Such insurance shall be written for not less than any limits of liability required by law or the limits set forth in said insurance amounts under 21.4 through, whichever are greater.

21.3.10 The City reserves the right, at its sole discretion, to amend the insurance requirements contained herein.

21.3.11 The CONTRACTOR and all Subcontractors waive subrogation rights against the City for all losses.

21.3.12 Unless greater amounts of insurance coverage are required elsewhere in the Contract Documents, the amounts of insurance shall not be less than the minimum amounts set forth below.

21.4 **Commercial General Liability Insurance** – for personal injury, bodily injury and property damage in an amount not less than \$1,000,000 for any one person, \$2,000,000 per occurrence and \$3,000,000 in the aggregate covering all work performed on or adjacent to City property including:

All premises and operations; Contractual liability; Coverage for the so-called "X, C, U" hazards, i.e., collapse of building, blasting, and damage to underground property; Products and Completed Operations (for a period of at least two (2) years following acceptance by the City or the completed Contract); Asbestos abatement, when applicable.

21.4.1 This policy (ies) shall include coverage relating to explosion, collapse, and underground property damage and contractual liability coverage.

21.4.2 Additionally, CONTRACTOR shall provide the following coverage against loss or damage by fire and against loss or damage covered by the special perils insurance endorsement on all Work: Special Perils 80% of Contract Price minimum. Upon completion of Work at City buildings, CONTRACTOR shall provide an installation floater, in the full amount of the Contract Price, for the requirements set forth above. The policy

or policies shall specifically state that they are for the benefit and payable to the City, the CONTRACTOR, and all persons furnishing labor or labor and materials for the Work, as their interests may appear.

21.4.3 Personal & Advertising Injury, on an occurrence basis, \$1,000,000 each occurrence.

21.5 **Automobile Liability Insurance** – including the use of all vehicles owned, non-owned, leased and/or hired in an amount not less than \$2,000,000 combined single limit or Bodily Injury, each person in an amount no less than \$ 500,000 and each accident in amount no less than \$ 2,000,000 and Property Damage, each occurrence \$2,000,000.

21.6 **Workers Compensation Insurance** - CONTRACTOR shall provide during the life of this Contract Worker's Compensation Insurance in accordance with the Worker's Compensation Act of the Commonwealth of Massachusetts (G.L. c. 149 § 34A and G.L. c. 152) including Employees Liability Insurance, covering all work as follows:

21.6.1 Coverage A is statutory;

21.6.2 Coverage B in amounts no less than the following: each accident - \$500,000; Disease Policy limit - \$500,000; and Disease- each employee - \$500,000.

Further, in addition to the General Requirements, CONTRACTOR shall provide by insurance for the payment of compensation and the furnishing of other benefits under M.G.L. c. 152 to all persons to be employed under the Contract, and the CONTRACTOR shall continue such insurance in full force and effect during the term of the Contract. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the Contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the City at least fifteen (15) days prior to the intended effective date thereof, which date shall be expressed in said notice.

21.7 **Umbrella Liability Coverage** – in an amount not less than \$5,000,000 combined single limit and \$5,000,000 in the aggregate.

21.8 **Pollution Liability Insurance** - CONTRACTOR shall provide during the life of this Contract Worker's Compensation Insurance in accordance with the Worker's Compensation Act of the Commonwealth of Massachusetts (G.L. c. 149 § 34A and G.L. c. 152) including Employees Liability Insurance, covering all work as follows:

21.8.1 **Pollution Liability Insurance** – for sudden and/or gradual occurrences in an amount not less than \$1,000,000 per occurrence and \$5,000,000 in the aggregate arising out of the work, including but not limited to all hazardous materials identified in the contract;

21.8.2 When applicable, CONTRACTOR will designate the disposal site and furnish a Certificate of Insurance from the Disposal Facility for Environmental Impairment Liability

Insurance for (a) sudden and accidental occurrences in an amount no less than \$3,000,000 per occurrence and \$6,000,000 in the aggregate and (b) non-sudden occurrences in the amount no less than \$5,000,000 per occurrence and \$10,000,000 in the aggregate.

21.8.3 Certificates of Insurance will clearly state the hazardous materials exposure work being performed.

21.8.4 Further, the CONTRACTOR shall be responsible for the confirmation, verification, remediation, and disposal of all environmental impact and hazardous materials consistent with accomplishing the work of the contract documents. The CONTRACTOR shall adhere to the Massachusetts Contingency Plan, U.S. Environmental Protection Agency, Massachusetts Department of Environmental Protection, regulatory groups and bureaus, as well as all state, federal, local, health, and environmental codes, rules, publications, ordinances, regulations, recommendations, and laws consistent with the removal and disposal of Environmental Impact and Hazardous Materials, to include, but not limited to: lead paint, asbestos, presumed asbestos, oils, refrigerants, fluids, chemical waste, general waste, tanks, polychlorinated biphenyls, Mercury, antifreeze, fluorescent light ballasts, capacitors, drums and containers, pigeon guano, dead animals, unknown or unidentified materials, contaminated soils, etc. The edition of the publication and/or governing agency current as of the date of the identification of the environmental impact and hazardous material item shall be used for accomplishing the work of the contract documents.

21.9 Builder's Risk Insurance - covering loss by fire and extended coverage in the amount of the total insurable value of all structures, materials, and equipment to be built and installed. The policy shall indicate the City, the CONTRACTOR, and all subcontractors as the named insured with loss payable to the City as Trustee. The policy shall provide for a thirty (30) day notice to the City of cancellation or restrictive amendment.

21.9.1 A copy of this insurance policy shall be furnished to the City.

21.9.2 The Builder's Risk Insurance shall be obtained before the work is started and shall be maintained until the date of completion of the work, or until the City occupies or otherwise takes possession of the project, whichever occurs first.

21.10 Owner's Protective Liability (requires a separate policy) - in an amount not less than \$2,000,000 per occurrence and \$5,000,000 in the aggregate.

21.11 Optional Insurance

21.11.1 Excess Liability Insurance - The CONTRACTOR may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with the requirements set forth above. Any such amounts must be in addition to the umbrella limits required, must list all underlying policies, and must list the City as an additional insured. Evidence of such excess liability shall be delivered to the City in the same form and manner as the required insurance policies.

21.11.2 Property Insurance - The City does not intend to purchase property Insurance covering the Project or the Work. The City shall not be required to provide such insurance, but the CONTRACTOR may, if it so desires, procure property insurance which will protect the interests of the CONTRACTOR, Subcontractor and Sub-subcontractors in the Work. The CONTRACTOR understands that such property insurance is solely the CONTRACTOR's responsibility, and the CONTRACTOR, its Subcontractors and Subsubcontractors shall have no claim against the City on account of the City's failure to provide such property insurance

21.12 **Limitation Of Liability** - Notwithstanding anything herein to the contrary, the Contractor's maximum aggregate liability for any loss or damages (other than death or personal injury) incurred by the City as a result of or in consequence of the acts or omissions of the Contractor, its employees, subcontractors or agents in the performance of services covered by this Agreement shall not exceed one hundred percent (100%) of the Contract value plus any adjusted value per executed change order; provided, however, that if the Contractor's applicable insurance coverage is greater than this amount, the limit of liability for the Contract shall be the total insurance coverage.

IT IS AGREED AND UNDERSTOOD THAT THE CITY SHALL BE ENTITLED TO RECOVER DIRECT DAMAGES INCLUDING "BENEFIT-OF-THE-BARGAIN" EXPECTATION DAMAGES AND DAMAGES FOR BREACH OF WARRANTY SUBJECT TO THE LIMITATION OF LIABILITY, AND THAT IN NO EVENT SHALL CONTRACTOR BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF REVENUES OR LOSS OR FAILURE TO REALIZE ANTICIPATED SAVINGS OR EFFICIENCIES ARISING IN CONNECTION WITH THIS AGREEMENT.

21.13 **Indemnification of the City** - The Contractor agrees to indemnify, save harmless, and defend the City and all of its officers, agents, and employees from and against any and all third party suits, claims, or proceedings ("Claims"), and any losses, damages, charges or expenses, whether direct or indirect, and liability of every name and nature related to such Claims ("Liabilities") for or due to any loss or injury to persons or damages to real or tangible property to the extent caused by the Contractor or its employees, subcontractors or agents.

22. CONTRACT SECURITY

1. The CONTRACTOR shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and also a labor and materials payment bond in an amount not less than One Hundred Percent (100%) of the Contract price as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract; each such bonds naming the OWNER as obliges under an oblige rider (attached in appendix)
2. The Sureties of all bonds shall be such surety company or companies as are approved by the OWNER, and are authorized to transact business in the State.

3. If at any time the OWNER, for justifiable cause, shall be or become dissatisfied with any surety or sureties then upon the Performance or Payment Bonds, the CONTRACTOR shall within five (5) days after notice from the OWNER to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such bond shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such and acceptable bond to the OWNER.

23. EXTRA WORK

Payment for extra work shall be governed by Sec. 9.03 of the "Standard Specifications for Highways and Bridges", published by the Commonwealth of Massachusetts, Massachusetts Highway Department, dated 1988 including the Supplemental Specifications dated June 15, 2012.

24. EXTENSION OF CONTRACT TIME

When extra work is ordered at any time during the progress of the work which, in the sole judgment of the ENGINEER, unavoidably increases the time for the completion of the work, an extension of time shall be granted.

A delay beyond the CONTRACTOR'S control occasioned by an Act of God, an act of omission on the part of the OWNER or by strikes, lockouts, fires, etc., may entitle the CONTRACTOR to an extension of time in which to complete the work as determined by the ENGINEER, provided however, that the CONTRACTOR shall immediately give written notice to the ENGINEER of the cause of such delay, together with a statement of the portions of work so delayed. Delays in work for which necessary material has not been received by the CONTRACTOR will not be recognized or allowed until after receipt of such necessary material.

25. PROGRESS PAYMENTS

1. The CONTRACTOR may submit once each month, a Request for Payment for work done. The CONTRACTOR shall furnish the ENGINEER all reasonable facilities required for obtaining the necessary information relative to the progress and execution of the work. Each Request for Payment shall be computed from the work completed on all items listed in the detailed breakdown of Contract Amount, less Five percent (5%) to be retained until final completion and acceptance of the work, and less previous payments.

If the ENGINEER determines that the progress of the Work will be benefitted by the delivery to the site of certain materials and equipment, when available, in advance of actual requirement therefore and if such materials and equipment are delivered and properly stored and protected, the cost to the CONTRACTOR or subcontractor as established, by invoices or other suitable vouchers satisfactory

to the ENGINEER, less the retained percentages as above provided, may be included in the progress estimates; provided always that there be duly executed and delivered by the CONTRACTOR to the ENGINEER at the same time a Bill of Sale in form satisfactory to the OWNER, transferring and assigning to the OWNER, full ownership and title to such materials or equipment.

2. Within fifteen (15) days of submission of any Request for Payment by the CONTRACTOR, the ENGINEER shall:
 - a. Approve the Request for Payment as submitted, or
 - b. Approve such other amount as he shall decide is due to the CONTRACTOR, informing the CONTRACTOR in writing of his reasons for approving the amended amount, or
 - c. Withhold the Request for Payment, informing the CONTRACTOR in writing of his reasons for withholding it.

3. Within thirty (30) days from the date of approval of a Request for Payment by the ENGINEER, the OWNER shall:
 - a. Pay the Request for Payment as approved, or
 - b. Withhold payment in whole or in part on an approved Request for Payment to the extent necessary to protect itself from loss on account of any of the following causes discovered subsequent to approval of Request for Payment by the ENGINEER provided he informs the CONTRACTOR and the ENGINEER in writing of his reasons for withholding payment in whole or in part:
 1. Defective Work
 2. Evidence indicating the probable filing of claims by other parties against the CONTRACTOR.
 3. Failure of the CONTRACTOR to make payments to Subcontractors, material suppliers or labor.
 4. Damage to another CONTRACTOR.

26. ACCEPTANCE AND FINAL PAYMENT

When the CONTRACTOR shall have completed the work in accordance with the terms of the Contract Documents, the ENGINEER shall certify his acceptance to the OWNER and his approval of the CONTRACTOR'S final Request for Payment, less any money to be retained for repairs if so specified in the Special Conditions Section of these Specifications, which shall be the Contract Amount plus all approved additions less all approved deductions and less previous payments made. The CONTRACTOR shall furnish evidence that he has fully paid all debts for labor, materials and equipment incurred in connection with the work, following which the OWNER shall accept the work and release the CONTRACTOR except as to the conditions of the Performance Bond, any legal rights of the

OWNER, required guarantees, and Corrections of Faulty Work after final payment and shall pay the CONTRACTOR'S final Request for Payment. The CONTRACTOR must allow sufficient time between the time of completion of the work and approval of the final Request for Payment for the ENGINEER to assemble and check the necessary data.

27. CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

The approval of the Final Request for Payment by the ENGINEER and the making of the final payment by the OWNER to the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for faulty materials or workmanship. The OWNER shall promptly give notice of faulty materials or workmanship and the CONTRACTOR shall promptly replace any such defects discovered within one year from the date of written acceptance of the work. The ENGINEER shall decide all questions arising under this paragraph.

28. SUBSTITUTIONS AND DELETIONS

Substitutions and deletions in the work shall be accomplished by the CONTRACTOR upon written order from the OWNER as approved by the ENGINEER or upon written order from the ENGINEER: which order shall state the reasons for original inclusion and subsequent elimination or substitution for materials, fixtures or equipment; and that the deviation does not materially injure the project as a whole, is in the best interest of the OWNER and is of the same cost and quality as originally specified or giving the amount in dollars of any equitable adjustment to which the parties have agreed.

29. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

30. PROTECTION OF LIVES AND HEALTH

In order to protect the lives and health of his employees under this Contract, the CONTRACTOR and his Subcontractors shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in course of employment on work under the Contract. He alone shall be responsible for the safety, efficiency, ad adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

31. OBSTRUCTIONS ENCOUNTERED

The Drawings may show certain information which has been obtained by the OWNER regarding the existing structure and various pipe lines and other utilities which exist at the location of the project. The OWNER expressly disclaims any responsibility for the accuracy or completeness of the information given on the Drawings with regard to existing structures and utilities, and the CONTRACTOR will not be entitled to any extra compensation on account of inaccuracy or incompleteness of such information, said structures and utilities being shown only for the convenience of the CONTRACTOR, who must verify the information to his own satisfaction. The giving of this information upon the Contract Drawings will not relieve the CONTRACTOR of his obligations to support and protect all utilities and other structures which may be encountered during the construction of the work, and to make good all damages done to such utilities and structures, as provided in these specifications.

32. STANDARD SPECIFICATIONS

For the purpose of governing the work to be done under this contract, the OWNER has adopted as its Standard Specifications format the "1988 Massachusetts Highway Department Standard Specifications for Highways and Bridges; the English Supplemental Specifications, dated July 1, 2015; the Standard Special Provisions contained in this book; the 2014 Construction Standard details; the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)" with revisions; the 1990 Standard Drawings for Signs and Supports; the 1968 Standard Drawings for Traffic Signals and Highway Lighting; the latest edition of American Standards for Nursery Stock, City of Lowell Standards, the Plans, and these Special Provisions.

These Standard Specifications shall apply as if reprinted herein except as modified by the General Conditions, Special Conditions and Technical Specifications.

In case of conflict between these documents, the Supplement to Standards and the Special Provisions of these Specifications shall govern.

SPECIAL CONDITIONS

SUBSECTION

1. Location and Description
2. Duration of Contract
3. Safety Signs, Barricades, etc.
4. Architectural Access Board Tolerances
5. Qualified Superintendent
6. Delivery and Storage of Materials
7. Material Slips
8. Construction Schedule
9. Work Schedule
10. Protection of Utilities and Properties
11. Traffic Control
12. Communication
13. Owner's Rights
14. Daily Cleanup
15. Prevailing Wage Rates – (See Appendix)
16. Record Retention
17. Materials Removed and Stacked
18. Disposal of Surplus Materials
19. Massachusetts Department of Environmental Protection (DEP) File Number Sign
20. As Built Plans

SPECIAL CONDITIONS

1. LOCATION AND DESCRIPTION

The work under this Contract consists of the rehabilitation of the Lawrence Street Bridge over the Concord River. The existing bridge has noted deficiencies such as severe cracking and spalling of the deck, exposed deck rebar, substandard bridge railings, and a partially undermined beam at one of the abutments. The proposed work will correct the deficiencies and remove the weight restrictions on the bridge. Plans call for a complete deck replacement with localized beam and substructure repairs, construction of interior vehicular barriers, new sidewalks, and a lighter pedestrian rail.

The work includes bridge construction, HMA full depth pavement construction, pavement milling and HMA overlay, granite curb, approach sidewalks, temporary traffic controls, pavement markings, and other incidental work.

All work shall take place between the hours of 7:00 AM and 3:30 PM unless otherwise approved by the Engineer.

This work shall be bid on a lump sum basis. The Contract unit price shall include all labor, materials, equipment and incidental costs required to complete the work.

2. DURATION OF CONTRACT

The contract shall be for the period beginning on or about **September 1, 2016** or as stated in the **NOTICE TO PROCEED, WHICHEVER IS LATER** and end on or before **September 1, 2018**.

Failure to complete the work by the dates herein specified, or any proper extensions thereof granted by the OWNER will be subject to liquidated damages.

3. SAFETY SIGNS, BARRICADES, ETC.

The CONTRACTOR shall conduct his operations in a safe manner at all times. The public shall be protected at all times with adequate warning signs, lighted barrels or barricades, warning tapes, etc. around the work area. Safety controls for construction operations shall be done in accordance with the relevant provisions of Section 850 of the Standard Specifications, the Manual on Uniform Traffic Control Devices and the Temporary Traffic Control Plan. The cost of providing and maintaining the signs, barrels, barricades, etc. shall be included in the lump sum cost of the project.

The CONTRACTOR shall provide temporary safe access for pedestrian and vehicle traffic to adjacent properties at all times. The cost of temporary access shall be incidental to the CONTRACTOR'S Total price bid.

When it is determined by the Lowell Police Department that a uniformed Police Officer should be present during working hours for safety of the public in the CONTRACTOR'S area of work, a uniformed Police Officer shall be provided by the Contractor.

Protection of the CONTRACTOR'S work shall be the responsibility of the CONTRACTOR and the cost for any protection of the work shall be included in the CONTRACTOR'S total price bid.

4. ARCHITECTURAL ACCESS BOARD TOLERANCES

The Contractor is hereby notified that they are ultimately responsible for constructing all Project elements in strict compliance with the current AAB/ADA rules, regulations and standards.

All construction elements in this project associated with sidewalks, walkways, wheelchair ramps and curb cuts are controlled by 521CMR – Rules and Regulations of the Architectural Access Board.

The AAB Rules and Regulations specify maximum slopes and minimum dimensions required for construction acceptance. There is no tolerance allowed for slopes greater than the maximum slope or for dimensions less than the minimum dimensions.

5. QUALIFIED SUPERINTENDENT

The CONTRACTOR shall maintain at the work site a qualified superintendent who is acceptable to the ENGINEER, and who shall give efficient supervision to the work until its completion. The Superintendent shall have full authority to act in behalf of the CONTRACTOR, and all directions given to the Superintendent shall be considered given to the CONTRACTOR.

6. DELIVERY AND STORAGE OF MATERIALS

Materials and equipment shall be progressively delivered at the site so that there will be neither delay in the progress of the work nor an accumulation of materials that is not to be used within reasonable time. Approved portions of the right-of-way may temporarily be used for storage purposes but must be removed and cleaned up at the end of the working day. Any additional space required for storage must be provided by the Contractor at his expense.

7. MATERIAL SLIPS

At the conclusion of each working day, the CONTRACTOR shall deliver to the ENGINEER the material slips, in triplicate, for all materials delivered to the job site that day. The ENGINEER shall sign the material slips and retain one copy for the City.

8. CONSTRUCTION SCHEDULE

Within 10 days of Notice to Proceed the CONTRACTOR shall deliver to the OWNER/ENGINEER an estimated construction progress schedule in a format satisfactory to the OWNER/ENGINEER, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract

Documents, including clear identification of the early action items and contract milestones. The schedule shall also identify the anticipated amount of each monthly payment that will become due to the contractor in accordance with the progress schedule. The CONTRACTOR shall provide an updated three week work schedule in writing every Friday thereafter, this shall continue until the project is completed.

Before work is begun on each phase of work, the CONTRACTOR shall discuss fully with the ENGINEER the order and manner of doing the work, and the operating procedures shall comply with the requirements of the ENGINEER.

9. WORK SCHEDULE

The normal hours of operation shall be dictated by the City of Lowell. Extended work hours may be permitted on this project, however, all activities to be performed outside the normal hours of operation shall adhere to the City's noise ordinance which limits construction hours to 7:00AM to 6:00PM. A written request shall be issued by the Contractor for any requested deviation to the work day or times indicated in the contract.

10. PROTECTION OF UTILITIES AND PROPERTY

Written notice shall be given by the CONTRACTOR to all public service corporations or municipal and State officials owning or having charge of publicly or privately owned utilities at least one week in advance of the commencement of operations that will affect the utilities. The CONTRACTOR shall, at the same time, file a copy of such notice with the Engineer.

The CONTRACTOR, in constructing or installing facilities alongside or near sewers, drains, water or gas pipes, electric or telephone conduits, poles, sidewalks, walls, vaults or other structures shall sustain them securely in place. The CONTRACTOR shall coordinate with the officers and agents of the various utility companies and municipal departments to assure that the services of these structures are maintained. The CONTRACTOR shall also be responsible for the repair or replacement, at no additional cost to the OWNER (Department), of any damage to such structures caused by construction operations. The CONTRACTOR is responsible to leave them in the same condition as they existed prior to commencement of the work. In case of damage to utilities, the CONTRACTOR shall promptly notify the utility owner and shall, if requested by the ENGINEER, furnish labor and equipment to work temporarily under the utility OWNER'S direction. Pipes or other structures damaged by the operation of the CONTRACTOR may be repaired by the Department or by the utility owner which suffers the loss. The cost of such repairs shall be borne by the CONTRACTOR, without compensation therefore.

If during construction there is an existing utility and/ or structure found to be in conflict with the proposed work under this Contract, the CONTRACTOR shall protect and maintain the services to the utilities and structures. The ENGINEER will, as soon as possible identify the utilities to be relocated or other such activities deemed suitable for resolution.

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

Full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in protecting or repairing property as specified in this Section, shall be considered included in the lump sum cost of the project and no additional compensation will be allowed therefore.

11. TRAFFIC CONTROL

The intent of this project is to maintain access to all residences and businesses at all times during construction. The CONTRACTOR must furnish all required traffic control, including signals, detour signs, and drums. The CONTRACTOR may not close traffic lanes, roadways, driveways or sidewalks without prior written approval from the OWNER. The CONTRACTOR shall submit a Traffic Control Plan for each job location indicating proposed staging of traffic to complete the required work. No work shall begin on a street until the Traffic Control Plan has been reviewed and approved by the OWNER. The Traffic Control Plan shall show proposed signage and placement of drums for roadway work and accessible pedestrian routes, detours and signage required to provide continuous access along Lawrence Street. When directed by the ENGINEER, the CONTRACTOR shall call for police details which will be paid for by the CONTRACTOR.

During the progress of the work, the CONTRACTOR shall make every effort to maintain access to abutting properties. When it becomes necessary to temporarily block access to a property, the CONTRACTOR shall notify the owner of the property in writing at least two weeks in advance of blocking access so that the property owner can move vehicles and make alternate arrangements.

The cost for preparation of the Traffic Control Plan shall be incidental to the lump sum cost of the project.

12. COMMUNICATION

The CONTRACTOR shall furnish one (1) Apple iPhone, mobile device to communicate with the ENGINEER'S field engineer. The CONTRACTORS foreman/supervisor must have phone to the engineer upon Notice to Proceed. The CONTRACTOR shall pay all phone and maintenance charges within the length of the contract. The CONTRACTOR shall receive no additional compensation for communications for the duration of the contract.

13. OWNER'S RIGHTS

OWNER'S Rights to be exercised by the Department of Public Works wherever in this Contract the OWNER is to give or receive a notice or provisions are included for the exercise of rights and privileges and without limiting the generality thereof, the acts dealing with the OWNER'S prerogatives in the Contract shall be exercised by the

Commissioner of Public Works or his authorized representative for and in behalf of the OWNER.

14. DAILY CLEAN UP

Before completion of each day's work, the CONTRACTOR shall be responsible for cleaning up and removing and relocating all removed material, debris, equipment and the like to ensure the continuous flow of traffic in roadways where work is progressing including access to private property during non-working hours. Sweeping and cleaning of surfaces beyond the limits of the project required to clean up material caused by spillage or vehicular tracking during the various phases of the work shall be considered as incidental to the work being performed under the Contract and there will be no additional compensation.

15. PREVAILING WAGE RATES – (SEE APPENDIX)

Attention of the Bidders is particularly called to the requirements of the conditions of employment to be observed and the prevailing wage rates to be paid on this project, as determined by the State Department of Labor Division of Occupational Safety and the U.S. Department of Labor under the Davis Bacon and related Acts. In the case of differences between the two wage requirements the greater wage shall prevail.

16. RECORD RETENTION

All records pertinent to this contract shall be kept retained for a period of three years from the date of submission of the final project closeout.

17. MATERIALS REMOVED AND STACKED

The CONTRACTOR shall carefully remove, transport and stack all material that, in the opinion of the ENGINEER, is salvageable. The material shall be stacked at a location approved by the City of Lowell. The CONTRACTOR shall coordinate with the City of Lowell to schedule drop-off time and location.

18. DISPOSAL OF SURPLUS MATERIALS

Surplus materials obtained from any type of excavation, and not needed for further use as determined by the ENGINEER shall become the property of the CONTRACTOR and shall be removed from the site during the construction period and legally disposed of. The removal and disposal of surplus material shall adhere to the regulations and requirements of local authorities governing the disposal of such materials, at no additional compensation.

19. MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) FILE NUMBER SIGN

This project is subject to Massachusetts General Laws, Chapter 131, Section 40 as amended. Signs shall be in accordance with the latest MassDOT Construction

Standards. No separate payment will be made for the signs, but all costs for the maintenance, erection, maintenance, moving, and removal of the signs shall be included in the lump sum cost of the project. For this project the Massachusetts Department of Environmental Protection File Number is 206-0723.

20. AS BUILT PLANS

The contractor shall furnish Mylar "AS BUILT" plans of the completed project to the Engineer. These "AS BUILT" plans shall be furnished prior to the date of final acceptance. Full compensation for these plans shall be included in the lump cost project price and no additional compensation will be allowed therefore.

The Engineer will make the original drawings available to the CONTRACTOR for use in preparing the as-built drawings. However, the CONTRACTOR may request a CAD version of the contract drawings as an alternative method for preparing the "AS BUILT" plans. In either case, final "AS BUILT" plans shall contain all information shown on the contract drawings and shall clearly indicate areas where changes were made during construction.

The "AS BUILT" plans shall be titled "AS BUILT" and stamped and dated by a Professional Engineer registered in the Commonwealth of Massachusetts. The Professional Engineer's stamp is required to certify any changes made to the contract drawings and shall not dictate responsibility for the original design drawings.

The "AS BUILT" plans will provide a record of constructed improvements for future reference; therefore partial plan sets will not be accepted. The Contractor may elect to use a combination of the reproducible duplicates of the design drawings and revised CAD drawings to provide a complete set of "AS BUILT" plans.

SPECIAL PROVISIONS

Lowell

Bridge Rehabilitation Br. No. L-15-031 (Concrete) Lawrence Street over the Concord River

SCOPE OF WORK

The work under this Contract consists of the rehabilitation of the Lawrence Street Bridge over the Concord River. The existing bridge has noted deficiencies such as severe cracking and spalling of the deck, exposed deck rebar, substandard bridge railings, and a partially undermined beam at one of the abutments. The proposed work will correct the deficiencies and remove the weight restrictions on the bridge. Plans call for a complete deck replacement with localized beam and substructure repairs, construction of interior vehicular barriers, new sidewalks, and a lighter pedestrian rail.

The work includes bridge construction, HMA full depth pavement construction, pavement milling and HMA overlay, granite curb, approach sidewalks, temporary traffic controls, pavement markings, and other incidental work.

All work shall take place between the hours of 7:00 AM and 3:30 PM unless otherwise approved by the Engineer.

All work under this contract shall be done in conformance with the Massachusetts Highway Department *Standard Specifications for Highways and Bridges* dated 1988, the *Supplemental Specifications* dated July 1, 2015; the *2014 Construction Standard Details*, the *1990 Standard Drawings for Signs and Supports*; the *1996 Construction and Traffic Standard Details*; the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* with *Massachusetts Amendments* and the *Standard Municipal Traffic Code*; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; the latest edition of *American Standard for Nursery Stock*; the Plans and these Special Provisions.

DESIGNER / PROJECT MANAGER

DESIGNER
TEC, Inc.
Jody P. Trunfio, P.E.
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PROJECT MANAGER
City Engineer
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ENGINEERING DIRECTIVES

Contractors can access MassDOT, Highway Division Engineering Directives at:
<http://www.massdot.state.ma.us/highway/publications.aspx>

SUBSECTION 4.04 CHANGED CONDITIONS

This Subsection is revised by deleting the two sequential paragraphs near the end that begin "The Contractor shall be stopped..." and "Any unit item price determined ..." (1/6/2006).

