COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FISH AND GAME
DIVISION OF FISHERIES AND WILDLIFE

PROJECT NO: DFW_2015_018

ITEMIZED PROPOSAL
WITH SPECIAL PROVISIONS FOR

SANDWICH STATE FISH HATCHERY WELL REDEVELOPMENT and TURBINE PUMP REFURBISHMENT AND REPLACEMENT PROJECT SANDWICH, MASSACHUSETTS

BIDS FOR THIS PROPOSAL TO BE OPENED AND READ

THURSDAY, DECEMBER 4TH, 2014 at 11:00 A.M.

Division of Fisheries and Wildlife,
Field Headquarters, One Rabbit Hill Road
Westborough, MA

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THE COMMONWEALTH OF MASSACHUSETTS: NOTICE TO CONTRACTORS:

The Department of Fish & Game, Division of Fisheries & Wildlife invites sealed bids for the **Well Redevelopment and Turbine Pump Refurbishment and Replacement Project No. DFW_2015_018** at the **Sandwich State Fish Hatchery, 164 Route 6A, Sandwich, Massachusetts** in accordance with specifications prepared by the Department of Fish and Game, Division of Fisheries and Wildlife. This project involves all labor, materials, equipment, and incidentals for redevelopment of a gravel-packed well, refurbishment of the well's existing vertical turbine pump and motor, and supply and complete installation of a new replacement of the turbine pump and motor well as well as all other incidental work necessary for a complete job. The estimated project value is **($43,000)**. General Bids shall be submitted on the forms furnished by the Division, in the bid package, and will be received at the Division of Fisheries and Wildlife, Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581, until **11:00 AM, local time, Thursday, December 4th, 2014**, at which time they will be publicly opened and read. All bids must be submitted in accordance with the Contract Documents and shall be accompanied by a bid deposit in the amount of 5% of the value of the bid. Bid deposits, payable to the Commonwealth of Massachusetts, Division of Fisheries & Wildlife shall be in the form of a bid bond, certified, cashier's or treasurer's check issued by a responsible bank or trust company. Contract Documents will be available after **November 13, 2014,** from the Sandwich State Fish Hatchery, 164 Route 6A, Sandwich, MA 02563. The documents may be examined and/or obtained free of charge at the aforesaid address from Monday-Friday between the hours of 8:00 AM to 3:00 PM, local time. The documents may also be found at: http://www.mass.gov/eea/agencies/dfg/dfw/about-masswildlife/contract-opportunities.htmlg. Technical questions concerning this project shall be made to the Adam Davies, Acting Hatchery Manager at (508) 888-0008. Questions concerning contract and bid documents shall be made to Lori Cookman at (508) 389-6371. Minimum wage rates for this project have been predetermined by M.G.L. under Chapter 149, Section 26 to 27D, inclusive. Proposals that do not have the Affidavit (of non-collusion, etc.) properly completed will be declared informal. Bids are subject to provisions of M.G.L. Chapter 30, Section 39M and Chapter 149, Sections 44A to 44J, inclusive. In accordance with the 2004 Massachusetts Construction Reform Law, filed sub-bids and DCAM certification is not required for this project. This contract is subject to all State Laws and Regulations concerning Minority Business Enterprises including Executive Order 237. The right is reserved to waive any informality in or reject any or all proposals.

By: Wayne MacCallum,Director,
Commonwealth of Massachusetts
Division of Fisheries and Wildlife

SECTION 00200
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - BIDDER'S REPRESENTATION

1.1 Each General Bidder or Sub-bidder (hereinafter called the **"Bidder")** by making a bid or sub-bid (hereinafter called **"bid")** represents that

1. The Bidder has read and understands the Contract Documents and the bid is made in accordance therewith.
2. The Bidder has visited the site and is familiar with the local conditions under which the Work has to be performed.

1.2 Failure to so examine the Contract Documents and site will not relieve any Bidder from any obligation under the bid as submitted.

ARTICLE 2 - GENERAL BIDDER'S AND FILED SUB-BIDDER'S CERTIFICATION

2.1 DCAM certification is not required for projects estimated to cost less than $100,000

2.2 There are no filed sub-bids for this project.

2.3 Be advised that a new Massachusetts law has been enacted that requires all employees who work on Massachusetts public works construction sites must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004, which became effective July 1. 2006.