MASSHIGHWAY TO MASSDOT NAME CHANGE

The following definitions in Section 100 of the Standard Specifications for Highways and Bridges are revised as follows:

(Amend definition of Department)

1.17 –Department.... Effective November 1, 2009, St. 2009, c. 25 abolishes the Massachusetts Department of Highways and all assets, liabilities, and obligations become those of the Massachusetts Department of Transportation (“MassDOT”). Anywhere in this contract the terms Commission, Commonwealth, Department of Public Works, Department, Massachusetts Highway Department, MassHighway, Party of the First Part, or any other term intending to mean the former Massachusetts Department of Highways is used, it shall be interpreted to mean MassDOT or applicable employee of MassDOT unless the context clearly requires otherwise. Furthermore, MassDOT by operation of law inherited all rights and obligations pursuant to any contract, and therefore parties to this contract hereby acknowledge and agree that its terms shall be liberally construed and interpreted to maintain the rights and obligations of MassDOT. Furthermore, the parties hereby acknowledge and agree that the transfer of all rights and obligations from the Massachusetts Department of Highways to MassDOT shall not have the effect of altering or eliminating any provision of this contract in a manner that inures to the detriment of MassDOT.

(Add a definition for MassDOT)

1.46 – MassDOT The Massachusetts Department of Transportation, a body politic and corporate, under St. 2009, c. 25 “An Act Modernizing the Transportation Systems of the Commonwealth”, as amended.

PROTECTION OF UNDERGROUND FACILITIES

The Contractor's attention is directed to the necessity of making his own investigation in order to assure that no damage to existing structures, drainage lines, traffic signal conduits, etcetera, will occur.

The Contractor shall notify Massachusetts DIG SAFE and procure a Dig Safe Number for each location prior to disturbing existing ground in any way. The telephone number of the Dig Safe Call Center is 1-888-344-7233.

SHOP DRAWING SUBMITTALS.

(Replace Subsection 5.02, 8th paragraph)

The Contractor shall submit two sets of full-scale shop drawing prints to the Engineer for approval. If corrections are required, one set of the marked-up drawings will be returned to the Contractor for revision and subsequent re-submittal. The Engineer shall make all copies of the approved shop drawings and will distribute the drawings. No changes shall be made to the approved drawings without the written consent of the Engineer.

BIDDERS LIST

Pursuant to the provisions of 49 CFR 26.11 all official bidders will be required to report the names, addresses and telephone numbers of all firms that submitted bids or quotes in connection with this project.

SUBSECTION 4.03 EXTRA WORK

Replace this Subsection with the following:

The Contractor shall do any work not herein otherwise provided for when and as ordered in writing by the Engineer, such written order to contain particular reference to this Subsection and to designate the work to be done as Extra Work.

Unless specifically noted in the Extra Work Order, Extra Work will not extend the time of completion of the Contract as stipulated in Subsection 8.10.

The determination of the Engineer shall be final upon all questions concerning the amount and value of Extra Work (except as provided in Subsection 7.16).

Payment for Extra Work will be provided in Subsection 9.03.

TEMPORARY ACCESS TO RESIDENTS

The Contractor shall provide safe and ready means of ingress and egress to all driveways, businesses, or residences in the project area, both day and night, for the duration of the project.

The Contractor shall minimize the duration of impacts to private property. The Contractor shall provide property owners with a minimum of two weeks' notice prior to performing work that will impact access to private property.

ITEM 102.51
ITEM 102.52

INDIVIDUAL TREE PROTECTION
TEMPORARY TREE PROTECTION FENCE

GENERAL

The purpose of these items is to prevent damage to branches, stems and root systems of existing individual trees as well as shrubs and other quality vegetation to remain, and to ensure their survival. To the extent possible, to avoid soil compaction within the root zone, construction activities including, but not limited to, vehicle movement, excavation, embankment, staging and storage of materials or equipment shall not occur underneath the canopy (drip line) of trees to remain. Where these activities will occur within 10 feet of the canopy of trees or where directed, the Contractor shall take the appropriate protective measures specified herein.

Individual Tree Protection, Item 102.51, shall be used when construction activities are likely to occur within the canopy of individual trees or where there may be any risk of damage to trees.

Temporary Tree Protection Fence, Item 102.52 shall be used to protect areas of existing trees or other areas of quality vegetation that is to remain.

The Contractor shall be solely responsible for judging the full extent of the work requirements, including, but not necessarily limited to any equipment and materials necessary for providing tree protection.

Incidental to the cost of these items, the Contractor shall retain the services of a certified Arborist, who shall make recommendations as to the specific, appropriate treatment of trees within or near the work zone.

Prior to any construction activities, the Contractor and Arborist shall walk the site with the Engineer and City Tree Warden to identify which trees will require protection and to determine approved measures. The Arborist shall make recommendations as to appropriate treatment of trees. The Engineer will have final decision as to the trees to be protected and treatment methods.

The Contractor is responsible for the protection of all existing trees and plants within and immediately adjacent to the construction area that are not designated to be removed for the length of the construction period. Special concern shall be given to the two mature trees on the river bank adjacent to the bridge abutments as specified in the Order of Conditions issued by the Lowell Conservation Commission.

SUBMITTALS

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

ITEM 102.51 & 102.52 (Continued)

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

MATERIALS

Fence and temporary fence posts shall be subject to the approval of the Engineer.

Fencing for individual plants shall be polyethylene fencing or chain link fence (new or used).

Staking for individual tree protection fencing shall be steel posts or 2x4 lumber as directed and approved by the Engineer.

Wood chips shall conform to provisions of Wood Chip Mulch under Materials Section M6.04.3 of the MassDOT Standard Specifications.

Trunk protection shall be 2x4 cladding, at least 8 feet in length, clad together with wire. Alternative materials shall be at the approval of the Engineer. Alternative materials shall provide adequate protection from anticipated construction activities and shall not injure or scar trunk. Trunk protection shall include burlap to separate trunk cladding from bark.

Temporary Tree Protection Fence shall be brightly colored polypropylene barricade or wooden snow fencing for tree protection or safety fencing as shown on the Contract drawings or as directed by the Engineer. Fencing shall be a minimum of 4 feet high and supported by steel or hardwood stakes spaced at a maximum of 8 feet on center or by other means acceptable to the Engineer. Fencing shall be materials and fastenings sufficient to provide sturdy and highly visible separation of the construction activities from the trees and existing plantings to be preserved.

Incidental to these items, the Contractor shall provide water for maintaining plants in the construction area that will have exposed root systems for any period during construction.

METHODS

To the extent possible, to avoid soil compaction within the root zone, construction activities including, but not limited to, vehicle movement, excavation, embankment, staging and storage of materials or equipment shall not occur underneath the canopy (drip line) of trees to remain. Where these activities will occur within 10 feet of the canopy of trees, the Contractor shall provide Individual Tree Protection as specified herein.

For individual tree protection, the Contractor shall set posts and fencing at the limits of the tree canopy. Where construction activities closer to the trees is unavoidable, the contractor shall tie branches out of the way and place wood chips to a depth of 6 inches on the ground to protect the root systems. The Contractor shall wrap the area of the trunk of the tree with burlap prior to armoring with 2x4 cladding. Cladding for tree trunks shall extend from the base of the tree to at least 8 feet from the base.

ITEM 102.51 & 102.52 (Continued)

To the extent possible, temporary landscaped fencing shall be installed at the limit of tree canopy and shall be staked and maintained vertical for the length of the contract.

Where excavation within canopy is unavoidable, the Contractor shall use equipment and methods that shall minimize damage to the tree roots, per recommendations of the Certified Arborist. Such methods may require root pruning prior to, as well as during, any excavation activities.

All fencing, trunk protection, branch protection, and woodchips shall be maintained throughout the duration of the contract. Protective fencing shall be repaired and woodchip mulch replaced as necessary during the duration of the contract at no additional cost.

CUTTING AND PRUNING

Some pruning of roots and branches may be a necessary part of construction. Pruning will be performed on the same side of the tree that roots have been severed.

The Contractor shall retain the services of a Massachusetts State Certified Arborist to oversee any cutting of limbs, stem or roots of existing trees. All cuts shall be clean and executed with an approved tool. Under no circumstances shall excavation in the tree protection area be made with mechanical equipment that might damage the existing root systems.

Any tree root area exposed by construction shall be covered and watered immediately. Exposed tree roots shall be protected by dampened burlap at all times until they can be covered with soil.

WATERING

Water each tree within the construction area where work is in progress twice per week until the surrounding soil of each tree is saturated for the duration of construction activities.

REMOVAL OF PROTECTION

After all other construction activities are complete, but prior to final seeding, wood chips, temporary fencing, branch protection, and trunk protection materials shall be removed and disposed off site by the Contractor at no additional cost.

TREE DAMAGE

The Contractor shall be held responsible for the health and survival of the existing trees in the immediate vicinity of the of the construction area. Damage that, in the Engineer's opinion, can be remedied by corrective measures shall be repaired immediately. Broken limbs shall be pruned according to industry standards. Wounds shall not be painted. Trees or shrubs that are damaged irreparably shall, at the Engineer's discretion, be replaced per the requirements of Division I of these Special Provisions. Cost of replacement trees shall be borne by the Contractor.

ITEM 107.855

PRESSURE INJECTION OF CRACKS

GENERAL

The work under this Item consists of repairing cracks in sound concrete of the existing substructure elements and applies to the Concrete Crack Repair detail shown on the Plans. Existing cracks to be repaired by pressure injection shall be bonded by penetration with an epoxy adhesive in accordance with the epoxy manufacturer's recommendations and the following:

The epoxy adhesive shall be approved by Engineer, and the Contractor shall submit manufacturer's literature completely describing the products to be used. The materials shall be delivered clearly marked with legible and intact labels containing the manufacturer's name, brand name, and identifications of the temperatures that conform to the manufacturer's recommendations and instructions.

The Contractor shall comply with all manufacturer's instructions and recommendations regarding safety. The surrounding work, vehicles, and vegetation shall be protected from damage by epoxy injection materials and operation.

Not included under this item are the repairs to cracks that pass through areas of unsound concrete to be removed under Item 127.12.

The Contractor will perform his own investigations and will "evaluate" and mark out the cracks to be repaired. Before any repairs are made, the Contractor will provide the Engineer clear access to the areas designated for repair. During this time, the Engineer will perform an inspection of the areas and will approve and/or designate the areas where repair will be required. It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure(s) will be available for inspection operations. Notification shall be given to the Engineer at least seven (7) days prior to the inspection date.

The Contractor shall not be allowed to do any injection repair work until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor will not be entitled to any additional costs related to this inspection.

The Contractor shall furnish to the Engineer samples of materials proposed for use at least three weeks prior to scheduled use.

The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures. The field representative shall remain at the job site after work commences and continue to instruct until the Engineer is satisfied that the crew has mastered the technique of installing the system successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor and the Engineer.

ITEM 107.855 (Continued)

The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval by the Engineer. The Contractor shall be completely responsible for the expense of the services of the required field representative.

ITEM 113.1

DEMOLITION OF DECK SLAB

GENERAL

The work under this item shall conform to the relevant provisions of Section 112 of the Standard Specifications and the following:

The work under this item includes, but is not limited to, the removal and satisfactory disposal of the following:

- All existing reinforced and unreinforced concrete used as deck slabs and sidewalks.
- Any existing bituminous concrete, membrane waterproofing, sand or steel curb angles located over the concrete deck or sidewalk to be removed.
- Other material as may be required to properly complete the work and not otherwise included in other items.

The work shall include removing any existing steel plates on the bridge deck and stacking them at a location as directed by the City of Lowell Engineering Department or Department of Public Works. The Contractor shall coordinate a drop-off time and exact location with the City.

The Contractor shall sawcut thru existing bituminous concrete pavement and existing reinforced concrete slabs at removal limits.

The Contractor shall use caution during the demolition of the existing structure to prevent demolition materials from entering the waterway. The Contractor shall utilize methods which remove demolition materials in the largest pieces practical. Temporary Protective Shielding as specified in Items 994.011 and 994.012 is required under the bridge. The cost for additional measures to keep materials from entering the waterway shall be included in the lump sum bid price of the project.

The Contractor shall use caution to prevent any damage to the existing portions of the bridge structure to remain. Any damage to existing structure to remain due to the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Engineer at his/her expense.

The Contractor shall prepare and submit a plan indicating his/her proposed demolition procedures and methods to be used including crane capacity and location, equipment, tools, devices, schedule of operations, provisions to be made for the protection of pedestrians, protection of stone masonry to remain, etc., to the Engineer for approval. The requirements for equipment and all procedures utilized shall be in conformance with the intent of Subsection 960.61D of the Standard Specifications.

ITEM 113.1 (Continued)

The demolition procedures and any necessary Calculations and drawings shall be stamped by a Professional Engineer registered in the Commonwealth of Massachusetts certifying that all existing structural members are suitably braced and supported throughout the demolition process. In determining the stresses to which the retained structure will be subjected, all loading combinations including traffic and the Contractor's equipment at each construction stage shall be considered. The method of determining stresses shall conform to the latest AASHTO Standard Specifications for Highway Bridges. Work under this item may not commence until the Engineer has given written approval.

The Contractor shall take necessary precautions to protect existing utilities from damage during his/her operations.

The City of Lowell does not guarantee or represent that the existing bridge materials will actually coincide with any descriptions contained herein or represented on plans. The Contractor must satisfy himself/herself by his/her own investigation and research regarding all conditions and materials affecting the work to be done.

ITEM 120.1

UNCLASSIFIED EXCAVATION

GENERAL

The work under this item shall conform to the relevant provisions of Section 120 of the Standard Specifications and the following:

The work shall include the excavation of material of every description regardless of the type encountered, from within the project limits as shown on the drawings and as directed by the Engineer, except those materials for which excavation is included with the work specified to be performed under other items of this Contract.

The work shall include the removal and legal off-site disposal of any existing asphalt or cement concrete pavement within the limits of grading where shown on the plans and as directed by the Engineer.

Existing topsoil, which in the judgment of the Engineer is suitable for reuse as Plantable Soil Borrow, may be stripped and stockpiled. Areas outside the limits of grading used for stockpiling excavated or borrow materials shall be regraded to the original grade after stockpile removal and seeded or covered with wood mulch, as directed by the Engineer.

Removal of any temporary pavements placed for the maintenance and protection of vehicular and pedestrian traffic shall be included.

Sawcutting of existing pavement will be paid for under Items 482.3, Sawing Hot Mix Asphalt.

ITEM 127.12 **REINFORCED CONCRETE EXCAVATION**
FOR REPAIRS

GENERAL

The work under this Item shall be to excavate/remove the deteriorated and/or spalled concrete, as may be required, for repairs of reinforced concrete as shown on the Plans and as directed by the Engineer.

All work under this Item shall strictly adhere to the Order of Conditions issued by the City of Lowell Conservation Commission and the Army Corps of Engineers General Permit.

Existing deteriorated concrete shall be removed to the limits of sound concrete as directed by the Engineer and as shown on the Plans. If sound concrete has been reached at more than 1½" from the outside surface, but less than 1" clearance exists between the sound concrete and the inside surface of exposed reinforcing steel, enough sound concrete as is necessary to achieve this 1" minimum clearance shall be removed. The disposal of this sound concrete shall also be included for payment under Item 127.12.

The Contractor shall not damage any existing reinforcing steel in areas where deteriorated or spalled concrete is being removed.

The Contractor shall take all measures necessary to protect pedestrian and vehicular traffic from the construction operations. No debris, tools or incidental equipment of any kind will be permitted to fall into areas used for vehicular and pedestrian traffic. Any material that accidentally falls into such areas shall be removed immediately.

The contractor shall devise, provide and maintain a protective system to prevent excavated concrete from entering the waterway.

Each of the proposed protective systems stamped by a Massachusetts Registered Professional Engineer shall be submitted to the Engineer for approval. The Contractor may be required to change or modify each protective system if it is not performing adequately as determined by the Engineer. No additional compensation will be made for changing or modifying each protective system. The Engineer's approval of the proposed protective systems does not relieve the Contractor of changing or modifying the protective systems without additional compensation.

The Contractor will not be paid for the removal of any concrete beyond the limits described under this item and approved by the Engineer.

ITEM 127.12 (Continued)

METHODS

Inspection of the Concrete Surfaces:

The Contractor will perform independent and individual investigations to "evaluate" and mark out the surfaces of the concrete to determine the areas for repairs. Methods for evaluation shall include non-destructive methods such as visual observations and acoustic impact method using a hammer. The Contractor is referenced to ACI Report 201.1R-92 "Guide for Making a Condition Survey of Concrete in Service" and ACI Report 364.1R-94 "Guide for Evaluation of Concrete Structures Prior to Rehabilitation" in regards to evaluation methods. Before any existing concrete is removed, the Contractor will provide the Engineer clear access to the areas designated for repair. During this time, the Engineer will perform an inspection of the areas and will approve and/or designate the areas where concrete removal and repair will be required. It shall be the responsibility of the Contractor to give at least seven (7) days prior notice to the Engineer, in writing, of the date that a structure will be available for inspection.

Removal of Deteriorated Concrete:

All deteriorated concrete designated for removal under this item shall be removed within the limits shown on the Plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Contractor and suitably marked and subsequently approved by the Engineer. Where several areas to be repaired are very close together, the Engineer may combine these individual repairs into a larger area. The outlines of each such area shall first be cut to a depth of 1/2 inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the outer 1/2 inch depth during sawing operations, the depth of sawcut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge shall be squared up to a vertical edge in an approved manner. Where sawing is impractical, the area shall be outlined by chisel or other approved means.

The removal of deteriorated concrete shall be accomplished by pneumatic or power hammers approved by the Engineer. For concrete removal, the weight of pneumatic or power hammers shall not exceed 35 pounds. Fillets at inside corners of intersecting limit lines shall be carefully removed. After completion of concrete removal, the sides of the patch shall be vertical down to the bottom of the patch.

The minimum depth of concrete removal shall not be less than the specified minimum thickness of repair material.

Before removing concrete, the Contractor shall take adequate precautions to prevent any materials from dropping to any areas below the structure. All debris shall be promptly swept up and removed from the site. All materials shall be satisfactorily disposed of by the Contractor.

ITEM 127.12 (Continued)

Where the existing reinforcing steel is damaged or deteriorated, it shall be supplemented with new reinforcing steel of the same size. Pneumatic tools shall not be placed in direct contact with reinforcing steel. Any sound reinforcing steel damaged during the concrete removal operations shall be repaired or replaced by the Contractor at Contractor's expense as directed by the Engineer. New steel shall be attached beside existing steel with a minimum splice length as indicated on the Plans, or as directed by the Engineer. The concrete shall be removed to a minimum depth of 1 inch below the new steel.

Surface Preparation:

Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare the concrete substrate to obtain a surface profile of ± 0.06 inch with a new exposed aggregate surface. Area to be patched shall not be less than 1/2 inch in depth for repairs using Cementitious Mortar for patching &/or 1 1/2 inch for repairs by using 4000 PSI-3/8 inch-660 Cement Concrete.

If reinforcing steel is exposed, it must be cleaned by hand. Sandblasting, high pressure water, and chemical cleaning shall not be permitted. All cleaning methods shall be in conformance with all applicable environmental permits issued.

After removals and edge conditioning are complete, remove bond inhibiting materials (dirt, grease, loosely bonded aggregate). Check the concrete surfaces after cleaning to insure that surface is free from additional loose aggregate or additional delaminations.

ITEM 184.1 **DISPOSAL OF TREATED WOOD PRODUCTS**

Work under this item shall include the removal and disposal of all treated existing wood product as directed by the Engineer.

GENERAL

Timber components that may be part of the existing structure may be treated with creosote, pentachlorophenol and/or CCA. This item shall include all costs for sampling, laboratory testing, loading, transportation and disposal of the treated wood. The Contractor is required to submit disposal manifests to the Engineer prior to the completion of the project. All aspects of this Item are to be completed in accordance with state and federal regulations.

ITEM 482.3

SAWING ASPHALT PAVEMENT

The work under this item shall conform to the relevant provisions of Section 120 of the Standard Specifications and the following:

GENERAL

The work shall include the sawcutting of existing hot mix asphalt pavements where shown on the plans, and as directed by the Engineer.

Sawcut equipment shall be approved by the Engineer prior to commencing work.

The existing pavement shall be sawcut through its full depth, or to the elevation of the abutting proposed pavement subgrade, whichever is lesser, at all joints between existing and proposed pavements, and at all utility trenches through existing pavement to remain, to provide a uniform, vertical surface for the proposed pavement joint with the existing pavement.

Sawcut edges which become broken, ragged or undermined as a result of the Contractor's operations shall be re-sawcut prior to the placement of abutting proposed pavement at his/her own expense.

Sawcut surfaces in bituminous concrete shall be sprayed or painted with a uniform, thin coat of RS-1 asphalt emulsion immediately before placement of bituminous concrete material against the surfaces. Sawcut surfaces abutting the proposed pavement top course shall be coated with hot-poured rubberized asphalt sealer.

ITEM 657
ITEM 657.5

TEMPORARY FENCE
TEMPORARY FENCE REMOVED AND RESET

GENERAL

Fencing shall conform to the relevant provisions of Section 644 of the Standard Specifications and supplemented by the following:

Work under this item shall include furnishing, installing, removing and resetting and, subsequently, removing a chain link fence located around the work area and staging area as necessary for safety and security. The Contractor will be responsible for providing an acceptable method for the installation of the fence that will provide for the safety and security for which it is intended.

Fence gates for access/egress shall be furnished, installed and maintained by the Contractor, and shall be included in the unit cost. All posts including end, gate, corner and intermediate brace posts shall be included in the unit cost. The fencing height shall be 4 feet minimum if installed on top of concrete barrier and/or 5 feet minimum if installed at ground level. Material need not be new, but shall not be deteriorated, nor in any way jeopardize the security purposes intended. All fencing shall meet the approval of the Engineer.

Posts on the median barrier shall be attached in a manner approved by the Engineer. The Contractor shall be responsible for maintenance of the temporary fence, and shall be responsible and cognizant that it remains secure, and that the area is sealed off at all times to the general public. It may be necessary to remove and reset sections of temporary fence at times to conform to current stage construction.

Fence fabric shall be placed on the face of the post away from the work area. A top tension wire, rather than a pipe top rail, shall be used. The top edge of the fabric shall be finished with a "knuckled" selvage. The fence shall not be removed until the bridge work is complete and safe pedestrian passage is provided. No additional compensation will be paid for resetting and removing the temporary fence.

A minimum of two "NO TRESPASSING" signs shall be mounted on the fencing at the project limits.

ITEM 697.1

SILT SACK

GENERAL

Work under this item shall conform to the relevant provisions of Section 670 of the Standard Specifications and the following:

The work under this item includes the furnishing, installation, maintenance and removal of a reusable fabric sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system. Devices shall be manufactured by ACF Environmental (800)-448-3636; Reed & Graham, Inc. Geosynthetics (888)-381-0800; The BMP Store (800)-644-9223; or approved equal.

All debris accumulated in silt sacks shall be handled and disposed of and considered incidental to this Item.

ITEM 697.2

FLOATING SILT FENCE

GENERAL

Work under this Item shall include installation, maintenance and removal of temporary floating silt fence to prevent any sediment disturbed during construction from reaching adjacent waterways and further dispersing. The fences shall be installed at locations depicted on the Plans.

MATERIALS

Floating silt fence shall be made of a woven polypropylene with a minimum 200 lb. tensile strength. The Contractor shall submit to the Engineer, for review and approval, product specifications and technical data provided by the manufacturer, prior to installation. The fence shall be continuously weighted at the bottom to maintain a vertical submerged position. Anchors shall be placed at both ends of the curtain and at intermediate locations, as necessary, to hold the fence securely in place. The fence shall be installed to withstand the forces of the flow of the waterway.

INSTALLATION

Floating silt fence shall be installed before construction begins and earth is disturbed. Silt fences shall be inspected and approved by the Lowell Conservation Commission Agent after installation and prior to commencement of further construction activities.

The Contractor shall inspect silt fence at least weekly to ensure continuous effectiveness. Fence shall be maintained for effective performance at all times. If any fence becomes damaged or dislodged, construction activities shall be halted until all deficiencies are corrected by the Contractor with no additional compensation. The floating silt fence shall be removed after all construction activities are completed and in such a way that no collected sediment is dispersed into waterways.

ITEM 698.3

GEOTEXTILE FABRIC FOR SEPARATION

GENERAL

Work under this item shall conform to the relevant provisions of Section 140 of the Standard Specifications and the following:

MATERIALS

Geotextile fabric used under grout bags shall conform to the requirements of AASHTO M 288 for the intended application.

Where overlapping of fabric layers is required, the minimum amount of overlap per the manufacturer's specifications shall be provided.

ITEM 767.12

COMPOST FILTER TUBE

GENERAL

The purpose of this item is to provide a linear, compost-filled tube for filtering suspended sediments from storm water flow. This item shall conform to the requirements of Section 751 and 767 of the Standard Specifications and the following.

MATERIALS

Material for the filter tubes shall be compost meeting M1.06.0, except that no manure or bio-solids shall be used. In addition, no kiln-dried wood or construction debris shall be allowed. Particle size analysis: 98% shall pass through a 3 inch sieve; 30-50% shall pass 3/8 inches sieve.

Tubes for compost filters shall be a minimum of 12" and a maximum of 18" in diameter. Tube material shall be a knitted mesh with 1/8" - 3/8" openings, and made of biodegradable (cotton or jute) materials. Photodegradable fabric may be used; however, photodegradable fabric must be removed and disposed of by the contractor, at his expense, at the end of the contract. Additional tubes shall be used at the direction of the Engineer. Submit catalogue cut for Filter Tubes to Engineer for approval. Stakes for anchors, if required, shall be nominal 2x2 stakes.

METHODS

Tubes of compost may be filled on site or shipped. Tubes shall be placed, filled and staked in place as required to ensure stability against water flows. All tubes shall be tamped to ensure good contact with soil. Stakes shall not puncture compost tubes.

The Contractor shall ensure that the filter tubes function as intended at all times. Tubes shall be inspected after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct all deficiencies, including, but not limited, to washout, overtopping, clogging due to sediment, and erosion. The contractor shall review location of tubes in areas where construction activity causes drainage runoff to ensure that the tubes are properly located for effectiveness. Where deficiencies exist, such as overtopping or wash-out, additional staking or compost material shall be installed as directed by the Engineer. Contractor shall remove sediment deposits as necessary to maintain the filters in working condition. The functional integrity of filter tubes shall be maintained in sound condition at all times. Filter tubes that are decomposing, cut, or otherwise compromised shall be repaired or replaced as directed by the Engineer and be incidental to this item.

Filter tube fabric and stakes shall be removed by the Contractor when site conditions are sufficiently stable to prevent surface erosion, and after receiving permission to do so from the Engineer. All biodegradable tube fabric shall be cut and laid flat in place to decompose on-site at the direction of the Engineer. Tube fabric that is not decomposing satisfactorily shall be removed and disposed off-site by the Contractor. At the direction of the Engineer, the Contractor may rake out and seed compost so that it is no greater than 2 inches in depth on soil substrate.

ITEM 816.81 **TEMPORARY TRAFFIC SIGNAL CONTROL**
LOCATION NO. 1

GENERAL

Work under this item shall conform to the relevant provisions of Section 800 of the Standard Specifications, the 2009 Manual on Uniform Traffic Control Devices (MUTCD), and the following:

The work includes furnishing and installing portable traffic signal assemblies, signal heads, retroreflective backplates, wooden strain poles, span and tether wires, signal housings, emergency pre-emption systems, pull boxes, conduit, wires, cables and traffic controllers; also making all electrical service connections, and providing all incidental materials necessary for operation and control of the traffic control signals. Upon completion of the work, the traffic control signal shall be removed.

A list of major traffic signal items required at these locations is included on the Traffic Management Plans (TMP).

The preferred alternative is the placement of a portable traffic signal assembly as the temporary traffic control as shown of the TMP. The contractor may submit an alternative design of the temporary signal housing placement, such as wooden poles and span wire, for review and approval by the Engineer and the City of Lowell, prior to implementation.

PREFERRED OPTION: PORTABLE TRAFFIC SIGNAL ASSEMBLY

The traffic signal shall comply with the National Electrical Manufacturers Association (NEMA) Standard No. TS 2-1998. The portable traffic signal shall be solar powered, and have capability to provide radio and/or GPS interconnect between multiple portable traffic signal assemblies. The portable traffic signal shall have capability to provide sufficient "mast arm" length to position overhead signal heads within the cone of vision as prescribed by the MUTCD 4D.13.

The contractor shall be responsible for monitoring the portable temporary traffic signal light output on a regular basis to ensure MUTCD-compliant operations.

The Contractor will own, operate and maintain this temporary signal during the entire construction period. The Contractor will pay for the power cost. No extra compensation is allowed for the signal equipment relocation or removal.

ALTERNATE OPTION: WOODEN POLES AND SPAN/TETHER WIRES

The preferred alternative is the placement of a portable traffic signal assembly as the temporary traffic control as shown of the TMP. The contractor may submit an alternative design of the temporary signal housing placement, such as wooden poles with span and tether wires, for review and approval by the Engineer and the City of Lowell, prior to implementation. Any such poles and span/tether wire assembly shall conform to signal head placement and temporary pre-emption capabilities as described above.

ITEM 816.81 (Continued)

The Contractor shall not position any construction materials, equipment, or vehicles in such a way that obstructs the visibility of any signal heads. If any signal heads become obstructed, the Contractor shall provide a supplemental signal post with conduit to a temporary, moveable foundation within the applicable approach's cone of vision as specified in the MUTCD at his/her own expense. Shop drawings and a layout plan for the supplemental post and all associated hardware shall be submitted to the Engineer for review and approval prior to installation.

MATERIALS

Temporary Controller

The temporary traffic signal controllers and cabinets supplied shall conform to Section 3 "Controller Units" of the NEMA TS 2 Standard. The traffic controller shall be supplied in a TS 2 Type 1 Configuration as required in the list of major traffic signal items included on the plans for this intersection. Specifically, the controller unit (CU) shall be supplied as actuated controller with NTCIP capabilities; defined as Type A1N in Subsection 3.2 of the NEMA TS 2 Standard.

The controller shall have capability to provide radio and/or GPS interconnect to run seamlessly between the two opposing traffic signal assemblies.

Wooden Strain Poles (Alternate Option Only)

If used, strain poles shall be pressure treated Class IV timber poles with a minimum embedment depth of eight feet. The Contractor shall consider utilities, ground elevations, excavation elevations, and proximity of nearby retaining walls, for all stages of construction when determining the pole length and embedment depth at the time of installation. The Contractor shall position signal heads to conform to horizontal and vertical spacing requirements of the MUTCD at all times.

Service Connection (Alternate Option Only)

Work shall include a new (temporary) service connection from the power source to each controller in conformance with Subsection 813.63 of the MassDOT Standard Specifications. A lever-type meter bypass is to be installed.

Specifications for the bypass must be approved by the appropriate utility company. Any fees associated with this work will be incidental to this item. Contractor shall propose service connection location with alternative design. The Contractor shall determine the exact location from the servicing utility, arrange to complete the service connection, and be responsible for all charges incidental thereto.

Each controller unit shall meet all applicable requirements of the NEMA Standard Publication TS-1 or TS-2 equipment. The Contractor is responsible for all costs associated with relocation and removal of the power equipment and termination of electrical service at the completion of the project.

ITEM 816.81 (Continued)

Traffic Signal Indications

All traffic signal indications (lenses) shall be 12-inch in diameter. Five-inch louvered backplates shall be provided on all signal heads with tunnel visors as noted on the plans. All signal heads shall be equipped with light emitting diode (LED) modules that are on the MassDOT Pre-Approved Equipment List.

All temporary signal heads shall meet the minimum vertical and horizontal visibility requirements of the MUTCD at all times during the construction phases.

Temporary Emergency Preemption System

The temporary emergency vehicle preemption system shall be compatible with the portable controller if portable traffic signal assembly option is utilized.

The emergency vehicle preemption control system shall consist of a data-encoded phase selector to be installed within the traffic controller. This unit will serve to validate, identify, classify, and record the signal from the optical detectors located on support structures at the intersection. Upon receiving a valid signal from the detector, the phase selector shall generate a preempt call to the controller initiating a preemption operation as shown on the plans.

The Contractor shall be responsible for installing two (2) emergency pre-emption detectors. All costs associated with installation and removal of the temporary pre-emption system shall be incorporated into the lump sum bid price of the project.

The optical detectors shall be single input, single output units used to control one approach. All traffic signal installations shall be supplied with a minimum of two optical detectors unless otherwise noted in the major items list.

The phase selector shall be a shelf- or rack-mounted plug-in four channel, dual priority device. The phase selector shall plug into a shelf-mounted single card slot chassis if within a TS-2 cabinet. Programming the phase selector shall be via a PC-based computer utilizing unit specific software. A hard copy of programming data shall be left in the control cabinet. The Contractor shall supply a complete set of interface cables for phase selector to laptop connection.

The Contractor shall install a confirmation strobe at each traffic signal location dependent on final location of the portable traffic signal device unless directed otherwise by the Engineer and after the Contractor coordinates with the City's emergency officials (or their representatives). The confirmation strobe shall serve to validate to the driver of the emergency vehicle that the traffic signal has recognized the preemption call and will initiate the proper preemption sequence. The confirmation strobe shall be a white lens. If a singular confirmation strobe is not visible from both roadway approaches, a second strobe shall be provided at no additional cost.

ITEM 853.22

**TEMPORARY CONCRETE BARRIER
REMOVED AND STACKED**

GENERAL

The work under this item shall conform to the relevant provisions of Section 850 of the Standard Specifications and the following:

The Contractor shall remove the existing temporary concrete barrier on the bridge and at the approaches and stack at a location as directed by the City of Lowell Engineering Department or Department of Public Works.

The Contractor shall coordinate with the City of Lowell a drop-off time and exact location.

ITEM 853.
ITEM 853.32

TEMPORARY RESTRAINED BARRIER
TEMPORARY RESTRAINED BARRIER
LIMITED DEFLECTION

The work to be done under these Items shall conform to the relevant provisions of Section 850 of the Supplemental Specifications and the following.

GENERAL

On the existing bridge, the temporary restrained barrier shall consist of a single-sided concrete barrier bolted, or thru bolted, to the existing concrete slab as shown on the Plans or as required by the manufacturer. The temporary restrained barrier shall be designed to not deflect when struck by an errant vehicle in accordance with the criteria set forth for Test Level 3 of NCHRP 350 or MASH.

On the proposed bridge deck the temporary restrained barrier limited deflection shall consist of a double-faced limited deflection barrier as shown on the Plans. The limited deflection barrier shall allow for a minimum of fifty five (55) inches of clearance between the back or non-roadway face of the barrier to any abrupt change in elevation greater than two (2) inches and shall be designed to deflect no more than twenty eight (28) inches when struck by an errant vehicle in accordance with the criteria set forth for Test Level 3 of NCHRP 350 or MASH. The barrier shall be designed such that anchoring to the new bridge deck is not required however anchoring of the barrier off of the bridge into structural concrete at bridge approaches as approved by the Engineer will be allowed. Anchoring of the barrier off of the bridge into existing pavement will be allowed. All barriers shall be continuously attached to each other by an approved method to form a continuous string including the transition to a different barrier system off of the bridge. Length of continuous barriers attached to one another shall be of minimum length to satisfy the minimum length of need identified as part of the FHWA Testing of the barrier selected.

SUBMITTALS

The Contractor shall supply the FHWA approval letter, manufacturer approved shop drawings and connection and anchorage details and catalog cuts for each barrier type to the Engineer for approval. The manufacturer's shop drawings shall specify the maximum deflection distance the product is approved for, all anchorage details and any additional information necessary. The Contractor's shop drawing submittal shall specify the available distance between the back or non-roadway side of the barrier to the closest fixed object, and location on with relation to nearest edge of open excavation being protected. The submittal should also provide anchorage/installation information relative to the location of installation such as pavement section and/or anchoring element thicknesses and material specifications. When the existing conditions differ over the length of the proposed installation, the Contractor shall supply anchorage/installation information for each condition.

ITEM 909.2 **CEMENTITIOUS MORTAR FOR PATCHING**

GENERAL

A two (2) component polymer-modified cementitious, fast setting, trowel grade structural repair mortar shall be used to patch existing concrete as shown on the Plans in the concrete surface Repair Type I and Repair Type II details and as designated by the Engineer.

This item is for the repair of deteriorated or spalled areas that are no more than 1.5 inches in depth (herein referred to as a surface patch) for horizontal and vertical applications and 3 inches for overhead applications.

The procedure to be used to repair deteriorated or spalled concrete shall be as follows:

The Contractor shall remove all deteriorated or spalled concrete in the areas as shown on the Plans or as designated by the Engineer. Removal of all deteriorated or spalled concrete designated to be removed is provided for under Item 127.12.

The Contractor shall have the approval of the Engineer certifying that all spalled and deteriorated concrete has been removed from the area to be repaired, prior to repairing the deteriorated area. Concrete at the edges of all areas to be patched using Cementitious Mortar for Patching shall be removed to a minimum depth of 1/2" prior to the application of the mortar.

MATERIALS

Materials used to perform this work shall be listed on the MassDOT Qualified Construction Materials List.

SURFACE PREPARATION

Areas to be patched must be clean and sound. All loose and disintegrated concrete shall be removed by means of chipping or an equivalent method to a depth where sound concrete is exposed. Minimum patch depth at edges of patch = 1/2". Remove all contaminants from existing concrete prior to applying mortar. Chipping methods shall be approved in advance by the Engineer.

MIXING

Mix manually or mechanically. The mortar shall be prepared in accordance with the Manufacturer's instructions.

ITEM 909.2 (Continued)

APPLICATION AND FINISH

1. At time of application, surfaces should be damp (saturated surface dry) with no glistening water. Mortar must be worked into substrate filling all pores and voids. Force material against edge of repair, working toward center. After filling, consolidate, then screed.
2. Maximum thickness of application in one pass shall be 1". If the depth of patch exceeds 1", mortar shall be placed in multiple passes of approximately equal thickness to reach the maximum thickness of 1 ½" for horizontal and vertical applications and the maximum thickness of 3" for overhead applications. Before the first pass has achieved an initial set, the surface shall be prepared for the second pass by scratching with a trowel to form a grid of deformation on the surface.
3. Prime as required per the manufacturers literature and work mix into substrate, filling all pores and voids. Avoid puddling of primer on horizontal substrates.
4. Brush mix over the substrate just before placing the repair. Do not prime until ready to patch. Mortar must be placed while prime coat is wet. Dried prime coat must be removed by mechanical means.

CURING

Use fine mist spray of water, wet burlap, or non-solvent approved curing compound if ambient conditions might cause premature surface drying by high temperatures, low humidity and strong winds.

If necessary, protect newly applied mortar from rain. To prevent freezing, cover with insulating material.

LIMITATIONS

1. Mortar minimum application thickness 1/8".
2. Minimum ambient and surface temperatures 7.2 deg. C (45 deg. F) and rising at time of application.
3. Apply only on clean, sound substrate. Surface should be damp but free from standing water (saturated surface dry).
4. Mortar must be mixed to a uniform consistency - no lumps; do not over mix (3 min. maximum).
5. Do not use solvent-type curing compound.
6. Caution: Contains cement and a polymer which may, in certain cases, cause skin irritation. Cleanliness is required. In case of skin contact or contact with eyes, wash thoroughly with water. If eye contact, consult nearest doctor.

ITEM 909.2 (Continued)

MANUFACTURER'S FIELD REPRESENTATIVE

1. The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures. He shall remain at the job site after work commences and continue to instruct until he and the Contractor, Inspector and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector and/or Engineer.
2. The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense of the services of the required field representative and the lump sum bid price of the project should include full compensation for all costs in connection therewith.

ITEM 912. DRILLING AND GROUTING DOWELS

GENERAL

The work under this Item shall consist of drilling and grouting holes in the existing substructure as shown in the Substructure Masonry Crack Repair detail on the Plans, or as directed by the Engineer. Work under this Item shall also consist of potential need to replicate existing shear stirrups where corrosion has occurred. See Shear Stirrup Repair detail on the Plans.

All work under this Item shall strictly adhere to the Order of Conditions issued by the City of Lowell Conservation Commission and the Army Corps of Engineers General Permit.

The work shall include the fabrication and installation of a protective system to prevent any debris and construction materials from entering the waterway.

MATERIALS

As shown on the Plans, dowels shall be steel bent rods meeting the requirements of ASTM A 36. All dowels shall be galvanized according to Standard Specification Section M7. Steel dowels shall be incidental to the work under this Item.

The grout to be used for these dowels shall be a non-shrink cementitious mortar. Materials used to perform this work shall be listed on the MassDOT Qualified Construction Materials List.

CONSTRUCTION METHODS

All dowel holes shall be air drilled provided that the minimum edge distance of 6 inches is observed. Should, in the Engineer's opinion, air drilling be inappropriate due to questionable strength of the existing stone or insufficient edge distance, the dowel holes shall be diamond core drilled. The inner surfaces of diamond core drilled dowel holes shall be scored to develop sufficient keying action. The method of scoring of the dowel hole's inner surfaces shall be subject to the approval of the Engineer. The depth and diameter of the drilled dowel holes shall be as shown on the Plans, except that the depth of drilled hole shall be modified as required to comply with the minimum depth of hole specified in the product literature of the cementitious mortar by the Contractor to develop the full yield strength of the reinforcing bars. The holes shall be blown clear of any debris and shall have the approval of the Engineer prior to the placement of any grout material.

The drilling operation shall be performed without damage to the portion of the structure that is to remain in place. Any damage to any existing portion of the structure that is to remain in place shall be repaired to a condition equal to or better than existing condition prior to the beginning of the Contractor's operations and shall be repaired at the Contractor's expense.

The Contractor shall strictly follow the recommendations of the manufacturer for mixing and placing the grout material prior to the placement of the dowels. The Contractor shall, at a minimum, adhere to the ACI code requirements regarding minimum and maximum temperatures while placing the grout. Any excessive grout around the hole after placement of the dowel shall be struck off smooth while the grout is still fresh.

ITEM 912. (Continued)

SUBMITTALS

The Contractor shall submit the grout manufacturer's literature completely describing the products to be utilized. The materials shall be delivered clearly marked with legible and intact labels containing the manufacturer's name, brand name, and identification of the areas where temperatures conform to manufacturer's instructions and recommendations.

The contractor shall devise, provide and maintain a protective system to prevent excavated concrete from entering the waterway.

Each of the proposed protective systems stamped by a Massachusetts Registered Professional Engineer shall be submitted to the Engineer for approval. The Contractor may be required to change or modify each protective system if it is not performing adequately as determined by the Engineer. No additional compensation will be made for changing or modifying each protective system. The Engineer's approval of the proposed protective systems does not relieve the Contractor of changing or modifying the protective systems without additional compensation.

ITEM 916.03 **CHINK, MORTAR, AND GROUT STONE MASONRY**
PIERS & ABUTMENTS

GENERAL

The work to be included under this item shall include cleaning of stones and joints, chinking of voids with stones and mortar and subsequently solid grouting of internal voids of stone piers and abutments where indicated on the plans or as directed by the Engineer, in accordance with these specifications. The work shall also include the placement of replacement stones at locations where existing stones are missing.

The Contractor shall not be permitted to stage the work from within the waterway. All work must be staged and supported from above. The Contractor shall investigate the time of lowest water and coordinate the work so as to perform work to the lowest practical elevation and maximize the vertical limits of repairs.

All work under this Item shall strictly adhere to the Order of Conditions issued by the City of Lowell Conservation Commission and the Army Corps of Engineers General Permit.

The work shall include the fabrication and installation of a protective system to prevent any debris and construction materials from entering the waterway.

MATERIALS

Chinks shall be sound stone, placed within a flat side in the face of the wall, and firmly wedged between adjacent stone.

The grout used for this item shall be listed on the MassDOT Qualified Construction Materials List. At locations where stones are missing from the existing masonry new stones shall be placed to fill the void. New stones shall be of shape, color and size consistent with the existing masonry. The stone shall be sound durable blasted or field stone free from seams, cracks and other structural defects and of an approved and satisfactory quality and shape.

CONSTRUCTION

All surface or face voids encountered in the masonry work exceeding 2" in width and area greater than 8 square inches, shall be filled with a chinking stone and grouted in place. Chinking stone shall be of the same color and texture as the adjacent stones and of applicable size and shape to tightly fit voids.

ITEM 916.03 (Continued)

Where relatively deep voids exist, the Contractor shall be required to use a mortar hand pump with an approximate minimum delivery pressure of fifty (50) pounds to force the grout as far into the cavities as is practical for this work. If the Contractor wishes to place this grout by other methods, based on his/her previous experience and judgment, he will be allowed to do so upon approval from the Engineer, if his/her method accomplishes the general purpose of this specification. Hand packing and rodding will be permitted where void depths are shallow. Joints shall be cleaned by using proper mechanical or hand tool to remove loose mortar and marine growth prior to filling. After the joints are completely filled, the grout shall be compacted and or pushed into the joints. Joints shall be tooled to match existing joints still in place.

All proportioning and mixing will be performed according to the manufacturer's recommendations. Only enough material shall be mixed that can be placed within the "pot-life" of the material according to the manufacturer's recommendations. It is a requirement of this item that the Manufacturer's Representative be present to instruct the Contractor in the use of their product and provide an aid in determining the method of installation.

The contractor shall devise, provide and maintain a protective system to prevent excavated concrete from entering the waterway.

Each of the proposed protective systems stamped by a Massachusetts Registered Professional Engineer shall be submitted to the Engineer for approval. The Contractor may be required to change or modify each protective system if it is not performing adequately as determined by the Engineer. No additional compensation will be made for changing or modifying each protective system. The Engineer's approval of the proposed protective systems does not relieve the Contractor of changing or modifying the protective systems without additional compensation.

ITEM 992.1 ALTERATION TO BRIDGE STRUCTURE NO. L-15-031

GENERAL

The work to be done under this item shall conform to the applicable provisions of Section 995 of the Standard Specifications and the specific requirements stipulated herein for component parts of this Item 992.1. Where no specific requirement is stated for a particular component, the Standard Specifications shall apply, except for payment. Payment for components shall be included under the Lump Sum price for this Item 992.1

The work under this Item shall include all materials, equipment and labor needed for the completed reconstructed structure. The cost associated with this item shall be fully included in the lump sum bid price for this project.

This item includes all materials and labor necessary to complete the work in accordance with the schedule listed hereinafter under Basis for Partial Payments and all other items that are part of the work for which payment is not provided in the proposal.

4000 PSI, 1 1/2 INCH, 565 CEMENT CONCRETE

The work under this heading shall conform to the applicable provisions of Section 901 of the Standard Specifications with the following additions:

The work includes all of the proposed Cement Concrete required to complete the construction of the moment slabs.

Preformed or premolded filler, joint sealer, paraffin and all other materials (complete in place) at construction joints, deck joints, and all other work considered as incidental to the work involved in furnishing and placing concrete for which payment is not provided elsewhere in the contract, shall be considered as included in the lump sum bid price for this project.

All concrete shall be placed in the dry.

**4000 PSI, 3/4 INCH, 650 HP LIGHTWEIGHT CEMENT CONCRETE
5000 PSI, 3/8 INCH, 710 HP LIGHTWEIGHT CEMENT CONCRETE**

The work includes all of the proposed Cement Concrete required to complete the construction or reconstruction of the bridge deck, sidewalks, and BR-2 bridge pedestals.

The Contractor shall be responsible for designing the concrete mixture and determining the proportions of cement, fine aggregate, coarse aggregate, water and air-entraining admixture which will produce a workable sand-lightweight concrete mix meeting the following criteria:

ITEM 992.1 (Continued)

28 Day Air Dry Unit Weight (max.):	115 pounds per cubic foot, determined in accordance with ASTM C567
28 Day Compressive Strength (min.):	4000 psi
Slump:	2 inch+/- 1 inch (AASHTO T 119)
Air Content:	6% +/-1/2% (ASTM CI73)
Cement Content (min.):	650 lbs. per cubic yard
28 Day Air Dry Unit Weight (max.):	115 pounds per cubic foot, determined in accordance with ASTM C567
28 Day Compressive Strength (min.):	5000 psi
Slump:	2 inch+/- 1 inch (AASHTO T 119)
Air Content:	6% +/-1/2% (ASTM CI73)
Cement Content (min.):	710 lbs. per cubic yard

The sand-lightweight concrete shall be proportioned by weight. It shall be designed and proportioned in accordance with the applicable requirements of ACI Standard 211.1, "Recommended Practice for Selecting Proportions for Structural Lightweight Concrete", 213R, "Guide for Structural Lightweight Aggregate Concrete" and Article 4.6 of Division 2 of the 1996 AASHTO Standard Specifications for Highway Bridges.

The sand-lightweight concrete mix shall be designed by a testing laboratory, approved by the Department, retained by and at the Contractor's expense.

The design mix, along with all the test results and enough materials to produce 10 cubic feet of sand-lightweight concrete shall be submitted to the Engineer for approval of the mix design.

All sand-lightweight concrete shall have good workability and other properties such that proper placement, consolidation, and finishing are obtained. Lightweight aggregates and sand shall be batched by weight.

Sand-lightweight concrete shall be placed, finished, cured and protected. It shall be consolidated with vibrators taking care to provide uniform consolidation without over-vibration if required.

The manufacturer of the lightweight aggregate shall supply a technical representative at the site for the first day of lightweight concrete placement operations. The representative shall be responsible to assist the Contractor and the Engineer in the control of lightweight concrete mixing and placement operations.

A technical report shall be submitted to the Engineer, by the lightweight aggregate manufacturer, regarding any observations or test results relative to the concreting practices at the work site.

ITEM 992.1 (Continued)

No lightweight concrete shall be placed when the temperature of the concrete mixture is 90 °F, or greater. Also, no placement will be allowed if weather forecasts indicate that air temperatures of 100 °F, or greater, will occur within four (4) hours of the proposed placement time.

In order to maintain a record of the strength gain of all sand-lightweight concrete placed, the Contractor will make standard size concrete test cylinders for compressive strength and other tests of the concrete used during the course of construction. The Contractor shall provide the concrete and molds for the test cylinders, shall be responsible for handling and protection of the cylinders on the job site, and shall arrange for delivery of the cylinders to the laboratory designated by the Engineer.

The cylinders will be made and cured in accordance with the requirements of ASTM C31. In general, one set of cylinders will be made for each 50 cubic yards, or fraction thereof, placed each day and/or as directed by the Engineer. Each set shall consist of six (6) cylinders. Two cylinders of each set will be tested at three days for the purpose of determining whether or not the concrete represented by the cylinders has acquired sufficient strength to safely support its own dead weight and any loads that may be imposed thereon; two cylinders of each set will be tested at seven (7) days and the remaining two at twenty-eight (28) days.

If the results of a seven day cylinder test indicate that the concrete may not develop the minimum twenty-eight (28) day strength specified, the Engineer reserves the right to order the Contractor to immediately core the portion of the concrete structure represented by that cylinder for testing purposes. The coring shall be made of the size and at locations ordered by the Engineer. The core holes shall be filled with sand-lightweight concrete of the specified mix design. The perimeter surface of the core hole shall be coated with epoxy bonding compound meeting the requirements of Subsection M4.05.5. If the results of the core tests indicate that strength is not sufficient to produce a satisfactory strength at twenty-eight (28) days, the portion of the concrete structure represented by the core, as delineated by the Engineer, shall be removed, disposed of, and replaced with new construction as directed by the Engineer. If the results of the core tests indicate, in the sole opinion of the Engineer, that satisfactory twenty-eight (28) day strength may yet be realized; possible rejection of the concrete in question will be deferred until the 28-day cylinders are tested. If a 28-day cylinder breaks at a strength below the required value, the Engineer reserves the right to immediately reject the concrete represented by the cylinder, ordering such construction removed and replaced within designated limits, or he/she may permit the Contractor to perform additional coring. If additional coring is permitted, the Engineer will either accept or reject the concrete represented on the basis of the 28-day core tests and all previous tests. The Engineer's decision in these cases shall be final and conclusive. Methods of removal and replacement of the defective concrete shall be of the Contractor's option, subject to the approval of the Engineer.

ITEM 992.1 (Continued)

In the event that, during the course of construction, and following satisfactory 7-day cylinder tests, a 28-day concrete cylinder breaks at a compressive strength lower than that specified for that class, the Engineer reserves the right to immediately reject the concrete represented by the cylinder, ordering such construction removed and replaced within designated limits, or he/she may permit the Contractor to perform coring wherever ordered. If coring is permitted, the Engineer will either accept or reject the concrete represented on the basis of the 28-day core tests and all previous tests. The Engineer's decision in these cases shall be final and conclusive. For concrete work that is accepted by the Engineer, core holes shall be filled with sand-lightweight concrete.

Removal and replacement of deficient concrete, as previously outlined, shall be entirely at the Contractor's expenses.

METHACRYLATE CRACK SEALER

Cement Concrete crack sealing requirements defined herein are for the sealing of the construction joints in the cast-in-place cement concrete to prevent water infiltration to the steel reinforcement bars. The crack sealing shall only be required where shown on the bridge plans. Cracks (construction joints) shall be sealed after construction movement is substantially stable and before the structure is open to vehicles.

Crack sealing materials shall conform to M4.05.06 Methacrylate Crack Sealer. Methacrylate crack sealer shall consist of a high molecular weight low viscosity methacrylate monomer that when catalyzed will produce a crack-healer/penetrating-sealer that is a rapid-curing, modified methacrylate resin. The methacrylate shall have the following physical properties:

<u>Property</u>	<u>Value</u>	<u>Test</u>
Viscosity	< 25 cps	ASTM D2393
Bond Strength	> 1500 psi	ASTM C882
Tensile Elongation	20% - 30%	ASTM D638

Crack sealing materials shall be applied by skilled applicators under a supervisor with proven successful experience in applications with similar scopes of work. Crack sealing materials shall be applied when the concrete and the ambient air temperatures are above 40°F (4°C). If a heated enclosure is used to accomplish this, the heating units shall be properly vented to the outside of the enclosure to prevent products of combustion from exhausting within the enclosure. Before containers of sealing materials are opened, the labels shall be checked and the label information shall be documented. If multi-component systems are used, mixing shall be completed prior to application. Manufacturer's instructions shall be followed. An initial crack sealing demonstration application shall be satisfactorily made in the presence of the Engineer before the application is continued. Before sealing, the concrete must be clean, sound, and free of contaminants and surface moisture. Any curing compounds, sealers, oils, greases, coatings, or other impregnations shall be removed by hand (sandblasting is not permitted). Once any concrete surface contaminants are removed, the concrete shall be swept clean and blown off using oil free compressed air immediately prior to applying the sealer.

ITEM 992.1 (Continued)

EPOXY BONDING COMPOUND

Epoxy bonding compound shall be applied to the existing reinforcing steel and concrete, immediately prior to placing the concrete.

TOP OF FORM ELEVATIONS

The Top of Form elevations will be determined based on field measurements taken by the Contractor. See Construction Methods below for procedure.

CONSTRUCTION METHODS

Concrete Deck

After the deck is removed but before the forms are installed, the elevations on top of the beams are to be obtained at the points indicated on the table. The difference between the elevations obtained and those shown in the table gives the actual blocking distance from the top of the beam to the bottom of the slab at the beam centerline.

Top of form elevations shall be recorded on the appropriate spaces provided on the table above once field measurements have been obtained through survey during construction.

Blocking distance (variable) will be furnished by the Engineer within seven working days from the time the existing deck is removed and top of beam elevations are provided by the Contractor.

At least 30 calendar days prior to the proposed start of placing the concrete bridge deck, the Contractor shall submit to the Engineer for approval, a submission (herein called the Placement and Curing Plan) specifying the method of concrete conveyance, placement, type and number of finishing machines and work bridges, rate of pour, estimated time of completion, screed and rail erection plan, sequence of concrete pours, and the concrete curing procedure. The Placement and Curing Plan shall take into consideration weather conditions. It shall also include details and a complete description of equipment to be used in the handling, placement, finishing and curing the concrete including the number and type of personnel who will be engaged in the operation. The personnel shall consist exclusively of persons with the experience and skill appropriate to their working assignment. Approval of this plan will not relieve the Contractor of the responsibility for the satisfactory performance of his/her methods and equipment.

ITEM 992.1 (Continued)

The Placement and Curing Plan shall include, but not be limited to, the following:

1. Proof of the following minimum operator qualifications for the bridge deck finishing machines(s):
 - a. Five years' experience operating machines of similar type and manufacturing as that proposed.
 - b. Proof of no less than five bridge decks of similar size, placed using a machine of the same manufacturer as that proposed.Or, as a substitute for a. and b.:
 - c. A representative of the manufacturer of the bridge deck finishing machine shall be present on the site a minimum of 24 hours in advance of the proposed deck placement to approve the setup of the machine and rail system, and the representative shall be present for the entire duration of the placement of the deck concrete using the bridge deck finishing machine.
2. Provisions for the consolidation of cement concrete. At least one vibrator shall be in service per each 30 cubic yards per hour of cement concrete placed with at least 2 vibrators in service at all times.
3. Curing method. At least two workers shall continuously place wet burlap curing materials from a dedicated work bridge from the start of the deck placement until the deck is completely covered with wet burlap.
4. When cold weather is reasonably expected during the 14 day wet curing period, or has occurred within 7 days of anticipated concrete placement, the Contractor shall include detailed procedures for the production, transporting, placing, provisions for enclosures, protecting, curing, and temperature monitoring of concrete during cold weather, including a plan of heating devices, types and locations around structure.
5. Method of monitoring temperature of hardened concrete. The method of monitoring concrete temperatures shall be submitted regardless of whether cold weather is expected during the 14 day wet cure period.
6. Letter certifying that the fogging equipment attached to the finishing machine produces atomized water droplets with an average droplet diameter of 0.003 inches or less that are uniformly distributed at a rate of at least 0.10 gallons/square foot/hour.
7. Backup systems as required.

Before concrete placement operations begin, the Contractor shall make all necessary arrangements and have all materials on hand for curing and protecting the concrete deck. Concrete placement shall not proceed until the Engineer is satisfied that all necessary steps have been taken to insure adequate compliance with these Specifications and that completion of the operation can be accomplished within the required scheduled time. It shall be the Contractor's responsibility to allow sufficient time to permit such an inspection by the Engineer.

ITEM 992.1 (Continued)

A pre-placement meeting shall be held between the Contractor and the Engineer at least 2 weeks prior to the start of any concrete placement for the deck slab. The Contractor and the Engineer shall review all aspects of the proposed deck slab concrete placement, as documented in the approved Placement and Curing Plan, including, but not limited to, the following:

- Equipment proposed for use and for back-up;
- Planned workforce and assigned tasks of each designated position, based on experience and expertise;
- Proposed construction techniques;
- Safety considerations;
- Concrete mix design;
- Admixtures and performance data; dosage rates shall be as approved;
- Proposed placement rate, provisions for adverse weather, curing and loading schedules;
- Curing Practices to be employed as well as the workforce designated to the curing process;
- Delivery/conveyance equipment, including deck finishing machine setup and operation;
- Traffic control.

No concrete shall be placed until the Engineer approves all aspects of the proposed placement. Modifications must be submitted in writing to the Engineer for approval. No concrete shall be placed until the environmental conditions are deemed favorable and satisfactory means to mitigate adverse environmental conditions exist. Favorable environmental conditions are defined as an expected weather forecast suitable for concrete placement during the entire placement duration with an evaporation rate not to exceed 0.15 lbs./ft²/hr., or suitable equipment and appropriate actions are taken, as approved by the Engineer, to limit the evaporation rate of the exposed concrete surface to less than 0.15 lbs./ft²/hr. and acceptable curing temperatures are expected for the duration of the curing period.

The Contractor shall provide any necessary means to mitigate adverse weather conditions and curing temperatures with the approval of the Engineer. Failure to maintain acceptable environmental conditions will result in the concrete placement being stopped and a bulkhead put in place. Concrete temperature will be taken from the same sample used for slump and air content tests. These measurements will be taken prior to commencement of concrete placement.

If, in the Engineer's opinion, significant changes occur in atmospheric conditions, additional atmospheric measurements and calculations by the Contractor will be required. The Contractor will supply all instruments necessary to make the required calculations, will perform the tests in the presence of the Engineer, and will document the results on the attached "Bridge Deck Placement Environment" table which shall be given to the Engineer for approval and incorporation in the contract documents files.

ITEM 992.1 (Continued)

A trial placement of at least 3 cubic yards using the approved Cement Concrete mix design shall be required a minimum of two weeks before the intended date of the deck slab placement. The Contractor will be required to demonstrate proper mix design, batching, placement, finishing and curing of the Cement Concrete deck slab. The trial placement shall simulate the actual job conditions in all respects including plant conditions, transit equipment, travel conditions, admixtures, forming, placement equipment, and personnel. If there are problems, the Engineer may require the Contractor to conduct more trial batches and trial placements. Removal of the trial placement concrete from the job site is the responsibility of the Contractor.

In addition to the requirements contained herein, all weather and concrete temperature requirements contained in Subsection 901.64 of the MassDOT Standard Specifications shall be satisfied. Cement concrete for bridge decks shall not be placed when the ambient air temperature exceeds 85°F or is expected to exceed 85°F during the placement of the deck. When placing concrete, the Contractor must provide suitable equipment and take appropriate actions as approved by the Engineer to limit the evaporation rate of the exposed concrete surface to less than 0.15 lb./ft²/hr. The deck surface evaporation rate shall be determined in accordance with Figure 1 of MassDOT Standard Specifications (obtained from "Plastic Cracking of Concrete" by Delmar Bloem for the National Ready Mixed Concrete Association and published in ACI 305R-89) and all data contained in the Bridge Deck Placement Environment table below shall be determined by the Contractor and agreed upon by the Engineer prior to and after casting the bridge deck. To maintain the deck surface evaporation rate below 0.15 lb./ft²/hr. the Contractor shall take one or more of the following actions:

1. Misting the surface of the concrete with pressurized equipment attached to the finishing machine until the curing cover is applied. The water mist shall be distributed at a rate of at least 0.10 gallons/square foot/hour. For example, on a deck that is 30 feet wide, the system must be able to apply at least 3.0 gallons of water per linear foot per hour. The fog spray must be produced from nozzles that produce an atomized fog mist that will maintain a sheen of moisture on the concrete surface without ponding. The atomized water droplets shall have an average droplet diameter of 0.003 inches or less. The area of coverage from each nozzle shall overlap all adjacent coverage areas by at least 12 inches. Water that drips from the nozzles shall not be allowed to fall onto the concrete that is being cured.
2. Reduce the temperature of the concrete.
3. Reschedule the placement until such time as the environmental conditions are acceptable, such as at night or during early morning hours.

ITEM 992.1 (Continued)

Bridge Deck Placement Environment						
City/Town:				Date:		
Bridge Number:				Contract Number:		
Start Station:				End Station:		
	Time Measured	Air Temp.	Relative Humidity (%)	Concrete Temp.	Wind Velocity	Evaporation Rate
Prior to Casting						
After Casting						
Signature - Contractor's Authorized Representative:				Printed Name:		
Signature – MHD Resident Engineer:				Printed Name:		

ORNAMENTAL PEDESTRIAN RAIL

The work to be done under this heading shall conform to the relevant provisions of Section 975 of the Supplemental Specifications and the following:

The ornamental pedestrian rail shall be as detailed on the Plans. The Contractor shall submit shop drawings to the Engineer for approval detailing all elements of the proposed system. Furnishing and installation shall be in compliance with fabricator and/or manufacturer specifications.

ITEM 994.011 **TEMPORARY PROTECTIVE SHIELDING**
OUTSIDE FASCIA BEAMS BRIDGE NO. L-15-031

ITEM 994.012 **TEMPORARY PROTECTIVE SHIELDING**
BETWEEN FASCIA BEAMS BRIDGE NO. L-15-031

GENERAL

The work done under these items shall be to design, furnish, install, maintain, remove and finally dispose protective shielding systems on and under the bridge. The shielding shall protect the waterway from debris and personnel on and under the bridge from falling or flying debris during the concrete deck removal. The Contractor shall submit calculations and detailed drawings of the proposed shielding to the Engineer for approval. These calculations and drawings shall be stamped by a Professional Engineer registered in Massachusetts.

The shielding shall conform to the following:

1. Shielding shall be designed such that impact on traffic during installation and removal will be minimal. The Contractor shall submit his/her traffic plan to the Engineer for approval.
2. Shielding shall be in place prior to start of deck removal.
3. Under stage construction, it shall extend transversely a minimum of one beam beyond the limits of the deck excavation stage and/or longitudinally 8'-0" beyond anticipated deck excavation.
4. Shielding shall not lessen the existing vertical clearance under the bridge.
5. Shielding shall extend the full length of the bridge and a sufficient distance above and beyond the deck overhang at the fascias.
6. Shielding shall have all spaces along the perimeter and at the seams sealed to prevent dust and debris from escaping and falling on the waterway below the bridge.
7. Shielding shall be designed to safely withstand all loads that it will be subjected to. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges. The Design shall also include a complete description of the equipment and construction methods proposed for the deck removal and also the maximum size of deck area being excavated.
8. Shielding shall be installed or removed only upon approval of the Engineer.

No debris shall be swung over traffic on the bridge.

Contractor will not be permitted to drill into or cut in the tensile zone areas of any existing structural beams without prior approval from the Engineer.

If the Contractor's operations damage any existing portions of the bridge that have been designated to be retained in the proposed construction, such damage shall be repaired at the Contractor's expense.

All materials used in the shielding system shall become the property of the Contractor and shall be removed from the site at the completion of the project.

ITEM 997.0

GROUT BAGS

GENERAL

The work to be included under this item shall consist of furnishing all labor, materials, and equipment for installing fabric-formed concrete grout bags as indicated on the contract plans.

The work shall consist of installing grout filled fabric bags, as indicated in the contract drawings, by positioning the fabric bags around the substructure undermined areas and injecting them with grout.

All work under this Item shall strictly adhere to the Order of Conditions issued by the City of Lowell Conservation Commission and the Army Corps of Engineers General Permit.

MATERIALS

Grout: Portland cement concrete shall consist of nine bags, 94 lb. per cubic yard Type II Portland cement, air entrained, $6 \pm 1\%$ mortar sand aggregate, and water so proportioned to provide a pumpable mixture. The 28 day minimum day strength shall be 3500 psi.

Bags: Fabric bags shall be made of high strength water permeable material. Each bag shall be provided with a self-closing inlet valve, to accommodate insertion of the concrete hose. A minimum of two valves shall be provided for bags more than 20 ft. long. Seams shall be folded and double stitched.

Geotextile: The geotextile filter fabric shall conform to the requirements stated under Item 698.3 for geotextile fabric for separation.

CONSTRUCTION

The fabric bags shall be positioned over a geotextile filter fabric at their approximate design location. The contractor shall make the appropriate allowance for contraction of the fabric bag in each direction which will occur as a result of grout injection. The bags shall be positioned and filled so that they abut tightly to each other and to the substructure units. Joints between bags in successive tiers shall be staggered.

Fabric porosity is essential to the successful execution of this work. Suitability of fabric design shall be demonstrated by injecting the proposed mortar mix into three 2 ft. long by approximately 6 in. diameter fabric sleeves under a pressure of not more than 15 psi which shall be maintained for not more than 10 minutes. A 12 in. long test cylinder shall be cut from the middle of each cured test specimen and tested in accordance with ASTM C 39. The average seven day test compressive strength of the fabric form shall be at least higher than that of companion test cylinders made in accordance with ASTM C 31.

ITEM 997.0 (Continued)

Standoffs to provide a uniform cross section shall be used.

The concrete pump shall be capable of delivering up to 25 yd³/hr.

Installation of grout bags shall strictly adhere to the manufacturer's instructions, including but not limited to qualifications of workers and divers installing the grout bag system.

ITEM 999

CONSTRUCTION STAKING

GENERAL

Under this item, the Contractor shall layout and set all baselines, grades, and measurements necessary for construction of the work. Information for horizontal and vertical control will be provided to the Contractor upon contract award.

All staking shall be directed and performed by qualified engineering or surveying personnel who are trained, experienced and skilled in construction layout of the type required under this Contract. The Contractor shall submit the qualifications of the survey personnel to the Owner for review and approval. The Owner reserves the right to reject any personnel which, in the Owner's judgment, are not adequately qualified. The Owner also reserves the right to evaluate the performance of the survey personnel during the course of the work and to require the replacement of any personnel whose work, in the judgment of the Owner, is unsatisfactory.

The Engineer may check the layout as established by the Contractor at any time as the work progresses. The Contractor shall be informed of the results of these checks, but the Engineer by doing so in no way relieves the Contractor of his responsibility for the accuracy of the layout work.

The Contractor shall correct or replace any deficient layout and construction work which may be the result of inaccuracies in the Contractor's layout at no additional cost to the Owner.

ITEM 999.1

POLICE SERVICES ALLOWANCE

GENERAL

The Contractor shall furnish police services required to direct traffic on existing roadways where traffic is maintained. The Contractor shall provide such police officers as may be deemed necessary by either the Engineer or the City for the direction and control of all traffic traveling within and through the project area. The police officers shall be obtained from the City of Lowell Police Department as applicable. The police officers shall be paid by the Contractor at the prevailing rate of wages established by the City of Lowell. Police employed by the Contractor on a temporary basis are considered to be employees of the Contractor, and the Contractor shall issue W-2 "Statements of Earnings and Taxes Withheld" to the employees and must submit copies thereof to the Massachusetts Department of Taxation and Corporations in the usual manner prescribed by law.

ALLOWANCE OF POLICE SERVICES

An allowance of Twenty Thousand Dollars (\$20,000) for the furnishing of police services has been included in all bids. This allowance is determined by multiplying the number of hours estimated as necessary by the prevailing hourly rate of wages established for such services. The Contractor shall submit certified copies of itemized bills of services rendered for review and approval by the Engineer. The allowance will be adjusted to the actual amount paid for authorized and approved police services as stipulated and shall include other payments due to any legal requirements of the State and Federal governments.

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APPENDIX A – PROJECT PLANS

**** UNDER SEPARATE COVER ****

**PREPARED BY: TEC, INC.
SIGNED & STAMPED BY: Jody P. Trunfio, P.E.
DATED: 4/28/2016**

APPENDIX B – ENVIRONMENTAL PERMITS

ORDER OF CONDITIONS, DATED FEBRUARY 2014

PROJECT NOTIFICATION FORM, DATED MARCH 2014

US ARMY CORPS OF ENGINEERS SELF-VERIFICATION NOTIFICATION FORM

**DEPARTMENT OF THE ARMY GENERAL PERMITS FOR MASSACHUSETTS,
DATED FEBRUARY 2015**



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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

A. General Information

Please note:
this form has been modified with added space to accommodate the Registry of Deeds Requirements

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. From: Lowell
Conservation Commission

2. This issuance is for (check one):
a. Order of Conditions b. Amended Order of Conditions

3. To: Applicant:
Lisa DeMeo, P.E.
a. First Name b. Last Name

City of Lowell Engineering Dept.
c. Organization

375 Merrimack Street 3rd Floor, Room 61
d. Mailing Address

Lowell MA 01852
e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):
a. First Name b. Last Name

c. Organization

d. Mailing Address

e. City/Town f. State g. Zip Code

5. Project Location:
Lawrence Street over Concord River Lowell
a. Street Address b. City/Town

205
c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: 42d37m69s -71d17m89s
d. Latitude e. Longitude



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

Provided by MassDEP:
 206-0723
 MassDEP File #
 eDEP Transaction #
 Lowell
 City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

a. County _____ b. Certificate Number (if registered land) _____

c. Book _____ d. Page _____

7. Dates: 1/22/2014 2/12/2014 2/24/2014
 a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

See attached "Additional Plans & Documents - DEP# 206-0723

a. Plan Title _____

b. Prepared By _____ c. Signed and Stamped by _____

d. Final Revision Date _____ e. Scale _____

f. Additional Plan or Document Title _____ g. Date _____

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

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

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

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

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



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

Provided by MassDEP:
 206-0723

MassDEP File # _____

eDEP Transaction # _____

Lowell

City/Town

B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) _____ a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input checked="" type="checkbox"/> Bank	20 a. linear feet	20 b. linear feet	20 c. linear feet	20 d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	1,400 a. square feet _____ e. c/y dredged	1,400 b. square feet _____ f. c/y dredged	1,400 c. square feet	1,400 d. square feet
7. <input type="checkbox"/> Bordering Land Subject to Flooding	_____ a. square feet Cubic Feet Flood Storage _____ e. cubic feet	_____ b. square feet _____ f. cubic feet	_____ c. square feet _____ g. cubic feet	_____ d. square feet _____ h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	_____ a. square feet Cubic Feet Flood Storage _____ c. cubic feet	_____ b. square feet _____ d. cubic feet	_____ e. cubic feet	_____ f. cubic feet
9. <input checked="" type="checkbox"/> Riverfront Area	500 a. total sq. feet 500 Sq ft within 100 ft c. square feet 500 Sq ft between 100-200 ft g. square feet	500 b. total sq. feet 500 d. square feet 500 h. square feet	500 e. square feet 500 i. square feet	500 f. square feet 500 j. square feet



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

Provided by MassDEP:
206-0723
MassDEP File #
eDEP Transaction #
Lowell
City/Town

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

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



WPA Form 5 – Order of Conditions

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

Provided by MassDEP:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

B. Findings (cont.)

* #22. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BWV) or B.17.c (Salt Marsh) above, please enter the additional amount here.

22. Restoration/Enhancement *:

a. square feet of BWV

b. square feet of salt marsh

23. Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. the work is a maintenance dredging project as provided for in the Act; or
 - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
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 extend the issuance date of the original Final Order of Conditions and the Order will expire on 2/24/2017 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
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.



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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

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 206-0723 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
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.



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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. **The work associated with this Order (the "Project") is (1) is not (2) subject to the Massachusetts Stormwater Standards. If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:**

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
- i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;
 - 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.



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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.*) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.*) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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

Provided by MassDEP:
206-0723
MassDEP File #

eDEP Transaction #
Lowell
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See attached "Standard Lowell 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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

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

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

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

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

City of Lowell Wetlands Ordinance

Ch. 280, S.
1-13

1. Municipal Ordinance or Bylaw

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

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See attached "Standard Lowell 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:

206-723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

2-24-2014

1. Date of Issuance

Please indicate the number of members who will sign this form.

4

This Order must be signed by a majority of the Conservation Commission.

2. Number of Signers

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

Signatures:

[Signature]
[Signature]
[Signature]
[Signature]

by hand delivery on

2-25-2014

Date

by certified mail, return receipt requested, on

Date

F. Appeals

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

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

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



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:

206-0723

MassDEP File #

eDEP Transaction #

Lowell

City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Conservation Commission

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

To:

Conservation Commission

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

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

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

Book

Page

In accordance with the Order of Conditions issued on:

Date

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

Instrument Number

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

Document Number

Signature of Applicant

STANDARD LOWELL ORDER OF CONDITIONS

1. **Forty-eight (48) hours** prior to the commencement of any work, the Lowell Conservation Commission will be given written notification of said work.
2. **No Work shall commence until this Order of Conditions has been recorded at the Registry of Deeds**, Middlesex North and the recording information has been submitted to the Lowell Conservation Commission office.
3. Failure to record this Order of Conditions within **twenty-eight (28)** days from the date of issuance may result in the Order becoming Null and Void subject to enforcement as identified in the Rules and Regulations of Lowell Conservation Commission.
4. Additional erosion/sedimentation control measures shall be installed as deemed necessary at the direction of the Lowell Conservation Commission and/or the agent (s).
5. The Lowell Conservation Commission reserves the right to impose additional conditions in order to protect the public interests as identified in M.G.L. 131, s40.
6. Any changes made or intended to be made in the plans submitted to the Lowell Conservation Commission shall require the applicant to inquire of this department in writing as to whether the change is significant enough to require the filing of a new Notice of Intent.
7. The Lowell Conservation Commission and/or the authorized representative(s) reserve the right to access the property at **any time** for the purpose of inspecting the work covered by this Order of Conditions.
8. This Order of Conditions shall be made a part of all construction specifications and contracts.
9. The Order of Conditions shall apply to any successor in control or successor in interest of the property described in the Notice of Intent and accompanying plans submitted to the Lowell Conservation Commission.
10. Unless otherwise specifically stated in this Order, this Order shall also be a permit under the City of Lowell Wetlands Ordinance, City of Lowell Code of Ordinances Chapter 280, Section 1-13 and all conditions of this Order shall also be conditions of such permit.
11. No plants shall be used that are listed as invasive or potentially invasive on the Massachusetts Invasive Plant Advisory Group (MIPAG) list of invasive plants. A list of plantings shall be submitted to the Conservation commission for approval.
12. **Upon completion of the project, the applicant shall submit with their request for a Certificate of Compliance**, a statement and as-built plans by a registered professional engineer, architect, landscape architect or land surveyor stating that the project has been built in accordance with this Order of Conditions and referenced site plans.

SPECIAL CONDITIONS

1. The applicant shall take measures to minimize the impacts on the bank during construction phase.
2. The applicant shall protect the two mature trees on the bank and notify DPD office if they have to be removed.
3. The applicant shall schedule the construction during low flow period in the river.

If you have any question regarding this Order of Conditions, Please contact the Lowell Conservation Commission office at (978) 674-4252.

ADDITIONAL PLANS & DOCUMENTS – DEP# 206-0723

Applicant: Lisa DeMeo
 City of Lowell Engineering Department
 375 Merrimack Street 3rd Floor, Room 61
 Lowell, MA 01852

Project Location: Lawrence Street Bridge over Concord River, Lowell, MA

Plan or Document Title	Created By	Signed and Stamped By	Final Revision Date	Scale	Notes
Proposed Deck Replacement Sheet 1 of 3	TEC, Inc.	Jody Trunfio	1-22-2014		Total: 3
Proposed Deck Replacement Sheet 2 of 3	"		"		
Proposed Deck Replacement Sheet 3 of 3	"		"		

RECEIVED
FEB 18 2014
ES

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

MASS. HIST. COMM

RC.55534

950.CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

3.14.14

APPENDIX A

RC.55534

Elizabeth Sherva
Preservation Planner
Massachusetts Historical Commission

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Rehabilitation of Lawrence Street Bridge (L-15-031) over the Concord River

Location / Address: Lawrence Street over the Concord River, just west of Lowell Cemetery

City / Town: Lowell

Project Proponent

Name: City of Lowell Department of Public Works-Engineering Division

Address: 375 Merrimack Street, 3rd Floor, Room 61

City/Town/Zip/Telephone: Lowell MA 01852 Phone: 978-674-4070

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

<u>Agency Name</u>	<u>Type of License or funding (specify)</u>
MassDOT-Highway Division	Chapter 85, Section 35 review for bridge
Mass DEP	Notice of Intent / Order of Conditions
Lowell Conservation Commission	Notice of Intent / Order of Conditions
Army Corps of Engineers	Category I Permit

Project Description (narrative):

The Lawrence Street Bridge (L-015-031) over the Concord River dates from 1850, with the superstructure dating from a substantial rebuilding completed in 1951. It is a six-span bridge consisting of a reinforced concrete deck supported by precast concrete girders. The superstructure is supported on dry-laid and mortared stone piers and abutments from the original construction. Among the deficiencies noted in a 3/27/2013 inspection report are: severe cracking and spalling of the deck; exposed deck rebar; substandard bridge railings; and a partially undermined beam at one of the abutments. The bridge is currently weight-restricted, with vehicles posted at 20, 23, and 40 tons for H20, Type 3, and Type 3S2 vehicles respectively.

Proposed rehabilitation of the Lawrence Street Bridge is in keeping with the historic preservation priorities of the City of Lowell; it will correct the identified engineering and structural deficiencies, and will remove the weight restrictions on the bridge. Plans call for a complete deck replacement with localized beam and substructure rehabilitation. Existing beams will be restored to provide composite action with a new high-performance, lightweight concrete deck. To minimize adverse visual effects to nearby historic structures and the historic Lowell Cemetery, the rehabilitated bridge will have interior vehicular barriers, with a lighter pedestrian rail ("Lucy Larcom" railing seen throughout the historic downtown Lowell area) for the bridge's exterior faces. There are no plans for complete pier reconstruction, further minimizing impacts to the bridge's historic appearance.

The proposed rehabilitation of the Lawrence Street Bridge has been developed with the cooperation of and full support from the City of Lowell's Historic Board. See attached letter of support from Historic Board Administrator Steve Stowell.

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition. No, the project does not include demolition of the bridge.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation. Yes, the project includes rehabilitation of the Lawrence Street Bridge.

Does the project include new construction? If so, describe (attach plans and elevations if necessary). No, the project does not include new construction.

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify. The on-line data bases of the National Park Service-National Register of Historic Places and the MHC were consulted for the National Register status (listed in the National Register, determined eligible for listing, or part of a National Register-listed historic district) of the Lawrence Street Bridge. The City of Lowell Historic Board was consulted for locations of city-designated historic landmarks.

No archeological resources are known to exist within the project's area of potential impact. The Lawrence Street Bridge over the Concord River has not been previously surveyed or evaluated for National Register eligibility. The bridge is not located within any national, state, or local historic district(s), although it is located within close proximity to two separate historic districts listed in the National and Massachusetts Historic Registers located at either end of the bridge. The east approach of the bridge is approximately 75 feet from the southwestern perimeter wall of the Lowell Cemetery, listed in the National Register and Massachusetts State Register, and a City of Lowell Historic Landmark. The west approach of the Lawrence Street Bridge is in close proximity of the Wamesit Canal/Whipple Mill Industrial Complex Historic District, situated on the western bank of the Concord River opposite 576 Lawrence Street. This historic district contains mill structures and hydroelectric power elements that date from the 1820s to the early 1900s.

What is the total acreage of the project area? Response: Not applicable (N/A) to all below.

Woodland	N/A	Productive Resources:	
Wetland	0.35 +/- acres	Agriculture	N/A
Floodplain	0.25 +/- acres	Mining/Extraction	N/A
Open space	N/A	Forestry	N/A
Developed	N/A	Total Project Acreage	0.35 +/- acres

What is the acreage of the proposed new construction? _____ N/A acres

What is the present land use of the project area? The two-lane bridge carries vehicular and pedestrian traffic over the Concord River. The area to the west is mixed residential/warehouse and the area to the east is the Lowell Cemetery.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location. This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: Lisa E. DeMeo, P.E. Date: 1/28/2014

Name: Lisa DeMeo, P.E. – City Engineer; City of Lowell

Address: 375 Merrimack Street, 3rd Floor, Room 61

City/Town/Zip: Lowell, MA 01852

Telephone: 978-674-4070

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.



**US Army Corps
of Engineers**®
New England District

VII: Self-Verification Notification Form

Complete all fields (write “none” if applicable) below. Send this form and the existing plans to the address below, fax to (978) 318-8303, or email to cenae-r@usace.army.mil before work within Corps jurisdiction commences unless otherwise specified. The Corps will acknowledge receipt of this form in writing. Please call (978) 318-8338 with questions.

Regulatory Division
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Permittee: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Location (provide detailed description if necessary): _____
Address, City, State & Zip: _____
Latitude/Longitude Coordinates (if address doesn't exist): _____
Waterway Name: _____

Contractor: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Purpose: _____

Work Description: _____

Work will be done under the following activity(s) in Section III, Eligible Activities (check all that apply):

- | | | | | | |
|--------|--------|---------|---------|---------|---------|
| 1_____ | 5_____ | 9_____ | 13_____ | 17_____ | 21_____ |
| 2_____ | 6_____ | 10_____ | 14_____ | 18_____ | 22_____ |
| 3_____ | 7_____ | 11_____ | 15_____ | 19_____ | 23_____ |
| 4_____ | 8_____ | 12_____ | 16_____ | 20_____ | |

(continued on next page)

Aggregate total wetland impact area*: temporary _____ SF permanent _____ SF
Aggregate total waterway impact area*: temporary _____ SF permanent _____ SF
(*leave blank if work involves structures only)

Does your project include any secondary impacts? (See General Condition 3.) Yes _____ No _____
If yes, describe here: _____

Proposed Work Dates: Start: _____ Finish: _____

Your name/signature below, as permittee, confirms that your project a) meets the self-verification criteria and b) that you accept and agree to comply with the applicable terms and conditions in the General Permits for Massachusetts.

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____

**Department of the Army
General Permits for Massachusetts**

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues General Permits (GPs) for activities subject to Corps jurisdiction in waters of the U.S. within the boundaries of, and off the coast of, the Commonwealth of Massachusetts excluding work within the boundaries of Indian tribal lands. These GPs are issued in accordance with Corps regulations at 33 CFR 320 - 332 (see 33 CFR 325.5(c)(1)). The GPs will protect the aquatic environment and the public interest while effectively authorizing activities that have no more than minimal individual and cumulative adverse effects on the aquatic environment.

This GP document contains the following sections:	<u>Page</u>
I. General Criteria	1
II. Jurisdiction/Authorities to Issue Permits	3
III. Eligible Activities	4
IV. General Conditions	23
V. Content of Pre-Construction Notification	39
VI. Definitions and Acronyms	42
VII. Self-Verification Notification Form	50
VIII. SHPO/THPO Notification Form	52
IX. State-Specific Supplement	53

I. GENERAL CRITERIA

1. Prospective permittees need to read:
 - a. Section II to determine if the activity requires Corps authorization; and
 - b. Sections III, IV and IX to determine if the activity may be eligible for authorization under the GPs, specifically whether it is eligible for self-verification (SV) or whether preconstruction notification (PCN) is required.
2. Permittees must ensure compliance with all applicable general conditions in Section IV. The Corps will consider any activity requiring Corps authorization to be unauthorized if that activity is under construction or completed and does not comply with all of the terms and conditions.
3. Project proponents are encouraged to contact the Corps with questions at any time. Pre-application meetings (see 33 CFR 325.1(b)), whether arranged by the Corps or requested by permit applicants, are encouraged to facilitate the review of projects. Pre-application meetings can help streamline the permit process by alerting the applicant to potentially time-consuming concerns that are likely to arise during the evaluation of their project (e.g., avoidance, minimization and compensatory mitigation requirements (GC 4), historic properties (GC 6), endangered species (GC 8), essential fish habitat, and dredging contaminated sediments).
4. Activities may still qualify for authorization under the GPs if they are not regulated by the State.
5. Projects that are not authorized by these GPs require an Individual Permit (IP) (33 CFR 325.5) and proponents must submit an application directly to the Corps. These GPs do not affect the Corps IP

review process or activities exempt from Corps regulation. For general information and application form, see the Corps website or contact the Corps (see Section IX, Part C). The Corps encourages applicants to apply concurrently for a Corps IP and applicable State permits.

The Corps retains discretionary authority on a case-by-case basis to elevate a SV to PCN or IP, or a PCN to IP based on concerns for the aquatic environment or for any other factor of the public interest (33 CFR 320.4(a)). Whenever the Corps notifies an applicant that a PCN or IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that work may proceed.

6. How to Obtain/Apply for Authorization

a. Self-Verification (Self-Verification Notification Form (SVNF) required):

The SVNF is required for all SV eligible work in MA unless otherwise stated in GPs 1 - 23. The SVNF is not required for the work specified in the notes to GPs 2, 16, 17, 19 and 21. Activities that are eligible for SV are authorized under the GPs and may commence without written verification from the Corps provided the prospective permittee has:

i. Confirmed that the activity will meet the terms and conditions of applicable GPs. Consultation with the Corps and/or other relevant Federal and State agencies may be necessary to ensure compliance with the applicable general conditions (GCs) (see Section IV and Section IX, Part A, Subpart 3) and related Federal laws such as the National Historic Preservation Act (see GC 6), the Endangered Species Act (GC 8) and the Wild and Scenic Rivers Act (GC 9). Prospective permittees are encouraged to contact the Corps with SV eligibility questions. Activities not meeting the SV criteria must submit a PCN to the Corps.

ii. Submitted the SVNF (see GC 30) to the Corps.

b. Pre-Construction Notification (PCN) (application and written verification required):

For activities that do not qualify for SV or where otherwise required by the terms of the GPs, the permittee must submit a PCN and obtain written verification before starting work in Corps jurisdiction. Refer to the state-specific procedures in Section IX, Part B for information, including appropriate forms, content, and whether PCNs are submitted to the Corps or the State.

i. The Corps will coordinate review of all activities requiring PCN with Federal and State agencies and Federally recognized tribes, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal individual and cumulative effects on the aquatic environment as determined by the Corps in accordance with the criteria listed within these GPs. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of a project are no more than minimal.

ii. Emergency Situations: Contact the Corps and the State (see Section IX, Part C) in the event of an emergency situation for information on the application and approval process. Emergency situations are limited to sudden, unexpected occurrences that could potentially result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process an application under standard procedures. Emergency work is subject to the same terms and conditions of these GPs as non-emergency work, and similarly, must qualify for authorization under the GPs; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

II. JURISDICTION/AUTHORITIES TO ISSUE PERMITS

1. The following regulated activities require authorization under the Corps Regulatory Program:
 - a. The construction of any structure in, over or under any navigable water of the United States (U.S.)¹, the excavating or dredging from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters. The Corps regulates these activities under Section 10 of the Rivers and Harbors Act of 1899. See 33 CFR 322;
 - b. The discharge of dredged or fill material and discharges associated with excavation into waters of the U.S. The Corps regulates these activities under Section 404 of the Clean Water Act (CWA). See 33 CFR 323; and
 - c. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.
2. Related laws:

33 CFR 320.3 includes a list of related laws, including: Section 401 of the CWA, Section 402 of the CWA, Section 307(c) of the Coastal Zone Management Act of 1972, the National Historic Preservation Act of 1966, the Endangered Species Act, the Fish and Wildlife Act of 1956, the Marine Mammal Protection Act of 1972, the Magnuson-Stevens Act, and Section 7(a) of the Wild and Scenic Rivers Act.

¹ Defined in Section VI, Definitions and at 33 CFR 328.
Section II

III. ELIGIBLE ACTIVITIES

Terms and Conditions

An activity is authorized under GPs 1-23 below only if that activity and the permittee satisfy all of the GP's terms and conditions. Activities that do not qualify for authorization under a GP still may be authorized by an IP. The Corps will consider any activity requiring Corps authorization to be unauthorized if that activity is under construction or completed and does not comply with all of the terms and conditions of a GP or an IP. This may subject you to the enforcement provisions of our regulations.

Area Limits

The following area limits apply when a) there is a discharge of dredged or fill material or a discharge associated with excavation into waters of the U.S., and b) stated in GPs 1, 8-14, 16-20 and 22. The area limits do not apply to GPs 2-7, 15, 21 and 23. Unless otherwise stated (e.g., temporary construction mats in GP 14), the total temporary and permanent² impact area is used to determine if a single and complete project is eligible for SV or requires a PCN. However, the total permanent impact area is used to determine whether a single and complete project exceeds the PCN limits and requires an IP. Temporary discharges, including discharges associated with excavation, are only authorized under GPs 6, 10 and 14.

Resource	SV Limits (SV Eligible)	PCN Limits (PCN Required)	IP Limits (IP Required)
Non-tidal waters of the U.S.	0 to 5,000 SF	>5,000 SF to 1 acre	>1 acre
Tidal waters of the U.S.	not eligible	all discharges ≤1/2 acre	>1/2 acre
SAS* in tidal waters of the U.S. excluding vegetated shallows	not eligible	all discharges ≤1000 SF	>1000 SF
SAS* in tidal waters of the U.S. consisting of vegetated shallows only	not eligible	all discharges ≤100 SF (compensatory mitigation is required)	>100 SF

*Special Aquatic Sites (SAS) consist of wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230 Subpart E.

² Permanent impacts include, but are not limited to, waters of the U.S. that are permanently affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent impacts include, but are not limited to, permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. Temporary impacts include, but are not limited to, waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity. Impacts resulting from activities eligible for exemptions under Section 404(f) of the CWA are not considered when calculating the impact area.

General Permits

1. Repair, Replacement and Maintenance of Authorized Structures and Fills
2. Moorings
3. Pile-Supported Structures, Floats and Lifts
4. Aids to Navigation, and Temporary Recreational Structures
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges
7. Bank and Shoreline Stabilization
8. Residential, Commercial and Institutional Developments, and Recreational Facilities
9. Utility Line Activities
10. Linear Transportation Projects Including Stream Crossings
11. Mining Activities
12. Boat Ramps and Marine Railways
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects
14. Temporary Construction, Access, and Dewatering
15. Reshaping Existing Drainage Ditches, New Ditches, and Mosquito Management
16. Response Operations for Oil and Hazardous Substances
17. Cleanup of Hazardous and Toxic Waste
18. Scientific Measurement Devices
19. Survey Activities
20. Agricultural Activities
21. Fish and Wildlife Harvesting and Attraction Devices and Activities
22. Habitat Restoration, Establishment and Enhancement Activities
23. Previously Authorized Activities

GP 1. Repair, Replacement and Maintenance of Authorized Structures and Fills (Sections 10 and 404: tidal and non-tidal waters of the U.S.)

The repair, rehabilitation, or replacement of any previously authorized, currently serviceable³, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 provided that the structure or fill is not to be put to uses differing from those uses specified in the original permit or the most recently authorized modification.⁴ Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement also eligible. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project or within the boundaries of the structure or fill. Also eligible is the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. Existing conditions are those that existed on previously serviceable structures or fill immediately prior to the event. In cases of catastrophic events, such as hurricanes or tornadoes, the Corps may waive the two-year limit in writing provided the permittee can demonstrate funding, contract, or other similar delays.

Self-Verification Eligible	PCN Required	Not authorized under GP 1 or IP Required
<p>1. No new permanent impacts to SAS; and</p> <p>2. The removal of accumulated sediments and debris in the vicinity of existing structures (limited to bridges, culverted road crossings, water intake structures and dams), provided: a) removal is the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built; b) removal extends no farther than 50 feet in any direction from the structure; and c) all dredged or excavated materials are deposited and retained in an upland area; and</p> <p>3. No expansion (e.g., structures) or new discharges of dredged or fill material (i.e., outside of the previously authorized footprint); and</p> <p>4. Modifications to existing stream crossings (e.g., culverts, elliptical or arch pipes, etc.) that do not a) increase velocity; b) decrease the diameter of the crossing; or c) change the friction coefficient. No sliplining (retrofitting an existing culvert by inserting a smaller diameter pipe), culvert relining or invert lining. GC 19 is particularly relevant. See GP 10 for stream crossing authorizations; and</p> <p>5. Dam and flood control or levee repair, rehabilitation, or replacement:</p> <ul style="list-style-type: none"> a. No change in the flood elevation or permanent water surface elevation of the impoundment; and b. Drawdown of impoundment for construction does not exceed one growing season; and c. No work at the Holyoke or Turners Falls Dams; and 	<p>1. New permanent impacts to SAS that do not exceed the PCN limits on page 4; or</p> <p>2. The removal of accumulated sediments and debris in the vicinity of existing structures that does not meet the requirements of #1 in the SV column; or</p> <p>3. All expansions or new discharges of dredged or fill material (i.e., outside of the previously authorized footprint), including the creation of new berms, that do not exceed the PCN limits on page 4; or</p> <p>4. Modifications to existing stream crossings (e.g., culverts, elliptical or arch pipes, etc.) that a) increase velocity; b) decrease the diameter of the crossing; c) change the friction coefficient; or d) involve sliplining (retrofitting an existing culvert by inserting a smaller diameter pipe), culvert relining or invert lining. These are not considered minor deviations. GC 19 is particularly relevant; or</p> <p>5. Dam and flood control or levee repair, rehabilitation, or replacement involves:</p> <ul style="list-style-type: none"> a. Change in the flood elevation or permanent water surface elevation of the impoundment; or b. Drawdown of impoundment for construction exceeding one growing season; or 	<p>1. New stream channelization or stream relocation projects (e.g., those in response to storm or flood events); or</p> <p>2. Stream crossing culvert extensions and culvert replacements (see GP 10 where these may be eligible for SV or PCN); or</p> <p>3. Maintenance dredging (see GP 5 where this may be eligible for SV or PCN); or</p> <p>4. Replacement of non-</p>

³ Currently serviceable is defined as useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

⁴ This authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the CWA Section 404(f) exemption for maintenance. See 33 CFR 323.4(a)(2).

<p>6. The discharge of de minimis (i.e., inconsequential) quantities of accumulated bottom sediment occur from or through a dam into downstream waters⁵; and</p> <p>7. Work to tide gates done in accordance with a State permitting agency or Corps-approved operation and changes do not affect the hydraulic regime.</p>	<p>6. The discharge of more than de minimis (i.e., inconsequential) quantities of accumulated bottom sediment occur from or through a dam into downstream waters⁵; or</p> <p>7. Work to previously approved tide gates without a State permitting agency or Corps-approved operation and maintenance plan or changes affect the hydraulic regime.</p>	<p>functioning tide gates.</p>
<p>Notes:</p> <p>1. Applicants are encouraged to contact the Corps with questions on whether or not an activity qualifies for GP 1.</p> <p>2. The time of year (TOY) work windows/restrictions in GC 18 do not apply to work authorized under GP 1 unless the work causes turbidity or sediment resuspension in streams and tidal waters.</p> <p>3. In addition to the TOY restrictions in GC 18, work authorized under GP 1 that causes turbidity or sediment resuspension in tidal waters, the Connecticut River from the MA/CT border to the Turners Falls Dam, Merrimack River to the Essex Dam, or Taunton River, cannot be conducted between Mar 16 and Oct 31. This is required to avoid effects to listed species under National Marine Fisheries Service (NMFS) jurisdiction and can only be waived by the Corps, not in a written State determination (see GC 18(a)).</p>		

<p>GP 2. Moorings (Section 10; navigable waters of the U.S.) New moorings and mooring fields; the relocation of previously authorized⁶ moorings; expansions, boundary reconfigurations or modifications of previously authorized mooring fields; and maintenance and replacement of moorings.</p>		
<p>Self-Verification Eligible</p> <p>New or relocation of moorings that are:</p> <ol style="list-style-type: none"> Authorized by a local harbormaster/municipality under MGL Chapter 91 Section 10A; and Single boat and single-point; and Not associated with a boating facility⁷; and Not placed in tidal vegetated shallows (e.g., eelgrass) (see Note 4) unless low impact mooring technology is used (see Note 5); and Not located within a Corps Federal Channel²¹ or its buffer zone. 	<p>PCN Required</p> <ol style="list-style-type: none"> New or relocation of moorings that are: <ol style="list-style-type: none"> Not authorized by a local harbormaster/municipality under MGL Chapter 91 Section 10A; or Not single boat and single-point; or Associated with a boating facility⁷; or Placed in tidal vegetated shallows (e.g., eelgrass) (see Note 4) without low impact mooring technology (see Note 5); or Not located within a Corps Federal Channel²¹. New mooring fields; or expansions, boundary reconfigurations or modifications of existing, authorized mooring fields. Municipal mooring fields may be established in a Corps Federal anchorage²¹. 	<p>Not authorized under GP 2 or IP Required</p> <ol style="list-style-type: none"> Moorings or mooring fields classified as or associated with a new boating facility⁷; or Moorings in a Corps Federal anchorage²¹ that are classified as a boating facility⁷; or Moorings in a Corps Federal channel²¹.
<p>Notes:</p> <p>1. Moorings installed or relocated prior to January 11, 2000 are considered authorized under the non-reporting provisions of the GPs that were in effect at that time. Moorings installed or relocated between January 11, 2000 and January 20, 2010 are considered authorized under the non-reporting provisions of the GPs</p>		

⁵ See Corps Regulatory Guidance Letter No. 05-04 for more information.

⁶ For all GPs, “authorized” means authorized by the Corps, not a state or municipality, unless otherwise stated. A SVNf was not required before January 21, 2010.

⁷ Boating facilities provide, rent or sell mooring or docking space, such as marinas, yacht clubs, boat clubs, boat yards, dockminiums, town facilities, land/home owners associations, etc. Not classified as boating facilities are piers shared between two abutting properties, or municipal moorings or municipal mooring fields that charge an equitable user fee based only on the actual costs incurred.

that were in effect at that time; note that moorings in vegetated shallows required an application.

2. Activities in mooring fields must meet the terms and conditions of the original authorization.
3. Maintenance, including replacement, of previously authorized moorings is required in accordance with the terms and conditions of the original authorization and does not require a SVNf.
4. The project proponent is responsible for conducting an adequate site-specific survey to verify that SAS are not present. Vegetated shallow survey guidance is located at www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance.
5. Low impact mooring technology prevents any part of the tackle from dragging on the bottom during the tidal cycle.
6. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 2 are GCs 7(c) and 10.

GP 3. Pile-Supported Structures, Floats and Lifts (Section 10; navigable waters of the U.S.)

- (a) New, expansions⁸, reconfigurations or modifications of private: i) poles, piles, or pole-supported or pile-supported structures (hereinafter referred to as “structures”) for navigational access; ii) floats; and iii) boat and float lifts (hereinafter referred to as “lifts”); and
- (b) New, expansions, reconfigurations, reconfiguration zones, or modifications of structures, floats and lifts that provide public, community or government recreational uses such as boating, fishing, swimming, access, etc.; and
- (c) Expansions, reconfigurations, reconfiguration zones, or modifications of previously authorized boating facilities⁷.

Self-Verification Eligible	PCN Required	Not authorized under GP 3 or IP Required
<p>1. Structures with decking ≤4 feet in total width or span <100 feet over salt marsh; and</p> <p>2. Structures in tidal waters have ≥1:1 height/width ratio⁹; and</p> <p>3. Structures and floats in navigable waters meet the requirements in Section IX, Part A, Subpart 1; and</p> <p>4. Floats in tidal waters are ≥18 inches above the substrate at any time. Note: To be eligible for SV, skids may only be used in areas where piles are not feasible and only on sandy or hard bottom substrates; and</p> <p>5. Structures, floats, their moored vessels, or lifts are located ≥25 feet from areas that have been mapped or that currently contain vegetated shallows; and</p> <p>6. Floats are not located over SAS (see Note 1); and</p> <p>7. Structures, floats or lifts extend ≤75 feet waterward from: a) MHW, or b) ordinary high water (OHW) in non-tidal navigable waters; and</p> <p>8. Structures, floats or lifts extend ≤25% of the waterway width at mean low water (MLW) or OHW. See www.nae.usace.army.mil/missions/regulatory >> Forms and Publications >> Structure Placement in Navigable Waterways; and</p> <p>9. Construction activities related to structures, floats or lifts extend ≤25% of the waterway width at OHW or MLW during the TOY restriction specified in GC 18. The purpose is to avoid impeding fish migration; and</p> <p>10. Structures, floats or lifts are located ≥25 feet from property lines. The Corps may require a letter of no objection from the abutter(s) if <25 feet.</p>	<p>1. Structures, floats and lifts that are not eligible for self-verification; or</p> <p>2. Expansions, reconfigurations, reconfiguration zones, or modifications at any authorized boating facility; or</p> <p>3. New, expansions, reconfigurations, reconfiguration zones, or modifications of structures, floats or lifts that provide public, community or government recreational uses such as boating, fishing, swimming, access, etc.</p>	<p>1. New boating facilities⁷, including any change that converts a private structure, float or lift to a boating facility; or</p> <p>2. Structures, floats or ancillary portions of structures or floats over tidal waters for the purpose of activities usually associated with land, including but not limited to benches, decks, sunbathing and picnicking.</p>

⁸ Expansions are defined as work that increases the footprint of structures or floats or slip capacity.

⁹ The height of structures shall at all points be equal to or exceed the width of the deck. For the purpose of this definition, height shall be measured from the marsh substrate to the bottom of the longitudinal support.

Notes:

1. The project proponent is responsible for conducting an adequate site-specific survey to verify that SAS are not present. Vegetated shallow survey guidance is located at www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance.
2. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 3 are GCs 7(c), 10 and 12. The TOY work windows/restrictions in GC 18 only apply to the work that is specified in SV 9 above.
3. The term pile-supported also refers to wheel-supported structures.

GP 4. Aids to Navigation and Temporary Recreational Structures (Section 10; navigable waters of the U.S.)

- (a) Aids to navigation and regulatory markers that are approved by and installed in accordance with the requirements of the U.S. Coast Guard (USCG). (See 33 CFR 66, Chapter I, subchapter C); and
- (b) Temporary buoys, markers, and similar structures placed for recreational use during specific events such as water skiing competitions and boat races or seasonal use.

Self-Verification Eligible	PCN Required	Not authorized under GP 4 or IP Required
<p>1. Aids to navigation and regulatory markers that are approved by and installed in accordance with the requirements of the USCG; and</p> <p>2. Temporary buoys, markers and similar structures: a) placed for recreational use during specific events and removed within 30 days after event, b) placed during winter events on ice and removed before spring thaw, and c) authorized by the local harbormaster if in a Corps Federal Navigation Project (FNP)²¹.</p>	<p>1. Aids to navigation and regulatory markers that are not approved by and installed in accordance with the requirements of the USCG; or</p> <p>2. Temporary buoys, markers and similar structures: a) placed for recreational use during specific events but not removed within 30 days after event, b) placed during winter events on ice, but not removed before spring thaw, or c) not authorized by the local harbormaster if in an Corps FNP²¹.</p>	
<p>Note:</p> <p>1. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 4 is GC 10.</p>		

<p><u>GP 5. Dredging (Section 10; navigable waters of the U.S.), Disposal of Dredged Material (Sections 10, 404 & 103; tidal waters of the U.S.), Beach Nourishment (Sections 10 & 404; tidal and non-tidal waters of the U.S.); Rock Removal (Section 10, navigable waters of the U.S.) and Rock Relocation (Sections 10 & 404; tidal and non-tidal waters of the U.S)</u></p> <p>New dredging and maintenance dredging, including: a) Return water from an upland contained dredged material disposal area where the quality of the return water is controlled by the State through the CWA Section 401 Water Quality Certification procedures; and b) Disposal of dredged material at a confined aquatic disposal, beach nourishment, nearshore, designated open water or ocean water disposal site, provided the Corps finds the dredged material to be suitable for such disposal and EPA concurs. Beach nourishment. Rock removal and relocation for navigation.</p>		
Self-Verification Eligible	PCN Required	Not authorized under GP 5 or IP Required
<ol style="list-style-type: none"> 1. No new dredging; and 2. See Section IX, Part A, Subpart 1, for maintenance dredging requirements; and 3. No beach nourishment in waters of the U.S.; and 4. Rock removal and relocation for navigation ≤500 SF with no impacts to SAS. 	<ol style="list-style-type: none"> 1. See Section IX, Part A, Subpart 1, for new dredging requirements; or 2. See Section IX, Part A, Subpart 1, for maintenance dredging requirements; or 3. Beach nourishment in waters of the U.S. not associated with dredging does not exceed the PCN limits on Page 4; or 4. Rock removal and relocation for navigation >500 SF to ≤5000 SF; or 5. Maintenance dredging where the primary purpose sand mining for beach nourishment (the requirements in (1) and (2) above apply). 	<ol style="list-style-type: none"> 1. See Section IX, Part A, Subpart 1, for new dredging requirements; or 2. See Section IX, Part A, Subpart 1, maintenance dredging requirements; or 3. Beach scraping; or 4. Rock removal and relocation for navigation >5,000 SF; or 5. New dredging where the primary purpose is sand mining for beach nourishment.
<p>Notes:</p> <ol style="list-style-type: none"> 1. See Section VI for the definitions of new and maintenance dredging. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc. 2. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant for beach nourishment are GCs 8 and 17(f), and for dredging are GC 12 and the TOY work windows/restrictions in GC 18. 		

<p><u>GP 6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges (Section 404; navigable waters of the U.S.)</u></p> <p>Discharges of dredged or fill material incidental to the construction and modification of bridges across navigable waters of the U.S., including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills provided that the USCG authorizes the construction of the bridge structure under Section 9 of the Rivers and Harbors Act of 1899 or other applicable laws. A USCG Authorization Act Exemption or a STURRA (144h) exemption do not constitute USCG authorization.</p>		
Self-Verification Eligible	PCN Required	Not authorized under GP 6 or IP Required
<ol style="list-style-type: none"> 1. Discharges of dredged or fill material incidental to the construction of bridges. 		<ol style="list-style-type: none"> 1. Causeways and approach fills. These may be eligible for authorization under GP 10.
<p>Note:</p> <ol style="list-style-type: none"> 1. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 6 is GC 10, which requires a PCN for work in, over or under a Corps FNP or its buffer zone.²¹ 		

GP 7. Bank and Shoreline Stabilization (Sections 10 & 404, tidal and non-tidal waters of the U.S.)

Bank stabilization activities necessary for erosion protection along the banks of lakes, ponds, streams, estuarine and ocean waters, and any other open waters. Also eligible are non-structural shoreline stabilization activities. Activities must meet the following criteria: a) Minimize impacts to aquatic resources, including wetland vegetation, diversion of overland flow, and impacts on and scour of neighboring properties;¹⁰ b) No material is placed in excess of the minimum needed for erosion protection; c) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the U.S.; or d) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas).

Self-Verification Eligible	PCN Required	Not authorized under GP 7 or IP Required
<p>1. The bank disturbance is:</p> <ul style="list-style-type: none"> a. ≤100 feet in length including both stream banks, and b. ≤1 cubic yard of fill per linear foot average along the bank waterward of the plane of OHW or high tide line (HTL); and <p>2. The slope of the structure is more gradual than 1V:3H in lakes/ponds; and 1V:1H in non-tidal streams and tidal waters and streams; and</p> <p>3. No permanent impacts to SAS occur; and</p> <p>4. Non-structural shoreline stabilization activities ≤100 feet in length.</p>	<p>1. The bank disturbance is:</p> <ul style="list-style-type: none"> a. >100 feet to ≤500 feet in length including both stream banks, or b. >1 cubic yard of fill per linear foot average along the bank waterward of the plane of OHW or high tide line (HTL); or <p>2. The slope of the structure is steeper than 1V:3H in lakes/ponds; and 1V:1H in non-tidal streams and tidal waters and streams; or</p> <p>3. Permanent impacts to SAS occur; or</p> <p>4. Non-structural shoreline stabilization activities >100 feet in length.</p>	<p>1. The activity is >500 feet in total length including both stream banks unless the Corps waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse effects; or</p> <p>2. Stream channelization or relocation activities; or</p> <p>3. Breakwaters, groins, and jetties.</p>
<p>Notes:</p> <ol style="list-style-type: none"> 1. See GP 1 for the replacement of existing, currently serviceable structures. 2. Bank stabilization structures must be designed to minimize environmental effects, effects to neighboring properties, etc. to the maximum extent practicable. This means using the appropriate, least intrusive method to stabilize the bank following this sequential minimization process: avoidance, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls. Vertical walls/bulkheads must only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. 3. Non-structural shoreline stabilization activities provide substrate necessary to support wetland vegetation and are associated with existing tidal marsh improvements and/or new marsh creation that may include the placement of sand fill, coir logs, coir mats, and/or native oyster shell. Non-structural shoreline stabilization does not use hard components such as stone. 		

¹⁰ Materials such as angular stone, subangular stone or fiber roll revetments are effective at dissipating wave energy. Vertical walls/bulkheads should only be used in situations where reflected wave energy can be tolerated. This generally eliminates waterbodies where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and typically absorbs the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. For more information, see the Corps Coastal Engineering Manual, located at <http://chl.erdc.usace.army.mil>. Select “Products/ Services” and then “Publications.” Part 5, Chapter 7-8, a(2)c is particularly relevant.

GP 8. Residential, Commercial and Institutional Developments (Sections 10 & 404, non-tidal waters of the U.S.); Recreational Facilities (Section 404, non-tidal waters of the U.S).

Discharges of dredged or fill material for the construction or expansion of: a) residences and residential subdivisions; b) residential, commercial and institutional building foundations and building pads; and c) recreational facilities. This GP authorizes attendant features that are necessary for the use such as parking lots, garages, and yards. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. Examples of recreational facilities include playing fields (e.g., football fields, baseball fields), basketball courts, tennis courts, golf courses, ski areas, nature centers, and campgrounds. Associated utilities are eligible for authorization under Activity 9. Associated driveways, roads, stream crossings, hiking trails, bike, cart and horse paths are eligible for authorization under Activity 10.

<p>Self-Verification Eligible</p> <p>1. Permanent impacts:</p> <p>a. Meet the SV limits on page 4; and</p> <p>b. Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and</p> <p>2. No work occurs in navigable waters of the U.S.; and</p> <p>3. No stream channelization, relocation or loss of streambed including impoundments.</p>	<p>PCN Required</p> <p>1. Permanent impacts:</p> <p>a. Meet the PCN limits on page 4, or</p> <p>b. Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or</p> <p>2. Work occurs in non-tidal navigable waters of the U.S.; or</p> <p>3. Stream channelization, relocation or loss of streambed including impoundments occurs.</p>	<p>Not authorized under GP 8 or IP Required</p> <p>1. Permanent impacts require an IP as stated on page 4; or</p> <p>2. Work occurs in tidal waters of the U.S.; or</p> <p>3. A stormwater treatment or detention system occurs in waters of the U.S. See Note 2; or</p> <p>4. A subsurface sewerage disposal system occurs in waters of the U.S. See Note 2.</p>
<p>Notes:</p> <p>1. Impacts include the aggregate total impact area for subdivisions and associated individual lots.</p> <p>2. Stormwater conveyance components and non-porous, septic effluent pipes that transmit effluent to or between components may be eligible for authorization under GP 9.</p>		

GP 9. Utility Line Activities¹¹ (Sections 10 & 404; tidal and non-tidal waters of the U.S.)

Eligible for authorization are:

- (a) The construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines in tidal and non-tidal waters of the U.S.; and
- (b) The construction, maintenance, or expansion of utility line substation facilities associated with a power line or utility line in non-tidal waters of the U.S.; and
- (c) The construction or maintenance of foundations for overhead utility line towers, poles, and anchors in tidal and non-tidal waters of the U.S. provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads and temporary fill are eligible for authorization under GPs 10 and 14 respectively. For (a)-(c) and any other associated activities (e.g., GPs 10 and 14), if the total impact area for any single and complete projects requires a PCN, then a PCN is required for the overall project. The PCN must describe the locations of the starting point, end point, and all proposed impacts to aquatic resources in between in order to assess the cumulative effects of the overall project.

<p>Self-Verification Eligible</p>	<p>PCN Required</p>	<p>Not authorized under GP 9 or IP Required</p>
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¹¹ A utility line is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, data, and telegraph messages, and radio and television communication. The term utility line doesn't include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.

<p>1. Cumulative permanent impacts for the overall project:</p> <ol style="list-style-type: none"> Meet the SV limits on page 4, and Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and <p>2. No work occurs in, over or under navigable waters of the U.S.; and</p> <p>3. Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments; and</p> <p>4. There is no permanent change in pre-construction contours in waters of the U.S.; and</p> <p>5. Material resulting from trench excavation is temporarily sidecast into waters of the U.S. for ≤3 months and is placed in such a manner that it is not dispersed by currents or other forces; and</p> <p>6. The utility line is placed within and does not run a) parallel to, or b) along a streambed; and</p> <p>7. No stream channelization, relocation or loss of streambed including impoundments occurs.</p>	<p>1. Cumulative permanent impacts for the overall project:</p> <ol style="list-style-type: none"> Meet or exceed the PCN limits on page 4 provided no single and complete project exceeds the PCN limits on page 4, or Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or <p>2. Work occurs in, over or under navigable waters of the U.S.; or</p> <p>3. Intake structures other than dry hydrants used exclusively for firefighting activities with no stream impoundments; or</p> <p>4. There is a permanent change in pre-construction contours in waters of the U.S.; or</p> <p>5. Material resulting from trench excavation is temporarily sidecast into waters of the U.S. for >3 months or is placed in such a manner that it is dispersed by currents or other forces; or</p> <p>6. The utility line is placed within and runs parallel to or along a streambed; or</p> <p>7. Stream channelization, relocation or loss of streambed including impoundments occurs.</p>	<p>The overall project will require an IP if any single and complete project requires an IP as stated on page 4.</p>
<p>Notes:</p> <ol style="list-style-type: none"> Where the proposed utility line is temporarily or permanently constructed or installed in tidal or non-tidal navigable waters of the U.S. (i.e., Section 10 waters), the Corps will send the application and any written verification to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service for charting the utility line to protect navigation. Permittees should refer to the special conditions in the Corps written verification for requirements. For overhead utility lines authorized by this GP, the Corps will send the application and any written verification to the Department of Defense Siting Clearinghouse², which will evaluate potential effects on military activities. GCs 1-4I apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 9 are GCs 13 and 17(f). Impacts resulting from mechanized pushing, dragging, or other similar activities that redeposit excavated soil material shall be figured into the area limit determination on page 4. 		

GP 10. Linear Transportation Projects Including Stream Crossings (Sections 10 & 404; tidal and non-tidal waters of the U.S.)

Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., driveways, roads, highways, railways, trails, airport runways, and taxiways) and attendant features. Any stream channel modification is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project. For the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, the minimization requirement in GC 4 is particularly relevant and access roads shall be constructed as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the U.S. must be properly bridged or culverted to maintain surface flows. For GP 10 and any other associated activities (e.g., GP 14), if the total impact area for any single and complete project requires a PCN, then a PCN is required for the overall project. The PCN must describe the starting and end point locations, and all proposed impacts to aquatic resources in between in order to assess the cumulative effects of the overall project.

Self-Verification Eligible	PCN Required	Not authorized under GP 10 or IP Required
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¹² Via hard copy: Department of Defense Clearinghouse, Attn: Mr. Marshal Williams and Mr. David Blalock, 101 Marietta St, NW, Suite 3120, Atlanta, GA 30303; or via e-mail: frederick.m.williams28.civ@mail.mil and david.c.blalock2.civ@mail.mil.

<p>1. Cumulative permanent impacts for the overall project:</p> <ol style="list-style-type: none"> Meet the SV limits on page 4, and Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and <p>2. No stream channelization, relocation or loss of streambed including impoundments occurs; and</p> <p>3. No work occurs in navigable waters of the U.S.; and</p> <p>4. Permanent stream crossings (new crossings, replacement crossings and expansions of existing crossings (e.g., culvert extensions)) in non-tidal streams that comply with the “Permanent Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹³ (GC 17(f) is particularly relevant); and</p> <p>5. Temporary stream crossings in non-tidal streams that comply with the “Temporary Crossings in Non-Tidal Streams” section of the Stream Crossing BMPs document¹³ (GCs 15 and 17 are particularly relevant); and</p> <p>6. Existing crossings (e.g., culverts, elliptical or arch pipes, etc.) are not modified by a) decreasing the diameter of the crossing or b) changing the friction coefficient, such as through sliplining (retrofitting an existing culvert by inserting a smaller diameter pipe), culvert relining or invert lining; and</p> <p>7. Bank stabilization along the banks of streams conducted by Federal or State transportation agencies necessary to protect the transportation infrastructure is done in accordance with GP 7 and is ≤100 feet in length on each side of the stream bank.</p>	<p>1. Cumulative permanent impacts for the overall project:</p> <ol style="list-style-type: none"> Meet or exceed the PCN limits on page 4 provided no single and complete project exceeds the PCN limits on page 4, or Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or <p>2. Stream channelization, relocation or loss of streambed including impoundments occurs; or</p> <p>3. Work occurs in navigable waters of the U.S. PCN review guidelines for permanent crossings in tidal streams are provided in the “Permanent Crossings in Tidal Streams” section of the Stream Crossing BMP document¹³; or</p> <p>4. Permanent stream crossings (new crossings, replacement crossings and expansions of existing crossings (e.g., culvert extensions)) in non-tidal streams that do not comply with the “Permanent Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹³ (GC 17(f) is particularly relevant); or</p> <p>5. Temporary stream crossings in non-tidal streams that do not comply with the “Temporary Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹⁴ (GCs 15 and 17 are particularly relevant); or</p> <p>6. Existing crossings (e.g., culverts, elliptical or arch pipes, etc.) are modified by a) decreasing the diameter of the crossing or b) changing the friction coefficient, such as through sliplining (retrofitting an existing culvert by inserting a smaller diameter pipe), culvert relining or invert lining; or</p> <p>7. Bank stabilization along the banks of streams conducted by Federal or State transportation agencies necessary to protect the transportation infrastructure is done in accordance with GP 7 and is >100 feet in total length on each side of the stream bank but <500 feet including both stream banks.</p>	<p>1. The overall project will require an IP if any single and complete project requires an IP as stated on page 4; or</p> <p>2. Non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars; or</p> <p>3. New tide gates.</p>
<p>Notes:</p> <ol style="list-style-type: none"> Discharges of dredged or fill material incidental to the construction of bridges across navigable waters may be authorized under GP 6. GP 10 cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars. These may be eligible for authorization under GP 8. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant for stream crossings are: a) GC 1. The State may have stream crossing requirements that are different than the Corps requirements. For reference, they are located at: www.nae.usace.army.mil/missions/regulatory >> Stream and River Continuity; and b) GCs 17 - GC 19. Loss of streambed is not considered to occur when: a) stream crossings are constructed in accordance with the Stream Crossing BMPs for permanent crossings; or b) bridge piers or similar supports are used. 		

¹³ www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.

GP 11. Mining Activities (Sections 10 and 404; non-tidal waters of the U.S.)

Discharges of dredged or fill material into non-tidal waters of the U.S. for mining activities, except for coal mining and metallic mineral mining activities. If reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with any PCN.

<p>Self-Verification Eligible</p>	<p>PCN Required</p>	<p>Not authorized under GP 11 or IP Required</p>
<p>1. Permanent impacts: a. Meet the SV limits on page 4, and b. Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and 2. No work occurs in navigable waters of the U.S.; and 3. No stream channelization, relocation or loss of streambed including impoundments, or discharge of tailings into streams occurs.</p>	<p>1. Permanent impacts: a. Meet the PCN limits on page 4, or b. Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or 2. Work occurs in non-tidal navigable waters of the U.S.; or 3. Stream channelization, relocation or loss of streambed including impoundments, or discharge of tailings into streams occurs.</p>	<p>1. Permanent impacts require an IP as stated on page 4; or 2. Work occurs in tidal waters of the U.S.</p>

GP 12. Boat Ramps and Marine Railways (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Activities required for the construction of boat ramps and marine railways. If dredging in navigable waters of the U.S. is necessary to provide access to the boat ramp, the dredging must be authorized by GP 5.

<p>Self-Verification Eligible</p>	<p>PCN Required</p>	<p>Not authorized under GP 12 or IP Required</p>
<p>1. Permanent impacts: a. Meet the SV limits on page 4, and b. Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and 2. No work occurs in navigable waters of the U.S.; and 3. Boat ramps are not located within 25 feet of property lines. The Corps may require a letter of no objection from the abutter(s).</p>	<p>1. Permanent impacts: a. Meet the PCN limits on page 4, or b. Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or 2. Work occurs in navigable waters of the U.S.; or 3. Boat ramps are located within 25 feet of property lines. The Corps may require a letter of no objection from the abutter(s).</p>	<p>1. Base material other than crushed stone, gravel or other suitable and structurally stable material; or 2. Excavation beyond that limited to the area necessary for site preparation; or 3. Excavated material that is removed to an area that has waters of the U.S.</p>

GP 13. Land and Water-Based Renewable Energy Generation Facilities (Sections 10 and 404; tidal and non-tidal waters of the U.S.), and Hydropower Projects (Section 404; tidal and non-tidal waters of the U.S.)

Structures and work in navigable waters of the U.S. and discharges of dredged or fill material into tidal and non-tidal waters of the U.S. for the construction, expansion, modification or removal of:

- (a) Land-based renewable energy production facilities, including attendant features; and
- (b) Water-based wind or hydrokinetic renewable energy generation pilot projects and their attendant features (for the purposes of this GP, the term ‘pilot project’ means an experimental project where the renewable energy is not sold and the generation units are monitored to collect information on their performance and environmental effects at the project site); and
- (c) Discharges of dredged or fill material associated with hydropower projects: i) at existing reservoirs, where the project, including the fill, is licensed by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act of 1920, as amended, or the appropriate State or local permitting agency; or ii) with a licensing exemption granted by the FERC pursuant to Section 408 of the Energy Security Act of 1980 (16 U.S.C. 2705 and 2708) and Section 30 of the Federal Power Act, as amended.

<p>For (a) and (b) above, such facilities include water-based wind or hydrokinetic renewable energy generation projects and infrastructure to collect solar (concentrating solar power and photovoltaic), wind, biomass, or geothermal energy. Attendant features may include, but are not limited to, land-based collection and distribution facilities, control facilities, and parking lots. For each single and complete project in (b) above, no more than 10 generation units (e.g., wind turbines or hydrokinetic devices) are authorized in navigable waters of the U.S.</p>		
Self-Verification Eligible	PCN Required	Not authorized under GP 13 or IP Required
<p>For land-based facilities:</p> <ol style="list-style-type: none"> 1. Permanent impacts: <ol style="list-style-type: none"> a. Meet the SV limits on page 4, and b. Do not occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; and 2. No work occurs in navigable waters of the U.S.; and 3. No stream channelization, relocation or loss of streambed including impoundments. <p>For water-based facilities and hydropower projects:</p> <ol style="list-style-type: none"> 1. No activities are eligible. 	<p>For land-based facilities:</p> <ol style="list-style-type: none"> 1. Permanent impacts: <ol style="list-style-type: none"> a. Meet the PCN limits on page 4, or b. Occur in non-tidal SAS, except permanent impacts to non-tidal wetlands may be eligible for SV; or 2. Work occurs in navigable waters of the U.S.; or 3. Stream channelization, relocation or loss of streambed including impoundments occurs. <p>For water-based facilities and hydropower projects:</p> <ol style="list-style-type: none"> 1. All work eligible for authorization under this activity provided the permanent impacts do not exceed the PCN limits on page 4. 	<p>Permanent impacts require an IP as stated on page 4.</p>
<p>Notes:</p> <ol style="list-style-type: none"> 1. Utility lines constructed to transfer the energy from the land-based renewable generation or collection facility to a distribution system, regional grid, or other facility are generally considered to be linear projects and those utility lines may be authorized by GP 9 or another Corps authorization. If the only activities associated with the construction, expansion, or modification of a land-based renewable energy generation facility that require Corps authorization are discharges of dredged or fill material into waters of the U.S. to construct, maintain, repair, and/or remove utility lines, then GP 9 shall be used if those activities meet the terms and conditions of GP 9, including any case-specific conditions imposed by the Corps. 2. For temporary or permanent projects authorized under GP 14, including any transmission lines, placed in navigable waters of the U.S. (i.e., section 10 waters) the Corps will send copies of the PCN and verification to NOAA, National Ocean Service, for charting the generation units and associated transmission line(s) to protect navigation. Permittees should refer to the special conditions in the Corps written verification for requirements. 3. For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, the Corps will provide a copy of the PCN and verification to the Department of Defense Siting Clearinghouse¹², which will evaluate potential effects on military activities. 4. Structures in an anchorage area established by the USCG must comply with the requirements in 33 CFR 322.5(I)(2). Structures may not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, Federal navigation channels, shipping safety fairways or traffic separation schemes established by the USCG (see 33 CFR 322.5(I)(1)), or EPA or Corps designated open water dredged material disposal areas. 5. GC 38, Abandonment, is particularly relevant for pilot projects. 		

GP 14. Temporary Construction, Access, and Dewatering (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps or the USCG. This also authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities not otherwise subject to the Corps or USCG permit requirements.

Self-Verification Eligible	PCN Required	Not authorized under GP 14 or IP Required
<p>1. Temporary impacts (except for temporary construction mats) in non-tidal waters of the U.S.:</p> <ul style="list-style-type: none"> a. Meet the SV limits on page 4 (see Note 1), and b. Do not occur in non-tidal SAS, except temporary impacts to non-tidal wetlands may be eligible for SV, and c. Temporary discharges are in place for <2 years. GC 17 is particularly relevant for work in streams; and <p>2. Temporary construction mats (“mats”) and spans in non-tidal waters of the U.S.:</p> <ul style="list-style-type: none"> a. For mats not in streams: mats meeting the SV limits on page 4 are in place for <2 years; and mats exceeding the SV limits on page 4 are in place in for: i) <1 year when installed during the growing period, and ii) no portion of more than one growing period when installed outside the growing period (see Note 2), and b. For mats and spans in streams, mat stream crossings and spans comply with the “Temporary Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹³, and c. Do not involve underlying fill; and <p>3. No temporary work and no impacts, including mats, in tidal waters of the U.S.; and</p> <p>4. No temporary structures in navigable waters.</p>	<p>1. Temporary impacts (except for temporary construction mats) in non-tidal waters of the U.S.:</p> <ul style="list-style-type: none"> a. Meet or exceed the PCN limits on page 4 (see Note 1), or b. Occur in non-tidal SAS, except temporary impacts to non-tidal wetlands may be eligible for SV, or c. Temporary discharges are in place for >2 years. GC 17 is particularly relevant for work in streams; or <p>2. Temporary construction mats (“mats”) and spans in non-tidal waters of the U.S.:</p> <ul style="list-style-type: none"> a. For mats not in streams: mats meeting the SV limits on page 4 are in place for >2 years; or mats exceeding the SV limits on page 4 are in place for: i) >1 year when installed during the growing period, or ii) any portion of more than one growing period when installed outside the growing period (see Note 2), or b. For mats and spans in streams, mat stream crossings and spans do not comply with the “Temporary Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹³, and c. Involve underlying fill; or <p>3. Temporary work or impacts, including mats, in tidal waters of the U.S. that are ≤1 acre, ≤5000 SF to tidal SAS excluding vegetated shallows, or ≤1000 SF of impacts to vegetated shallows (tidal vegetated shallow impacts will require compensatory mitigation); or</p> <p>4. Temporary structures in navigable waters.</p>	<p>1. The use of cofferdams to dewater wetlands or other aquatic areas to change their use; or</p> <p>2. Structures or fill left in place after construction is completed.</p>

Notes:

1. The total temporary and permanent impact area is used to determine if a single and complete project is eligible for SV or requires a PCN. However, the total permanent impact area is used to determine whether a single and complete project exceeds the PCN limits and requires an IP.
2. The growing period is from May 1 to Oct 1 for the purposes of these GPs.
3. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 14 are GCs 14 - 17. The TOY restrictions in GC 18 apply to work: a) outside of streams when work causes turbidity or sediment resuspension in streams or tidal waters; b) in streams and tidal waters (GC 17(f) is particularly relevant); and c) authorized under GP 14(2)(b) as stated in the “Temporary Crossings in Non-Tidal Streams” section of the Stream Crossing BMP document¹³.
4. In addition to the TOY restrictions in GC 18, work authorized under GP 14 that causes turbidity or sediment resuspension in tidal waters, the Connecticut River from the MA/CT border to the Turners Falls Dam, Merrimack River to the Essex Dam, or Taunton River, cannot be conducted between Mar 16 and Oct 31. This is required to avoid effects to listed species under NMFS jurisdiction and can only be waived by the Corps, not in a written State determination (see GC 18(a)).

<p><u>GP 15. Reshaping Existing Drainage Ditches (Section 404; non-tidal waters of the U.S), New Ditches (Section 404; non-tidal waters of the U.S), and Mosquito Management (Sections 10 & 404, tidal waters)</u></p> <p>Discharges to modify the cross-sectional configuration of currently serviceable drainage ditches constructed in waters of the U.S., for the purpose of improving water quality by regrading the drainage ditch with gentler slopes, which can reduce erosion, increase growth of vegetation, and increase uptake of nutrients and other substances by vegetation. Compensatory mitigation is not required because the work is designed to improve water quality. Also authorized is open marsh water management (OMWM) in tidal waters for mosquito reduction.</p>		
<p>Self-Verification Eligible</p> <p>1. ≤500 linear feet of drainage ditch will be modified. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.); and</p> <p>2. No new ditches or relocation of drainage ditches constructed in waters of the U.S.; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch; and</p> <p>3. No OMWM.</p> <p>Note:</p> <p>1. GCs 1-4I apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 15 are GCs 14 - 16.</p>	<p>PCN Required</p> <p>1. >500 linear feet of drainage ditch will be reshaped, or the reshaping of the ditch increases the drainage capacity beyond the original as-built capacity or expands the area drained by the ditch as originally constructed; or</p> <p>2. New ditches or relocation of drainage ditches constructed in waters of the U.S; or</p> <p>3. OMWM.</p>	<p>Not authorized under GP 15 or IP Required</p> <p>Stream channelization or stream relocation projects.</p>

<p><u>GP 16. Response Operations for Oil and Hazardous Substances (Sections 10 and 404; tidal and non-tidal waters of the U.S.)</u></p> <p>Eligible for authorization are the activities in (a) - (c) below. SAS should be restored in place at the same elevation.</p> <p>(a) Activities conducted in response to a discharge or release of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) including containment, cleanup, and mitigation efforts, provided that the activities are done under either:</p> <p>i. The Spill Prevention, Control and Countermeasure Plan required by 40 CFR 112.3; or</p> <p>ii. The direction or oversight of the Federal on-scene coordinator designated by 40 CFR 300; or</p> <p>iii. Any approved existing State, regional or local contingency plan provided that the Regional Response Team concurs with the proposed response efforts or does not object to the response effort.</p> <p>(b) Activities required for the cleanup of oil releases in waters of the U.S. from electrical equipment that are governed by EPA's polychlorinated biphenyl (PCB) spill response regulations at 40 CFR 761. Applicable PCB cleanup is regulated under GP 16 not GP 17.</p> <p>(c) The use of structures and fills for spill response training exercises.</p> <p>(d) Booms placed in navigable waters for oil and hazardous substance containment and absorption.</p>		
<p>Self-Verification Eligible</p> <p>1. Activities are conducted in accordance with (a) or (b) above (see Note 1); and</p> <p>2. For (c) above, no permanent impacts and no permanent structures are proposed; and</p> <p>3. Booms placed for oil containment, absorption and prevention.</p>	<p>PCN Required</p> <p>1. Activities are not conducted in accordance with (a) or (b) above (see Note 1); or</p> <p>2. For (c) above, all permanent impacts that do not exceed the PCN limits on page 4, or permanent structures are proposed.</p>	<p>Not authorized under GP 16 or IP Required</p> <p>For (c) above, permanent impacts require an IP as stated on page 4.</p>

Notes:

1. For work in tidal waters, the Connecticut River from the MA/CT border to the Turners Falls Dam, Merrimack River to the Essex Dam, or Taunton River, the permittee must contact the Corps at (978) 318-8338 before or as soon as possible after the work authorized under GP 16(a) or (b) commences for the Corps to address the effects under the Federal Endangered Species Act with the NMFS. Permittees have until two weeks following commencement of the activities in GP 16 (a) and (b) to submit the SVNf. A SVNf is not required for booms used for spill prevention or properly contained and cleaned de minimis oil or hazardous substance discharges into waters of the U.S.
2. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 16 are GCs 15 and 16. The TOY work windows/restrictions in GC 18 do not apply if the work in GP 16 is an emergency response, but they do apply if the work is planned or scheduled.

GP 17. Cleanup of Hazardous and Toxic Waste (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Specific activities to effect the containment, stabilization, or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements, which are performed, ordered or sponsored by a government agency with established legal or regulatory authority. SAS should be restored in place at the same elevation.

Self-Verification Eligible	PCN Required	Not authorized under GP 17/IP Required
<ol style="list-style-type: none"> 1. Permanent impacts meet the SV limits on page 4; and 2. No work occurs in navigable waters of the U.S., except booms placed for hazardous and toxic waste containment, absorption and prevention are eligible for SV; and 3. No stream channelization, relocation or loss of streambed occurs; and 4. The project does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. 	<ol style="list-style-type: none"> 1. Permanent impacts meet or exceed the PCN limits on page 4; or 2. Work occurs in navigable waters of the U.S., except booms placed for hazardous and toxic waste containment, absorption and prevention are eligible for SV; or 3. Stream channelization, relocation or loss of streambed occurs; or 4. The project involves establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. 	

Notes:

1. Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA as approved or required by EPA, are not required to obtain permits under Section 404 of the CWA or Section 10 of the Rivers and Harbors Act.
2. Permittees have until two weeks following commencement of the activities in GP 17 to submit the SVNf. A SVNf is not required for booms used for contaminant prevention where there has been no hazardous or toxic waste discharge into waters of the U.S.

GP 18. Scientific Measurement Devices (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Scientific measurement devices for measuring and recording scientific data, such as staff gauges, tide and current gauges, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures. Also eligible are small weirs and flumes constructed primarily to record water quantity and velocity. Upon completion of the use of the device to measure and record scientific data, the measuring device and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.) must be removed to the maximum extent practicable.

Self-Verification Eligible	PCN Required	Not authorized under GP 18 or IP Required
<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters meet the SV limits on page 4; and 2. See Section IX, Part A, Subpart 1, for discharges in tidal waters; and 3. The activity does not involve permanent biological sampling devices in non-navigable waters, biological sampling devices in navigable waters; or weirs and flumes. 	<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters meet the PCN limits on page 4; and 2. See Section IX, Part A, Subpart 1, for discharges in tidal waters; and 3. The activity involves permanent biological sampling devices in non-navigable waters, biological sampling devices in navigable waters; or weirs and flumes. 	<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters require an IP as stated on page 4; and 2. See Section IX, Part A, Subpart 1, for discharges in tidal waters.

Notes:

1. GCs 1-41 apply to all GPs unless otherwise stated or a GC is not relevant to a particular GP. Particularly relevant to GP 18 are GCs 16 and 19.
2. The TOY work windows/restrictions in GC 18 only apply to GP 18 if weirs and flumes are installed.

GP 19. Survey Activities (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Survey activities such as soil borings, core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, and historic resources surveys.

Self-Verification Eligible	PCN Required	Not authorized under GP 19 or IP Required
<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters meet the SV limits on page 4; and 2. See Section IX, Part A, Subpart 1, for discharges in navigable waters and the non-tidal portions of the Taunton River; and 3. Exploratory trenching does not occur in waterways (e.g., streams, tidal waters). Exploratory trenching in non-tidal wetlands is eligible for SV; and 4. No seismic exploratory operations as specified in Section IX, Part A, Subpart 1 (see Note 1). 	<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters meet the PCN limits on page 4; or 2. See Section IX, Part A, Subpart 1, for discharges in navigable waters and the non-tidal portions of the Taunton River; or 3. Exploratory trenching occurs in waterways (e.g., streams, tidal waters); or 4. Seismic exploratory operations occur as specified in Section IX, Part A, Subpart 1 (see Note 1). 	<ol style="list-style-type: none"> 1. Permanent impacts in non-tidal waters require an IP as stated on page 4; or 2. See Section IX, Part A, Subpart 1, for discharges in navigable waters and the non-tidal portions of the Taunton River; or 3. Discharges and structures associated with the recovery of historic resources, and the drilling and the discharge of excavated material from test wells for oil and gas exploration. However, the plugging of such wells is authorized.

Notes:

1. The TOY work windows/restrictions in GC 18 do not apply to work in GP 19 unless the work causes turbidity or sediment resuspension in streams and tidal waters. Note that trenching is typically a sediment producing activity.
2. For the purposes of GP 19, the term “exploratory trenching” means mechanical land or underwater clearing of the upper soil profile to expose bedrock or substrate for the purpose of mapping or sampling the exposed material. The area in which the exploratory trench is dug must be restored to its pre-construction elevation upon completion of the work and must not drain a water of the U.S.
3. The discharge of drilling mud and cuttings may require a permit under Section 402 of the CWA.
4. A SVNF is not required for wetland delineations, core sampling conducted for preliminary evaluation of dredge project analysis, and historic resource surveys.

GP 20. Agricultural Activities (Section 404; non-tidal waters of the U.S.)

Discharges of dredged or fill material for agricultural activities, including the construction of building pads for farm buildings. Authorized activities include the installation, placement, or construction of drainage tiles, ditches, or levees; mechanized land clearing; land leveling; the relocation of existing serviceable drainage ditches constructed in waters of the U.S.; and similar activities. This also authorizes the construction of farm ponds in non-tidal waters of the U.S., excluding perennial streams, provided the farm pond is used solely for agricultural purposes. This also authorizes discharges of dredged or fill material into non-tidal waters of the U.S. to relocate existing serviceable drainage ditches constructed in non-tidal streams.

Self-Verification Eligible	PCN Required	Not authorized under GP 20 or IP Required
<ol style="list-style-type: none"> 1. Permanent impacts meet the SV limits on page 4; and 2. No stream channelization, relocation, loss of streambed, or farm ponds in streams occurs; and 3. No work in the rivers listed in Section IX, Part A, Subpart 1. 	<ol style="list-style-type: none"> 1. Permanent impacts meet the PCN limits on page 4; or 2. Stream channelization, relocation, loss of streambed, or farm ponds in non-perennial streams occurs; or 3. Work in the rivers listed in Section IX, Part A, Subpart 1. 	<ol style="list-style-type: none"> 1. Permanent impacts require an IP as stated on page 4; or 2. The construction of farm ponds in perennial streams or aquaculture ponds.

Notes:

1. Permanently impacts as defined in Section VI includes waters of the U.S. that are permanently adversely affected by drainage because of the regulated activity, and shall therefore be figured into the area limit determination on page 4. This is particularly relevant to GP 20.
2. This GP authorizes the construction of farm ponds that do not qualify for the CWA Section 404(f)(1)(C) exemption because of the recapture provision at Section 404(f)(2).

GP 21. Fish and Wildlife Harvesting and Attraction Devices and Activities (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Fish and wildlife harvesting and attraction devices and activities such as lobster pound nets, crab traps, shellfish (includes crab) dredging, eel pots, lobster traps, duck blinds, clam and oyster digging, shellfish seeding including brushing the flats, fish aggregating devices, aquaculture, and small fish attraction devices such as open-water fish concentrators (sea kites, etc.). Aquaculture requirements are provided below and in Section IX, Part D.

Self-Verification Eligible	PCN Required	Not authorized under GP 21 or IP Required
<ol style="list-style-type: none"> 1. No pound nets other than those traditionally used for lobster, no impoundments or semi-impoundments of waters of the U.S., no fish aggregating devices, no small fish attraction devices; and no artificial or living reefs; and 2. Devices and activities that are not located in tidal SAS; and 3. No dredging or excavation in SAS. 	<ol style="list-style-type: none"> 1. Pound nets other than those traditionally used for lobster, impoundments or semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster with an impounded area $\leq 1/2$ acre, fish aggregating devices, small fish attraction devices, or artificial or living reefs; or 2. Devices and activities that are located in tidal SAS; or 3. Dredging or excavation in SAS. 	<p>Impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster with an impounded area $> 1/2$ acre.</p>

Note:

1. A SVNF is not required for work authorized under GP 21. However, a SVNF is required for aquaculture activities.

GP 22. Habitat Restoration, Establishment and Enhancement Activities (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Activities associated with the restoration, enhancement and establishment of non-tidal and tidal wetlands and riparian areas, including invasive, non-native or nuisance species control; the restoration and enhancement of non-tidal streams and other non-tidal waters; the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site; the restoration and enhancement of shellfish, finfish and wildlife; and the rehabilitation or enhancement of tidal streams, tidal wetlands and tidal open waters; provided those activities can demonstrate net increases in aquatic resource functions and services.

Self-Verification Eligible	PCN Required	Not authorized under GP 22 or IP Required
<p>1. Permanent impacts meet the SV limits on page 4. However, cultch placement in tidal waters is eligible for SV provided there are no SAS impacts; and</p> <p>2. SAS planting and transplanting ≤100 SF in tidal waters; and</p> <p>3. No artificial or living reefs; and</p> <p>4. The activity is authorized in writing by a local, State or non-Corps Federal environmental agency. Water impoundments require a PCN; and</p> <p>5. No conversion of: i) a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa, wetland to pond, etc.) or uplands, and ii) one wetland type to another (e.g., forested wetland to an emergent wetland). See Note 3; and</p> <p>6. No dam removal.</p>	<p>1. Permanent impacts meet or exceed the PCN limits on page 4, or cultch placement in tidal waters with SAS impacts; or</p> <p>2. SAS planting and transplanting >100 SF in tidal waters; or</p> <p>3. Artificial or living reefs; or</p> <p>4. The activity a) is not authorized in writing by a local, State or non-Corps Federal environmental agency, or b) involves water impoundments; or</p> <p>5. The conversion of: i) a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa, wetland to pond, etc.) or uplands, ii) one wetland type to another (e.g., forested wetland to an emergent wetland). See Note 3; or</p> <p>6. Dam removal.</p>	<p>Stream channelization.</p>

Notes:

1. GC 8 states PCN is required for any activity that might affect listed species or habitat. This includes beneficial effects.
2. Nationwide Permit 27, published in the 2/21/12 Federal Register, provides a limited list of activities that may be eligible for authorization under GP 22.
3. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type.
4. The TOY restrictions in GC 18 do not apply to cultch placement or SAS planting and transplanting.

GP 23. Previously Authorized Activities (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

See Section IX, Part A, Subpart 1.

IV. GENERAL CONDITIONS:

To qualify for GP authorization, the prospective permittee must comply with the following general conditions, as applicable. See Section IX, Part A, Subparts 3 and 4, for state-specific general conditions and additional information.

1. Other Permits
2. Federal Jurisdictional Boundaries
3. Minimal Direct, Secondary, and Cumulative Effects
4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)
5. Single and Complete Projects
6. Historic Properties
7. Corps Projects and Property
8. Federal Threatened and Endangered Species
9. Wild and Scenic Rivers
10. Navigation
11. Federal Liability
12. Pile Driving and Removal
13. Utility Line Installation and Monitoring
14. Heavy Equipment in Wetlands
15. Temporary Fill
16. Restoration
17. Soil Erosion, Sediment and Turbidity Controls
18. Time of Year Windows/Restrictions.
19. Aquatic Life Movements and Management of Water Flows
20. Water Quality and Coastal Zone Management
21. Floodplains and Floodways
22. Storage of Seasonal Structures
23. Spawning, Breeding, and Migratory Areas
24. Vernal Pools
25. Invasive and Other Unacceptable Species
26. Blasting
27. Suitable Material
28. Programmatic Agreements
29. Permit On Site
30. Self-Verification Notification Form
31. Inspections
32. Maintenance
33. Property Rights
34. Transfer of GP Verifications
35. Modification, Suspension, and Revocation
36. Special Conditions
37. False or Incomplete Information
38. Abandonment
39. Enforcement Cases
40. Previously Authorized Activities
41. Duration of Authorization

1. Other Permits. Permittees must obtain other Federal, State, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required State or local approvals. Work that is not regulated by the State, but is subject to Corps jurisdiction, may be eligible for SV or PCN under these GPs.

2. Federal Jurisdictional Boundaries. Activities shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted on permit drawings satisfy the Federal criteria defined at 33 CFR 328-329. See www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands for more information on delineating jurisdictional areas.

3. Minimal Direct, Secondary, and Cumulative Effects¹⁴. Projects shall have no more than minimal direct, secondary and cumulative adverse environmental effects. Project proponents shall predict secondary and cumulative effects to the extent reasonable and practicable. All PCNs should include this information.

4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)

a. Activities must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the U.S. to the maximum extent practicable at the project site (i.e., on site). Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) is required to the extent necessary to ensure that the adverse effects to the aquatic environment are no more than minimal.¹⁵

b. Applicants shall consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce impervious cover and manage stormwater to minimize impacts to the maximum extent practicable.¹⁵

c. Compensatory mitigation¹⁶ for effects to waters of the U.S., including direct, secondary and temporal¹⁷, will generally be required for permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no secondary effects may generally be excluded from this requirement.

5. Single and Complete Projects¹⁸

a. The use of more than one GP for a single and complete project is prohibited, except when the impact area of waters of the U.S. authorized by the GPs does not exceed the area limit of the GP with

¹⁴ Direct, secondary and cumulative effects are defined at Section VI, Definitions and Acronyms. The New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/missions/regulatory >> Mitigation is a resource for assessing secondary impacts.

¹⁵ See: www.nae.usace.army.mil/missions/regulatory >> State General Permit >> Permit Resources >> Mitigation for this additional information: a) “Wetland BMP Manual - Techniques for Avoidance & Minimization,” b) riparian/forested buffer BMPs, and c) LID BMPs. LID BMPs include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden.

¹⁶ Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/missions/regulatory >> Mitigation.

¹⁷ Temporal loss: The time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

¹⁸ This is defined in Section VI - Definitions and Acronyms.

the highest specified area limit. For example, if a road crossing over tidal waters is constructed under GP 10, with associated bank stabilization authorized by GP 7, Bank and Shoreline Stabilization, the maximum impact area of waters of the U.S. for the total project cannot exceed 1/2 acre. The same GP cannot be used more than once for the same single and complete project.

b. A non-linear single and complete project¹⁸ must have independent utility and may not be “piecemealed” to avoid the limits in a GP authorization. Proponents must quantify any permanent fill previously authorized under a state GP (see Section IX, Part A, Subpart 3, for dates) associated with the single and complete project and provide that information in the PCN.

c. Activities are not eligible for SV if they are part of an overall project for which an IP is required unless the Corps determines that the activity is a single and complete project based upon its analysis of the entire overall project.

6. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places¹⁹, including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must ensure and document that the activity will not cause effects as stated in 6(a). Coordination with the entities in 6(a) using the forms/methods specified in Section IX, Part B, Subpart 2, is recommended to demonstrate due diligence to identify historic properties. The SHPO and THPOs are expected to provide comment to the applicant and/or the Corps within 30 days of receipt if there are additional historic properties which need to be addressed. Proponents must submit a PCN if the authorized activity may cause effects as stated in 6(a) as soon as possible to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property to ensure all Section 106 requirements.

c. All PCNs shall: i) show notification to the SHPO and applicable THPO(s)²⁰ as specified in Section IX, Part B, Subpart 2, for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO, MA Board of Underwater Archaeological Resources (MA only) or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money. The SHPOs and THPOs will contact the Corps if there is any potential for an effect on a historic property and the Corps will begin consultation.

d. Applicants need to coordinate with the Corps before conducting any onsite archaeological work (reconnaissance, surveys, recovery, etc.) as the Corps will use 33 CFR 325 Appendix C, including its “permit area” definition, to determine its scope of analysis for the consideration of historic properties. This is to ensure that work is done in a cost-effective manner, in accordance with Corps requirements

¹⁹ The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

²⁰ Section IX, Part C, 3. Historic Resources, provides contact information and each tribe’s “area of concern.”

and to avoid effects to historic properties before the consultation requirements of Section 106 of the NHPA have been satisfied.

e. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and State coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

7. National Lands

a. In addition to any authorization under these GPs, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent modification or use of a Federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, seawall, bulkhead, jetty, wharf, pier or other work built but not necessarily owned by the United States), which would obstruct or impair the usefulness of the Federal project in any manner, and/or would involve changes to the authorized Federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408.

c. Any structure or work within any Corps Federal Navigation Project (FNP) or its buffer zone²¹, shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. See GC 10 for more requirements related to FNPs.

d. A PCN is required for activities within, or with any secondary or cumulative adverse environmental effects on, any National Wildlife Refuge, National Forest, National Marine Sanctuary (e.g., Stellwagen Bank), National Park or any other area administered by the National Park Service (e.g., Cape Cod National Seashore), U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service.

8. Federal Threatened and Endangered Species

a. No activity is authorized which: a) is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species; b) "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed; or c) violates the ESA.

b. For threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat") under U.S. Fish and Wildlife Service (USFWS) jurisdiction, a PCN is required if a listed species or habitat is present in the action area²². Applicants must check the following USFWS website to ensure that listed species or habitat are not present in the action area, and must submit a PCN with information on listed

²¹ See Section VI for a list of Corps FNPs. The buffer zone is equal to three times the authorized depth of the Corps FNP.

²² The "Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA," defines action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. (50 CFR 402.02)."

species or habitat, when present, to allow the Corps to conduct any required consultation under Section 7 of the ESA: <http://ecos.fws.gov/ipac/>, select “Initial Project Scoping.” Follow Steps 1 - 3 to determine if listed species or habitat are present in the action area.

For listed species or habitat under NMFS jurisdiction, the Corps has determined that all work eligible for SV will have no effect on listed species or habitat; therefore project proponents are not required to check for listed species or habitat for work that is SV eligible (see Note 1 in GP 16 for an exception).

c. Federal agencies should follow their own procedures for complying with the requirements of the ESA. Work may be eligible for SV if another Federal agency has satisfied the requirements of Section 7 of the ESA. Upon request, permittees must provide the Corps with the appropriate documentation to demonstrate compliance with those requirements.

9. Wild and Scenic Rivers²³

a. The following activities in designated rivers or study rivers in the National Wild and Scenic River (WSR) System require a PCN unless the National Park Service has determined in writing to the proponent that the proposed work will not adversely affect the WSR designation or study status:

- i. Activities that occur in designated rivers or study rivers, in and 0.25 miles up or downstream of designated rivers or study rivers, or in tributaries within 0.25 miles of designated rivers or study rivers;
- ii. Activities that occur in wetlands adjacent to the segments in 9(a)(i) above;
- iii. Activities that have the potential to alter the free-flowing characteristics in designated rivers or study rivers.

b. The designated rivers and study rivers in New England as of February 4, 2015 are listed in Section IX, Part A, Subpart 3, along with other state-specific information.

10. Navigation

a. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

b. The permittee understands and agrees that if future U.S. operations require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

c. A PCN is required for all work in, over or under an Corps FNP or its buffer zone²¹ except for the work authorized in GPs 1 and 16, and the work specified in GPs 2 and 4.

11. Federal Liability

In issuing these GPs, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes;
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest;
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit;

²³ Additional information can be found at: <http://www.rivers.gov>.

- d. Design or construction deficiencies associated with the permitted work; or
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

12. Pile Driving and Removal

- a. Derelict, degraded or abandoned piles in navigable waters, except for those inside of existing work footprints for piers, must be completely removed or cut and driven 3 feet below the surface to prevent interference with navigation and in some cases to remove polluting materials. Existing creosote piles in the project area that are affected by project activities should be completely removed. In areas of fine-grained substrates, piles must be removed by the direct, vibratory or clamshell pull method²⁴ to minimize turbidity and sedimentation impacts and prevent interference with navigation from cut piles. Removed piles shall be disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats. The TOY restrictions in GC 18 do not apply unless specified in a written determination.
- b. A PCN is required for all pile-driving work that does not meet one of the following conditions in:
 - a) tidal waters; or b) non-tidal navigable waters that are rivers. Pile driving can generate underwater sound pressure waves that may injure, harm or kill managed fish and prey species.
 - i. Piles are ≤12 inches in diameter. Use a soft start each day of pile driving, building up power slowly from a low energy start-up over a period of 20-40 minutes to provide adequate time for fish and marine mammals to leave the vicinity. The buildup of power should occur in uniform stages to provide a constant increase in output. Bubble curtains can be used to reduce sound pressure levels during vibratory or impact hammer pile driving; or
 - ii. Piles are installed between Nov 1 and March 15. This is to avoid effects to Federal threatened and endangered species and cannot be waived in a written State determination as stated in GC 18(a)(ii).

13. Utility Line Installation and Removal

- a. Subsurface utility lines shall remain subsurface. If it is necessary to discharge dredged or filled material to keep such utility lines buried or restore them to their original subsurface condition, written verification from the Corps may be required (e.g., in the case of side casting into wetlands from utility trenches).
- b. Subsurface utility lines must be installed at a sufficient depth to avoid damage from anchors, dredging, etc., and to prevent exposure from erosion and stream adjustment. In accordance with Corps New England District Regulation NEDER 1110-1-9 (www.nae.usace.army.mil/missions/regulatory >> [Useful Links and Documents](#)), as an absolute minimum, the bottom cover associated with the initial installation of utility lines under navigable waters and navigation channels shall be 48 inches in soil or 24 inches in rock excavation in competent rock unless specified in a written determination. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing Corps FNPs, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth for dredging tolerances. In waterways that do not have existing FNPs, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

²⁴ Direct Pull: Each piling is wrapped with a choker cable or chain that is attached at the top to a crane. The crane then pulls the piling directly upward, removing the piling from the sediment. Vibratory Pull: The vibratory hammer is a large mechanical device (5-16 tons) that is suspended from a crane by a cable. The vibrating hammer loosens the piling while the crane pulls up. Clamshell Pull: This can remove intact, broken or damaged pilings. The clamshell bucket is a hinged steel apparatus that operates like a set of steel jaws. The bucket is lowered from a crane and the jaws grasp the piling stub as the crane pulls up. The size of the clamshell bucket is minimized to reduce turbidity during piling removal.

- c. For horizontal directional drilling work, returns of drilling fluids to the surface (i.e., frac-outs) are not authorized and require restoration in accordance with the terms and conditions of these GPs. The permittee and their contractor shall have onsite and implement the procedures detailed in a frac-out contingency plan for monitoring drilling operations and for the immediate containment, control and recovery/removal of drilling fluids released into the environment should a discharge of material occur during drilling operations.
- d. Abandoned or inactive utility lines must be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) must be removed or repaired. A written verification is required if they are to remain in place, e.g., to protect sensitive areas or ensure safety.
- e. No work shall drain a water of the U.S. by providing a conduit for water on or below the surface. Trench plugs installed along pipelines may be effective.

14. Heavy Equipment in Wetlands or Mudflats

- a. Operating heavy equipment in wetlands or mudflats shall be minimized, and such equipment other than fixed equipment (drill rigs, fixed cranes, etc.) shall not be stored, maintained, fueled or repaired in wetlands or mudflats unless the equipment is broken down and cannot be easily removed or unless it is more environmentally damaging to do otherwise. An adequate supply of spill containment equipment shall be maintained on site.
- b. Where construction requires heavy equipment operation in or across wetlands or mudflats, the work shall result in no more than minimal adverse effects unless otherwise authorized. The equipment shall:
 - i. Have low ground pressure (typically ≤ 3 psi); or
 - ii. Be placed on swamp/construction/timber mats (herein referred to as “construction mats” and defined at Section VI) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or
 - iii. Be operated on adequately dry or frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands.
- c. General Condition 16 is particularly relevant to impacts from heavy equipment and construction mats, especially when work occurs on soils meeting these field indicators,²⁵ which are highly susceptible to shear forces: A1 (Histosol), A2 (Histic Epipedon), A3 (Black Histic), A10 (2cm Muck), S1 (Sandy Mucky Mineral), or S3 (5cm Mucky Peat or Peat).
- d. When construction mats are used, they shall be placed in the wetland or mudflats from the upland or from equipment positioned on construction mats if working within a wetland. Dragging construction mats into position is prohibited. Construction mats should be managed in accordance with the Construction Mat BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.
- e. In tidal wetlands, no dredge work shall have equipment traverse, be placed, or stored on the marsh vegetation unless specifically authorized in writing.

15. Temporary Fill

- a. Temporary fill, construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.
- b. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable,

²⁵ U.S. Department of Agriculture, Natural Resources Conservation Service, 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G. W. Hurt, and C.V. Noble (eds.)
Section IV

typically within three calendar days after disturbance. Accelerated stabilization (the providing of temporary or permanent cover by the end of the work day to prevent erosion) shall be employed as necessary. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

c. Unconfined temporary fill authorized for discharge into waters of the U.S. (see GP 14) shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

d. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

e. Temporary fill, construction mats and corduroy roads are considered temporary only if they are removed as soon as they are no longer needed to construct the authorized work.

f. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

16. Restoration

a. Temporary fills must be removed in their entirety and the affected areas restored to their pre-construction condition, function and elevation. Restoration shall typically commence no later than the completion of construction. The physical actions of cut-and-fill work, land grading, construction equipment movement and the transport of building materials alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil's water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

b. For excavated areas, "restored to pre-construction condition, function and elevation" means careful removal of existing soil and vegetation, separate topsoil and subsoil stockpiling, soil protection, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized. Plan for natural settling that will occur (the initial post-restoration elevation of the backfilled areas should be above the desired final grade as topsoil may settle by 33% to 50%), minimize compaction, and ensure that topsoil is void of gravel and subsoil. A minimum of 4 inches of topsoil should be at the surface after the soil has settled. Wetland areas temporarily disturbed shall be stabilized (e.g., seeded or planted). Seed mixes and vegetation shall include only plant species native to New England and shall not include any species listed in Appendix D, "Invasive and Other Unacceptable Plant Species," of the "New England District Compensatory Mitigation Guidance" (see GC 25). This list may be updated periodically.

c. Limit compaction to the minimum needed to promote a successful seedbed; avoid a 'fluffy' seedbed, which is susceptible to erosion until the plants get established, and a compacted topsoil layer, which is counter-productive and will lead to greater erosion susceptibility down the road. Test soils for compaction. A soil probe, auger, or shovel should be able to retrieve samples of post-restoration profile. Equipment refusal shall be considered a failure of restoration, in which case the soil should be restored through deep-ripping and/or decompaction, or other appropriate methods, and wetland hydrology must be maintained. See the BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources >> Restoration of Special Aquatic Sites.d. In areas of authorized temporary disturbance, cut woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

e. Trenches shall be constructed or backfilled so that the trench does not drain waters of the U.S. (e.g., materials or methods that create a French drain effect).

17. Soil Erosion, Sediment and Turbidity Controls

- a. Appropriate soil erosion, sediment and turbidity controls²⁶ must be used and maintained in effective operating condition during construction, and all exposed soil and other fills must be permanently stabilized at the earliest practicable date. Erosion, sediment and turbidity controls shall be capable of preventing erosion, of collecting sediment, suspended and floating materials, and of filtering fine sediment.
- b. Temporary soil erosion, sediment and turbidity controls shall be removed promptly upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these devices shall be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland. Controls may be left in place if they are biodegradable²⁷, appropriate, and flows, animal passage, etc. are not disrupted. Biodegradable controls left in place, such as rolled erosion control products (RECPs) (e.g., mulch control netting, erosion control blankets, turf mats, mulch socks, fiber rolls, wattles, etc.), must be composed of 100% natural biodegradable material. Photodegradable, UV degradable or Oxo-(bio)degradable plastics are not considered biodegradable for the purposes of this requirement. When RECPs reinforced with netting must be used, the mesh or aperture size should be as large as possible to avoid wildlife entrapment and should have a loose-weave wildlife-safe design with movable joints between the horizontal and vertical twines, allowing the twines to move independently and thus reducing the potential for wildlife entanglement. Avoid the use of silt fences reinforced with metal or plastic mesh or the mesh or aperture size should be as large as possible. See the Wildlife-Friendly Plastic-Free Netting BMP document located at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.
- c. Permittees are encouraged to perform work within waters of the U.S. during periods of low-flow or no-flow conditions, or when the tide is waterward of the work.
- d. Work occurring within 25 feet of tidal SAS or shellfish beds must utilize appropriate controls and techniques to minimize direct and secondary impacts.
- e. Trenches must be backfilled as soon as practicable after pipeline installation to reduce turbidity impact duration.
- f. Except for dredging authorized under GP 5, there shall be no unconfined fill, excavation, turbidity causing, or sediment resuspending work (e.g., grading, excavation, beach nourishment, etc.) in flowing or tidal waters. This shall be accomplished by working in dry conditions, which may occur during periods of no flow (proponents must plan for unexpected high flows), when the tide is waterward of the work, or by confining and dewatering the work site using appropriate management techniques²⁸ performed in accordance with (i)-(v) below. The Corps may waive this requirement with a written determination concluding that the work will result in no more than minimal adverse effects. (i), (ii) and (iv) below may be modified in writing in accordance with GC 18 unless otherwise stated.
 - i. Install during the TOY work window in GC 18. Install early in the TOY work window to the maximum extent practicable to allow for removal during the same TOY work window. Maintain downstream passage for diadromous fish during the TOY work window and restriction.
 - ii. Removal should occur during the same TOY work window if practicable, however:
 1. Non-embedded management techniques (e.g., jersey barriers) may be removed during the TOY restriction; and

²⁶ Appropriate soil erosion and sediment controls are management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e., silt fence, vegetated filter strips, geotextile silt fences, filter tubes, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization, etc.

²⁷ Defined in Section VI, Definitions and Acronyms.

²⁸ Management techniques used to achieve dry conditions may involve cofferdams, bypass pumping around barriers immediately up and downstream of the work footprint (e.g., “dam and pump”), etc.

2. Embedded management techniques (e.g., cofferdams) shall not be removed during the TOY restriction. These must be removed during the TOY work window; and

3. Water diversions²⁹ must be removed before the TOY restriction begins. The exception is for those associated with permanent stream crossings in non-tidal streams that are eligible for SV as specified in GP 10 and throughout this document, which may remain into the TOY restriction provided that downstream passage for diadromous fish is maintained and they are removed before March 1 when upstream passage begins. Water divisions may remain after March 1 if specified by the Corps in writing, not the state as specified in GC 18.

iii. Installation and removal shall be performed as follows (the 401 WQC conditions may be particularly relevant):

1. Source control: If silts, fine sediment, mud, or other potential mobile materials are present prior to cofferdam removal, they shall be removed mechanically or by hand, whichever has the least site disturbance. Operation of the dewatering system may still be required through this sediment removal process. Suitable material may be reused, e.g., mixing with loam and seed to stabilize side slopes or augment grassed or naturalized areas.

2. Stabilization: The final streambed shall be placed prior to cofferdam removal. The material may include riprap for scour protection, a modified rockfill side slope, or a natural streambed material. Construction of this material within the dry cofferdam will prevent the underlying sediment from becoming displaced during cofferdam removal.

3. Turbidity curtains: Use turbidity curtains in non-tidal waters when appropriate during installation and removal in areas where work may cause turbidity or sediment resuspension. Curtains should have a weighted bottom and be secured on each bank.

iv. Work in streams may not encroach >25% of the waterway width at OHW or MLW during the TOY restriction or >50% of the waterway width during the TOY window. The exception is for the work specified in 17(f)(ii)(3) above.

v. The material within sandbags shall not be released (e.g., sandbag slicing) during their removal.

g. Bank stabilization activities authorized in GPs 1 and 7 are not subject to the requirements in (f) above. General Conditions 17(a)-17(c) and 18 are particularly relevant.

18. Time of Year Work Windows/Restrictions

a. Work authorized under GPs 1, 3, 5-20, 22 and 23 that occurs in or causes turbidity or sediment resuspension in streams or tidal waters must be conducted during the TOY work windows or not during the TOY restrictions specified in Section IX, Part A, Subpart 3, GC 18, unless:

i. Specified elsewhere in this GP document (e.g., the notes in GPs 1, 3, 14, 16, 18, 19, 22 and 23; GCs 12(a) and 17(f), etc.); or

ii. Stated in a written State determination in accordance with the method provided in Section IX, Part A, Subpart 3. This is not applicable: if the Corps specifically requires a TOY work window or restriction in writing; if specifically prohibited in this document (e.g., GC 17(f)(ii)(3)); when listed species or habitat under USFWS jurisdiction are present in the action area (see GC 8(b)); or when listed species or habitat under NMFS jurisdiction are present in the action area, i.e., work occurs in tidal waters, the Connecticut River from the MA/CT border to the Turners Falls Dam, Merrimack River to the Essex Dam, or Taunton River; or

iii. Waived by the Corps in a written determination concluding that the work will result in no more than minimal adverse effects.

²⁹ Water diversions are activities such as bypass pumping (e.g., “dam and pump”) or water withdrawals. Temporary flume pipes, culverts or cofferdams where continuity of flow/normal flow is maintained within the stream boundary’s confines are not water diversions. “Normal flow” is defined as no change in flow from pre-project conditions.

Note: For (ii) and (iii) above, proponents must demonstrate the need for a modification and any mitigating factors.

b. The Corps may modify TOY restrictions for a particular region(s) for a specified time period during emergency situations.

19. Aquatic Life Movements and Management of Water Flows

a. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Unless otherwise stated, activities permanently impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

20. Water Quality and Coastal Zone Management

a. Applicants must satisfy any conditions imposed by the State, where applicable, in its CWA § 401 WQC for these GPs, or in any Individual § 401 WQC. See Section IX, Part A, Subpart 3, for state-specific information and to determine if any action is required to obtain a 401 WQC. The Corps may require additional water quality management measures to ensure that the authorized activity does not cause or contribute to a violation of water quality standards. All projects authorized by these GPs shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Applicants must satisfy any additional conditions imposed by the State in their Coastal Zone Management (CZM) Act consistency concurrences for these GPs, or in any Individual CZM consistency concurrences. See Section IX, Part A, Subpart 3, for state-specific information and to determine if any action is required to obtain an Individual CZM consistency concurrence. The Corps may require additional measures to ensure that the authorized activity is consistent with State CZM requirements.

21. Floodplains and Floodways

a. Appropriate measures must be taken to minimize flooding to the maximum extent practicable.

b. Activities within 100-Year Floodplains must comply with applicable Federal Emergency Management Agency (FEMA)-approved State and/or local floodplain management permitting requirements. Proponents may need to coordinate with FEMA and apply for a formal change to the flood insurance study products or forward a set of project plans and relevant technical documentation in a digital format to the Risk Analysis Branch Chief, Mitigation Division, FEMA, Region 1, 99 High

Street, Boston, Massachusetts 02110. Applicants should provide a copy of any documentation to the Corps along with the PCN.

22. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, aquaculture structures, etc. that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location landward of mean high water (MHW) or OHW and not in wetlands, tidal wetlands, their substrate or mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is waterward of MHW or OHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps approval.

23. Spawning, Breeding, and Migratory Areas

a. Activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

b. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any “take” permits required under the USFWS’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the Corps or appropriate local office of the USFWS to determine if such “take” permits are required for a particular activity.

24. Vernal Pools

a. Direct, secondary and cumulative adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats,³⁰ shall be avoided and minimized³¹ to the maximum extent practicable (see the documents in Footnote 32). Site clearing, grading and construction activities associated with a regulated activity³² in the VP depression, envelope or critical terrestrial habitat may cause secondary or cumulative effects to the VP.

b. For the PCN’s project plans, show all VPs that are located: i) less than 500 feet offsite and known (based upon searches of publically available documentation, including databases, GIS mapping, regulatory agency or historical records, etc.), and ii) onsite based upon the data sources in 24(b)(i) above and field surveys³³.

³⁰ The VP depression, envelope, and critical terrestrial habitat are defined in Section VI, Definitions and Acronyms.

³¹ The following documents provide avoidance and minimization practices, and conservation recommendations, and are located at www.nae.usace.army.mil/missions/regulatory >> Vernal Pools. The directional corridor and concentric circle concepts are explained in (a) below. The concentric circle concept is also explained in (b) & (c).

a. Corps Vernal Pool BMPs

b. Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant.

c. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant.

³² The discharge of dredged or fill material into waters of the U.S., or structure or work in navigable waters. See Section II, Page 3.

³³ Proponents must conduct field surveys in accordance with the Corps document titled “Vernal Pool Assessment,” which includes information on conducting investigations during dry periods, and the Section IV

- c. A PCN is required when the following occur (see the documents in Footnote 32 for avoidance and minimization practices that the Corps will use during its review):
 - i. A discharge of dredge or fill material occurs within a VP depression; or
 - ii. There is a VP depression, either offsite (if known) or onsite, within 500 feet of any regulated activity.³³
- d. GC 24(c)(i) and (c)(ii) do not apply to temporary construction mats in previously disturbed areas of existing 1) utility project right-of-ways (e.g., electric transmission lines and gas pipelines) or 2) linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways), provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources.
- e. GC 24(a) and (c) do not apply to projects that are within a municipality and meet the provisions of a Corps-approved VP Special Area Management Plan (VP SAMP) and are otherwise eligible for self-verification.
- f. See Section IX, Part A, Subpart 4, for state-specific protections for certain wetland areas.

25. Invasive and Other Unacceptable Species³⁴

- a. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be avoided to the maximum extent practicable. For example, construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use. The introduction or spread of invasive plant or animal species on the project site caused by the site work shall be controlled.
- b. No cultivars, invasive or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by these GPs. However, non-native species and cultivars may be used when it is appropriate and specified in a written verification, such as using *Secale cereale* (Annual Rye) to quickly stabilize a site. All PCNs should explain the reason for using non-native species or cultivars.

26. Blasting. Blasting in waters of the U.S. associated with work such as dredging, trenching, pile installation, etc. is not authorized under these GPs and an IP is required.

27. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

28. Programmatic Agreements. The Corps requirements to comply with Section 106 of the NHPA, Section 7 of the Endangered Species Act or Essential Fish Habitat conservation under the Magnuson-Stevens Act may be satisfied by a Programmatic Agreement with the Corps, New England District or another Federal action agency. Activities may then be eligible for SV. Any Corps, New England District Programmatic Agreements will be available on our website.

29. Permit On Site. The permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work

accompanying “Vernal Pool Characterization Form.” See www.nae.usace.army.mil/missions/regulatory >> Vernal Pools.

³⁴ For the purposes of these GPs, plant species that are considered invasive and unacceptable are provided in Appendix D, “Invasive and other Unacceptable Plant Species” of the “New England District Compensatory Mitigation Guidance” at www.nae.usace.army.mil/missions/regulatory >> Mitigation. Chapter 4(e) Planting is also particularly relevant. The June 2009 “Corps of Engineers Invasive Species Policy” provides policy, goals and objectives and is located at www.nae.usace.army.mil/missions/regulatory >> Invasive Species. Additional information can be found at: www.eddmaps.org/ipane.

is being performed and that all construction personnel performing work which may affect waters of the U.S. are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term “entire permit authorization” means this entire GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

30. Self-Verification Notification Form. Permittees must complete and submit the SVNF provided at Section VII to the Corps for work authorized by this GP. However, the SVNF is not required for the work specified in the notes to GPs 2, 16, 17, 19 and 21. See the SVNF for submittal requirements and timing, and the state-specific application/notification procedures in Section IX, Part B for more information.

31. Inspections. The permittee shall allow the Corps to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this GP and any written verification. The Corps may also require post-construction engineering drawings for completed work or post-dredging survey drawings for any dredging work. To facilitate these inspections, the permittee shall complete and return to the Corps the following forms:

- For Self-Verification: The SVNF (see GC 30).
- For PCN: The a) Work-Start Notification Form and b) Compliance Certification Form, when either are provided with the authorization letter.

32. Maintenance

a. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable general conditions and activity-specific conditions to a written verification.

b. The requirement in (a) above does not include maintenance of dredging projects. Each maintenance dredging event exceeding the SV limits requires a new PCN unless an unexpired, written PCN or other Corps authorization specifies that the permittee may “dredge and maintain” an area for a particular time period. Self-verification or PCN maintenance dredging includes only those areas and depths previously authorized and actually dredged.

c. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). See Section III, GP 1.

33. Property Rights. These GPs do not convey any property rights, either in real estate or material, or any exclusive privileges, nor do they authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

34. Transfer of GP Verifications. When the structures or work authorized by these GPs are still in existence at the time the property is transferred, the terms and conditions of these GPs, including any special conditions, will continue to be binding on the entity or individual who received the GP authorizations, as well as the new owner(s) of the property. If the permittee sells the property

associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Section IX, Part E, for address) to validate the transfer. A copy of the GP verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by these GPs are still in existence at the time the property is transferred, the terms and conditions of these GPs, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of these GPs and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

35. Modification, Suspension, and Revocation. These GPs or any work authorized under these GPs by self-verification or PCN may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

36. Special Conditions. The Corps may independently, or at the request of the Federal resource agencies, impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all terms and conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or an ordered restoration.

37. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under these GPs and subsequently discovers that it has relied on false, incomplete or inaccurate information provided by the permittee, the Corps may determine that the GP authorization is not valid; modify, suspend or revoke the authorization; and the U.S. Government may institute legal proceedings.

38. Abandonment. If the permittee abandons or decides to abandon the activity authorized under these GPs, the work must be removed and the area restored to the maximum extent practicable unless a GP or IP specifically authorizes the abandonment.

39. Enforcement cases. These GPs do not apply to any existing or proposed activity in Corps jurisdiction associated with an ongoing Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA, as appropriate, determines that the activity may proceed independently without compromising the enforcement action.

40. Previously Authorized Activities

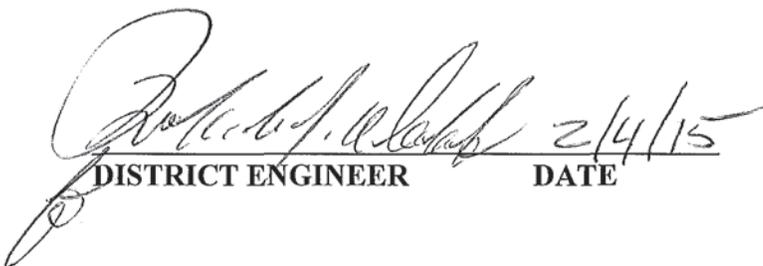
- a. Any work that was authorized in accordance with the state GPs that were in effect at the time these GPs were issued, remain in effect in accordance with the original provisions of those state GPs, including its terms, general conditions, and any special conditions in the written verification.
- b. Projects authorized and completed under the previous GPs, Programmatic GPs (PGPs), nationwide permits, or regional GPs, are not affected by these GPs.

c. Activities authorized pursuant to 33 CFR 330.3 (“Activities occurring before certain dates”) are not affected by this GP.

41. Duration of Authorization

a. These GPs expire on February 4, 2020. Activities authorized under GPs 1 - 23 that have either commenced (i.e., are under construction) or are under contract to commence before these GPs expire will have until February 4, 2021 to complete the activity under the terms and conditions of the current GPs. The permittee must be able to document to the Corps satisfaction that the project was under construction or under contract by the appropriate date. If work is not completed within the one year extended timeframe, the permittee must contact the Corps if he/she wants the work to continue to be authorized after that date.

b. Activities completed under these GPs will continue to be authorized.


DISTRICT ENGINEER DATE 2/4/15

APPENDIX C – PREVAILING 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**

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

Awarding Authority: City of Lowell
Contract Number: 16-103 **City/Town:** LOWELL
Description of Work: Lawrence Street Bridge Repairs - All labor, materials, equipment, tools, appliances etc. necessary for construction of the Lawrence Street Bridge Repair Project
Job Location: Lowell

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>	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	03/01/2016	\$47.76	\$10.18	\$18.54	\$0.00	\$76.48
BRICKLAYERS LOCAL 3 (LOWELL)	09/01/2016	\$48.66	\$10.18	\$18.62	\$0.00	\$77.46
	03/01/2017	\$49.23	\$10.18	\$18.62	\$0.00	\$78.03

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Lowell

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.88	\$10.18	\$18.54	\$0.00	\$52.60
2	60	\$28.66	\$10.18	\$18.54	\$0.00	\$57.38
3	70	\$33.43	\$10.18	\$18.54	\$0.00	\$62.15
4	80	\$38.21	\$10.18	\$18.54	\$0.00	\$66.93
5	90	\$42.98	\$10.18	\$18.54	\$0.00	\$71.70

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.33	\$10.18	\$18.62	\$0.00	\$53.13
2	60	\$29.20	\$10.18	\$18.62	\$0.00	\$58.00
3	70	\$34.06	\$10.18	\$18.62	\$0.00	\$62.86
4	80	\$38.93	\$10.18	\$18.62	\$0.00	\$67.73
5	90	\$43.79	\$10.18	\$18.62	\$0.00	\$72.59

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$37.20	\$7.45	\$13.75	\$0.00	\$58.40
	12/01/2016	\$38.20	\$7.45	\$13.75	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2016	\$37.10	\$9.80	\$16.82	\$0.00	\$63.72
	09/01/2016	\$38.08	\$9.80	\$16.82	\$0.00	\$64.70
	03/01/2017	\$39.05	\$9.80	\$16.82	\$0.00	\$65.67
	09/01/2017	\$40.06	\$9.80	\$16.82	\$0.00	\$66.68
	03/01/2018	\$41.06	\$9.80	\$16.82	\$0.00	\$67.68
	09/01/2018	\$42.10	\$9.80	\$16.82	\$0.00	\$68.72
	03/01/2019	\$43.13	\$9.80	\$16.82	\$0.00	\$69.75

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$45.23	\$10.00	\$15.15	\$0.00	\$70.38
	12/01/2016	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	06/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
	12/01/2017	\$48.48	\$10.00	\$15.15	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 2</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 2</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
4	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.44	\$0.00	\$54.14
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Notes:
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$41.03	\$10.00	\$14.90	\$0.00	\$65.93
	11/01/2016	\$41.62	\$10.00	\$14.90	\$0.00	\$66.52
	05/01/2017	\$42.50	\$10.00	\$14.90	\$0.00	\$67.40
	11/01/2017	\$43.23	\$10.00	\$14.90	\$0.00	\$68.13
	05/01/2018	\$43.94	\$10.00	\$14.90	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$42.47	\$10.00	\$14.90	\$0.00	\$67.37
	11/01/2016	\$43.07	\$10.00	\$14.90	\$0.00	\$67.97
	05/01/2017	\$43.96	\$10.00	\$14.90	\$0.00	\$68.86
	11/01/2017	\$44.69	\$10.00	\$14.90	\$0.00	\$69.59
	05/01/2018	\$45.41	\$10.00	\$14.90	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$21.88	\$10.00	\$14.90	\$0.00	\$46.78
	11/01/2016	\$22.23	\$10.00	\$14.90	\$0.00	\$47.13
	05/01/2017	\$22.76	\$10.00	\$14.90	\$0.00	\$47.66
	11/01/2017	\$23.18	\$10.00	\$14.90	\$0.00	\$48.08
	05/01/2018	\$23.61	\$10.00	\$14.90	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$36.71	\$10.00	\$15.15	\$0.00	\$61.86
	12/01/2016	\$37.75	\$10.00	\$15.15	\$0.00	\$62.90
	06/01/2017	\$38.59	\$10.00	\$15.15	\$0.00	\$63.74
	12/01/2017	\$39.42	\$10.00	\$15.15	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
	12/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
<i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.33	\$10.00	\$0.00	\$0.00	\$34.33
2	60	\$26.54	\$10.00	\$15.15	\$0.00	\$51.69
3	65	\$28.75	\$10.00	\$15.15	\$0.00	\$53.90
4	70	\$30.96	\$10.00	\$15.15	\$0.00	\$56.11
5	75	\$33.17	\$10.00	\$15.15	\$0.00	\$58.32
6	80	\$35.38	\$10.00	\$15.15	\$0.00	\$60.53
7	85	\$37.60	\$10.00	\$15.15	\$0.00	\$62.75
8	90	\$39.81	\$10.00	\$15.15	\$0.00	\$64.96

Effective Date - 12/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.01	\$10.00	\$0.00	\$0.00	\$35.01
2	60	\$27.29	\$10.00	\$15.15	\$0.00	\$52.44
3	65	\$29.56	\$10.00	\$15.15	\$0.00	\$54.71
4	70	\$31.84	\$10.00	\$15.15	\$0.00	\$56.99
5	75	\$34.11	\$10.00	\$15.15	\$0.00	\$59.26
6	80	\$36.38	\$10.00	\$15.15	\$0.00	\$61.53
7	85	\$38.66	\$10.00	\$15.15	\$0.00	\$63.81
8	90	\$40.93	\$10.00	\$15.15	\$0.00	\$66.08

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

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

HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25

For apprentice rates see "Apprentice- LABORER"

INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

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

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$11.50	\$10.05	\$0.00	\$43.46
2	60	\$26.29	\$11.50	\$10.80	\$0.00	\$48.59
3	70	\$30.67	\$11.50	\$11.55	\$0.00	\$53.72
4	80	\$35.05	\$11.50	\$12.30	\$0.00	\$58.85

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$11.50	\$10.05	\$0.00	\$44.46
2	60	\$27.49	\$11.50	\$10.80	\$0.00	\$49.79
3	70	\$32.07	\$11.50	\$11.55	\$0.00	\$55.12
4	80	\$36.65	\$11.50	\$12.30	\$0.00	\$60.45

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (LAWRENCE AREA)</i>	03/16/2016	\$38.99	\$7.80	\$20.85	\$0.00	\$67.64
	09/16/2016	\$39.64	\$7.80	\$20.85	\$0.00	\$68.29
	03/16/2017	\$40.24	\$7.80	\$20.85	\$0.00	\$68.89

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Lawrence

Effective Date - 03/16/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.39	\$7.80	\$20.85	\$0.00	\$52.04
2	70	\$27.29	\$7.80	\$20.85	\$0.00	\$55.94
3	75	\$29.24	\$7.80	\$20.85	\$0.00	\$57.89
4	80	\$31.19	\$7.80	\$20.85	\$0.00	\$59.84
5	85	\$33.14	\$7.80	\$20.85	\$0.00	\$61.79
6	90	\$35.09	\$7.80	\$20.85	\$0.00	\$63.74

Effective Date - 09/16/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.78	\$7.80	\$20.85	\$0.00	\$52.43
2	70	\$27.75	\$7.80	\$20.85	\$0.00	\$56.40
3	75	\$29.73	\$7.80	\$20.85	\$0.00	\$58.38
4	80	\$31.71	\$7.80	\$20.85	\$0.00	\$60.36
5	85	\$33.69	\$7.80	\$20.85	\$0.00	\$62.34
6	90	\$35.68	\$7.80	\$20.85	\$0.00	\$64.33

Notes:

Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
LABORER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.45	\$12.65	\$0.00	\$39.09
2	70	\$22.16	\$7.45	\$12.65	\$0.00	\$42.26
3	80	\$25.32	\$7.45	\$12.65	\$0.00	\$45.42
4	90	\$28.49	\$7.45	\$12.65	\$0.00	\$48.59

Effective Date - 12/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.44	\$7.45	\$12.65	\$0.00	\$39.54
2	70	\$22.68	\$7.45	\$12.65	\$0.00	\$42.78
3	80	\$25.92	\$7.45	\$12.65	\$0.00	\$46.02
4	90	\$29.16	\$7.45	\$12.65	\$0.00	\$49.26

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
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For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	12/01/2015	\$31.35	\$7.45	\$12.60	\$0.00	\$51.40
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For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

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 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2016	\$38.08	\$10.18	\$17.70	\$0.00	\$65.96
	08/01/2016	\$38.78	\$10.18	\$17.78	\$0.00	\$66.74
	02/01/2017	\$39.24	\$10.18	\$17.78	\$0.00	\$67.20

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.70	\$0.00	\$46.92
2	60	\$22.85	\$10.18	\$17.70	\$0.00	\$50.73
3	70	\$26.66	\$10.18	\$17.70	\$0.00	\$54.54
4	80	\$30.46	\$10.18	\$17.70	\$0.00	\$58.34
5	90	\$34.27	\$10.18	\$17.70	\$0.00	\$62.15

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.18	\$17.78	\$0.00	\$47.35
2	60	\$23.27	\$10.18	\$17.78	\$0.00	\$51.23
3	70	\$27.15	\$10.18	\$17.78	\$0.00	\$55.11
4	80	\$31.02	\$10.18	\$17.78	\$0.00	\$58.98
5	90	\$34.90	\$10.18	\$17.78	\$0.00	\$62.86

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2016	\$49.90	\$10.18	\$19.14	\$0.00	\$79.22
	08/01/2016	\$50.80	\$10.18	\$19.22	\$0.00	\$80.20
	02/01/2017	\$51.37	\$10.18	\$19.22	\$0.00	\$80.77

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$19.14	\$0.00	\$54.27
2	60	\$29.94	\$10.18	\$19.14	\$0.00	\$59.26
3	70	\$34.93	\$10.18	\$19.14	\$0.00	\$64.25
4	80	\$39.92	\$10.18	\$19.14	\$0.00	\$69.24
5	90	\$44.91	\$10.18	\$19.14	\$0.00	\$74.23

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.18	\$19.22	\$0.00	\$54.80
2	60	\$30.48	\$10.18	\$19.22	\$0.00	\$59.88
3	70	\$35.56	\$10.18	\$19.22	\$0.00	\$64.96
4	80	\$40.64	\$10.18	\$19.22	\$0.00	\$70.04
5	90	\$45.72	\$10.18	\$19.22	\$0.00	\$75.12

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2015	\$34.69	\$9.80	\$16.21	\$0.00	\$60.70
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 04/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$19.08	\$9.80	\$4.48	\$0.00	\$33.36
2	65	\$22.55	\$9.80	\$13.36	\$0.00	\$45.71
3	75	\$26.02	\$9.80	\$14.18	\$0.00	\$50.00
4	85	\$29.49	\$9.80	\$14.99	\$0.00	\$54.28

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
<i>LABORERS - ZONE 2</i>	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	06/01/2016	\$22.41	\$10.00	\$15.15	\$0.00	\$47.56
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$23.06	\$10.00	\$15.15	\$0.00	\$48.21
	06/01/2017	\$23.57	\$10.00	\$15.15	\$0.00	\$48.72
	12/01/2017	\$24.09	\$10.00	\$15.15	\$0.00	\$49.24

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	06/01/2016	\$26.29	\$10.00	\$15.15	\$0.00	\$51.44
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$27.04	\$10.00	\$15.15	\$0.00	\$52.19
	06/01/2017	\$27.64	\$10.00	\$15.15	\$0.00	\$52.79
	12/01/2017	\$28.25	\$10.00	\$15.15	\$0.00	\$53.40

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
<i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2016	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
	01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.21	\$7.85	\$0.00	\$0.00	\$28.06
2	55	\$22.23	\$7.85	\$3.66	\$0.00	\$33.74
3	60	\$24.25	\$7.85	\$3.99	\$0.00	\$36.09
4	65	\$26.27	\$7.85	\$4.32	\$0.00	\$38.44
5	70	\$28.29	\$7.85	\$14.11	\$0.00	\$50.25
6	75	\$30.31	\$7.85	\$14.44	\$0.00	\$52.60
7	80	\$32.33	\$7.85	\$14.77	\$0.00	\$54.95
8	90	\$36.37	\$7.85	\$15.44	\$0.00	\$59.66

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.68	\$7.85	\$0.00	\$0.00	\$28.53
2	55	\$22.75	\$7.85	\$3.66	\$0.00	\$34.26
3	60	\$24.82	\$7.85	\$3.99	\$0.00	\$36.66
4	65	\$26.88	\$7.85	\$4.32	\$0.00	\$39.05
5	70	\$28.95	\$7.85	\$14.11	\$0.00	\$50.91
6	75	\$31.02	\$7.85	\$14.44	\$0.00	\$53.31
7	80	\$33.09	\$7.85	\$14.77	\$0.00	\$55.71
8	90	\$37.22	\$7.85	\$15.44	\$0.00	\$60.51

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
	01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.85	\$0.00	\$0.00	\$27.09
2	55	\$21.16	\$7.85	\$3.66	\$0.00	\$32.67
3	60	\$23.08	\$7.85	\$3.99	\$0.00	\$34.92
4	65	\$25.01	\$7.85	\$4.32	\$0.00	\$37.18
5	70	\$26.93	\$7.85	\$14.11	\$0.00	\$48.89
6	75	\$28.85	\$7.85	\$14.44	\$0.00	\$51.14
7	80	\$30.78	\$7.85	\$14.77	\$0.00	\$53.40
8	90	\$34.62	\$7.85	\$15.44	\$0.00	\$57.91

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.71	\$7.85	\$0.00	\$0.00	\$27.56
2	55	\$21.68	\$7.85	\$3.66	\$0.00	\$33.19
3	60	\$23.65	\$7.85	\$3.99	\$0.00	\$35.49
4	65	\$25.62	\$7.85	\$4.32	\$0.00	\$37.79
5	70	\$27.59	\$7.85	\$14.11	\$0.00	\$49.55
6	75	\$29.57	\$7.85	\$14.44	\$0.00	\$51.86
7	80	\$31.54	\$7.85	\$14.77	\$0.00	\$54.16
8	90	\$35.48	\$7.85	\$15.44	\$0.00	\$58.77

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
For Apprentice rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) *	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.54	\$7.85	\$0.00	\$0.00	\$26.39
2	55	\$20.39	\$7.85	\$3.66	\$0.00	\$31.90
3	60	\$22.24	\$7.85	\$3.99	\$0.00	\$34.08
4	65	\$24.10	\$7.85	\$4.32	\$0.00	\$36.27
5	70	\$25.95	\$7.85	\$14.11	\$0.00	\$47.91
6	75	\$27.80	\$7.85	\$14.44	\$0.00	\$50.09
7	80	\$29.66	\$7.85	\$14.77	\$0.00	\$52.28
8	90	\$33.36	\$7.85	\$15.44	\$0.00	\$56.65

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.01	\$7.85	\$0.00	\$0.00	\$26.86
2	55	\$20.91	\$7.85	\$3.66	\$0.00	\$32.42
3	60	\$22.81	\$7.85	\$3.99	\$0.00	\$34.65
4	65	\$24.71	\$7.85	\$4.32	\$0.00	\$36.88
5	70	\$26.61	\$7.85	\$14.11	\$0.00	\$48.57
6	75	\$28.52	\$7.85	\$14.44	\$0.00	\$50.81
7	80	\$30.42	\$7.85	\$14.77	\$0.00	\$53.04
8	90	\$34.22	\$7.85	\$15.44	\$0.00	\$57.51

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER PIPEFITTERS LOCAL 537	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.68	\$9.70	\$7.50	\$0.00	\$36.88
2	45	\$22.14	\$9.70	\$18.14	\$0.00	\$49.98
3	60	\$29.51	\$9.70	\$18.14	\$0.00	\$57.35
4	70	\$34.43	\$9.70	\$18.14	\$0.00	\$62.27
5	80	\$39.35	\$9.70	\$18.14	\$0.00	\$67.19

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.08	\$9.70	\$7.50	\$0.00	\$37.28
2	45	\$22.59	\$9.70	\$18.14	\$0.00	\$50.43
3	60	\$30.11	\$9.70	\$18.14	\$0.00	\$57.95
4	70	\$35.13	\$9.70	\$18.14	\$0.00	\$62.97
5	80	\$40.15	\$9.70	\$18.14	\$0.00	\$67.99

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.98	\$11.07	\$5.63	\$0.00	\$34.68
2	40	\$20.54	\$11.07	\$6.37	\$0.00	\$37.98
3	55	\$28.25	\$11.07	\$8.56	\$0.00	\$47.88
4	65	\$33.38	\$11.07	\$10.03	\$0.00	\$54.48
5	75	\$38.52	\$11.07	\$11.48	\$0.00	\$61.07

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.34	\$11.07	\$5.63	\$0.00	\$35.04
2	40	\$20.96	\$11.07	\$6.36	\$0.00	\$38.39
3	55	\$28.83	\$11.07	\$8.55	\$0.00	\$48.45
4	65	\$34.07	\$11.07	\$10.02	\$0.00	\$55.16
5	75	\$39.31	\$11.07	\$11.48	\$0.00	\$61.86

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$57.78 Step5 with lic\$64.37

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
	12/01/2016	\$33.40	\$7.45	\$12.65	\$0.00	\$53.50

For apprentice rates see "Apprentice- LABORER"

POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 49</i>	05/01/2010	\$22.88	\$6.97	\$3.94	\$0.00	\$33.79
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81
As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.						

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2

Effective Date - 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

Notes:

Apprentice to Journeyworker Ratio:1:5

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2016	\$40.11	\$11.00	\$12.90	\$0.00	\$64.01

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.39	\$0.00	\$34.45
2	60	\$24.07	\$11.00	\$12.90	\$0.00	\$47.97
3	65	\$26.07	\$11.00	\$12.90	\$0.00	\$49.97
4	75	\$30.08	\$11.00	\$12.90	\$0.00	\$53.98
5	85	\$34.09	\$11.00	\$12.90	\$0.00	\$57.99

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33	02/01/2016	\$40.36	\$11.00	\$12.90	\$0.00	\$64.26
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For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
2	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
3	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
4	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
5	50	\$21.66	\$10.70	\$10.65	\$1.29	\$44.30
6	50	\$21.66	\$10.70	\$10.90	\$1.30	\$44.56
7	60	\$25.99	\$10.70	\$12.37	\$1.47	\$50.53
8	65	\$28.15	\$10.70	\$13.24	\$1.56	\$53.65
9	75	\$32.48	\$10.70	\$14.97	\$1.74	\$59.89
10	85	\$36.81	\$10.70	\$16.18	\$1.91	\$65.60

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
2	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
3	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
4	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
5	50	\$22.23	\$10.70	\$10.65	\$1.31	\$44.89
6	50	\$22.23	\$10.70	\$10.90	\$1.31	\$45.14
7	60	\$26.68	\$10.70	\$12.37	\$1.49	\$51.24
8	65	\$28.90	\$10.70	\$13.24	\$1.59	\$54.43
9	75	\$33.35	\$10.70	\$14.97	\$1.77	\$60.79
10	85	\$37.79	\$10.70	\$16.18	\$1.94	\$66.61

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	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 - SIGN ERECTOR - Local 35 Zone 2

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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
	08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2016	\$54.43	\$8.67	\$16.80	\$0.00	\$79.90
	10/01/2016	\$55.53	\$8.67	\$16.80	\$0.00	\$81.00
	03/01/2017	\$56.53	\$8.67	\$16.80	\$0.00	\$82.00

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$8.67	\$8.55	\$0.00	\$36.27
2	40	\$21.77	\$8.67	\$8.55	\$0.00	\$38.99
3	45	\$24.49	\$8.67	\$8.55	\$0.00	\$41.71
4	50	\$27.22	\$8.67	\$8.55	\$0.00	\$44.44
5	55	\$29.94	\$8.67	\$8.55	\$0.00	\$47.16
6	60	\$32.66	\$8.67	\$8.55	\$0.00	\$49.88
7	65	\$35.38	\$8.67	\$8.55	\$0.00	\$52.60
8	70	\$38.10	\$8.67	\$8.55	\$0.00	\$55.32
9	75	\$40.82	\$8.67	\$8.55	\$0.00	\$58.04
10	80	\$43.54	\$8.67	\$8.55	\$0.00	\$60.76

Effective Date - 10/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.44	\$8.67	\$8.55	\$0.00	\$36.66
2	40	\$22.21	\$8.67	\$8.55	\$0.00	\$39.43
3	45	\$24.99	\$8.67	\$8.55	\$0.00	\$42.21
4	50	\$27.77	\$8.67	\$8.55	\$0.00	\$44.99
5	55	\$30.54	\$8.67	\$8.55	\$0.00	\$47.76
6	60	\$33.32	\$8.67	\$8.55	\$0.00	\$50.54
7	65	\$36.09	\$8.67	\$8.55	\$0.00	\$53.31
8	70	\$38.87	\$8.67	\$8.55	\$0.00	\$56.09
9	75	\$41.65	\$8.67	\$8.55	\$0.00	\$58.87
10	80	\$44.42	\$8.67	\$8.55	\$0.00	\$61.64

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
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Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
2	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
3	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
4	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
5	50	\$17.32	\$13.00	\$11.79	\$0.00	\$42.11
6	55	\$19.05	\$13.00	\$12.06	\$0.00	\$44.11
7	60	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
8	65	\$22.51	\$13.00	\$12.62	\$0.00	\$48.13
9	70	\$24.24	\$13.00	\$12.90	\$0.00	\$50.14
10	75	\$25.97	\$13.00	\$13.17	\$0.00	\$52.14

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	02/01/2016	\$48.80	\$10.18	\$19.14	\$0.00	\$78.12
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2016	\$49.70	\$10.18	\$19.22	\$0.00	\$79.10
	02/01/2017	\$50.27	\$10.18	\$19.22	\$0.00	\$79.67

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$19.14	\$0.00	\$53.72
2	60	\$29.28	\$10.18	\$19.14	\$0.00	\$58.60
3	70	\$34.16	\$10.18	\$19.14	\$0.00	\$63.48
4	80	\$39.04	\$10.18	\$19.14	\$0.00	\$68.36
5	90	\$43.92	\$10.18	\$19.14	\$0.00	\$73.24

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.18	\$19.22	\$0.00	\$54.25
2	60	\$29.82	\$10.18	\$19.22	\$0.00	\$59.22
3	70	\$34.79	\$10.18	\$19.22	\$0.00	\$64.19
4	80	\$39.76	\$10.18	\$19.22	\$0.00	\$69.16
5	90	\$44.73	\$10.18	\$19.22	\$0.00	\$74.13

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$37.45	\$7.45	\$13.75	\$0.00	\$58.65
	12/01/2016	\$38.45	\$7.45	\$13.75	\$0.00	\$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.17	\$7.45	\$13.75	\$0.00	\$57.37
	12/01/2016	\$37.17	\$7.45	\$13.75	\$0.00	\$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$48.33	\$7.45	\$14.15	\$0.00	\$69.93
	12/01/2016	\$49.33	\$7.45	\$14.15	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$50.33	\$7.45	\$14.15	\$0.00	\$71.93
	12/01/2016	\$51.33	\$7.45	\$14.15	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$40.40	\$7.45	\$14.15	\$0.00	\$62.00
	12/01/2016	\$41.40	\$7.45	\$14.15	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$42.40	\$7.45	\$14.15	\$0.00	\$64.00
	12/01/2016	\$43.40	\$7.45	\$14.15	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$26.11	\$7.25	\$1.78	\$0.00	\$35.14
	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$8.12	\$0.00	\$52.35
	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$30.46	\$7.25	\$8.34	\$0.00	\$46.05
	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$12.29	\$0.00	\$56.52
	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$32.63	\$7.25	\$9.05	\$0.00	\$48.93
	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$19.58	\$7.25	\$1.59	\$0.00	\$28.42
	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$43.51	\$7.25	\$15.06	\$0.00	\$65.82
	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 08/30/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.11	\$7.25	\$3.28	\$0.00	\$36.64
2	65	\$28.28	\$7.25	\$3.35	\$0.00	\$38.88
3	70	\$30.46	\$7.25	\$3.41	\$0.00	\$41.12
4	75	\$32.63	\$7.25	\$4.98	\$0.00	\$44.86
5	80	\$34.81	\$7.25	\$5.04	\$0.00	\$47.10
6	85	\$36.98	\$7.25	\$5.11	\$0.00	\$49.34
7	90	\$39.16	\$7.25	\$7.17	\$0.00	\$53.58

Effective Date - 08/28/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$28.98 \$4.25 \$3.12 \$0.00 \$36.35

TELEDATA LINEMAN/EQUIPMENT OPERATOR
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$27.31 \$4.25 \$3.07 \$0.00 \$34.63

TELEDATA WIREMAN/INSTALLER/TECHNICIAN
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$27.31 \$4.25 \$3.07 \$0.00 \$34.63

TREE TRIMMER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 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
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 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.