1. This requirement will apply to any general bid or sub bid submitted on or after July 1, 2006 and to any contract awarded on or after July 1, 2006.

2. This law directs the Massachusetts Attorney General to restrain the award of construction contracts to any contractor who is in violation to this requirement and to restrain the performance of these contracts by non-complying contractors.

3. The Contractor and all subcontractors on this project will be required to provided certification of this compliance with this requirement in accordance with the provisions of Section 01100 of these Contract Documents. Non-compliance with this new Massachusetts Law will disqualify you from bidding on public contracts.

ARTICLE 3 - MBE AND WBE PARTICIPATION

3.1 Refer to the Advertisement for applicability of Article 3. Projects estimated to cost less than $50,000 are not subject to MBE/WBE Affirmative Marketing Requirements, Executive Order 390.

ARTICLE 4 - REQUESTS FOR INTERPRETATION

4.11 Bidders shall promptly notify the Project Manager of any ambiguity, inconsistency, or error which they may discover upon examination of the Contract Documents, the site, and local conditions.

4.2 Bidders requiring clarification or interpretation of the Contract Documents shall make a written request to the Project Manager. The Project Manager will answer such requests if received seven (7) calendar days before the date for receipt of the bids

4.3 Interpretation, correction, or change in the Contract Documents will be made by written Addendum which will become part of the Contract Documents. Neither the Department, Awarding Authority nor the Project Manager will be held accountable for any oral interpretations, corrections, or changes.

4.4 Addenda will be mailed by the Project Manager by U.S Postal Service, certificate of mailing, to every individual or firm on record as having taken a set of Contract Documents.

4.5 Copies of addenda will be made available for inspection at the locations listed in the Advertisement where Contract Documents are on file.

ARTICLE 5 - PREPARATION AND SUBMISSION OF BIDS

5.1 Forms and Bid Preparation

Bids shall be submitted on the **"Form for General Bid"** or the **"Form for Sub-Bid",** as appropriate, furnished at no cost by the Awarding Authority.

5.1.1 All entries on the bid form shall be made by typewriter or in ink.

5.1.2 Sums shall be expressed in both words and figures in the space indicated on the bid form. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control.

5.2 Bid Deposits shall be:

5.2.1 at least five percent (5%) of the greatest possible bid amount, considering all alternates;

5.2.2 made payable to the Commonwealth of Massachusetts, DIVISION OF FISHERIES AND WILDLIFE;

5.2.3 conditioned upon faithful performance by the principal of the agreements contained in the bid, and

5.2.4 in the form of

1. cash,
2. certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or .
3. a bid bond issued by a surety company licensed to do business in the Commonwealth of Massachusetts.

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

5.3 Delivery of Filed Sub-Bids – None Required

5.4 Delivery of General Bids

General Bids, including the bid deposit, shall be enclosed in a sealed envelope with the following plainly marked on the outside:

Sealed Bid For:
"Division of Fisheries & Wildlife,
Sandwich State Fish Hatchery,
Well Redevelopment and Turbine Pump
Refurbishment/Replacement Project No. DFW_2015_018,
Sandwich, MA."
Bidder's Name, Business Address, and Phone Number

5.4.1 Date and time for receipt of bids is set forth in the Advertisement.

5.4.2 Timely delivery of a bid to the location designated shall be the full responsibility of the Bidder.

5.5 Sub-Trade Solicitations – None Required

ARTICLE 6 - ALTERNATES

6.1 Each General Bidder shall acknowledge Alternates in Section C on the Form for General Bid by entering the dollar amount of addition or subtraction necessitated by each Alternate.

6.2 In the event an Alternate does not involve a change in the amount of the base bid, the Bidder shall so indicate by writing **"No Change", or** "N/C" **or "0"** in the space provided for that Alternate.

6.3 Sub-bidders shall enter on the Form for Sub-bid the amount of addition or subtraction necessitated by each Alternate which pertains to the work of that trade. If an Alternate does not involve a change in the bid amount so indicate by writing **"No Change", "N/C" or "0".**

If the alternate does not affect your category of work so indicate by writing **"N/A"**.

6.4 General Bidders shall enter on the Form for General Bid a single amount for each Alternate which shall
consist of the Sub-bidders' amounts and the amount for work performed by the General Contractor.

6.5 The low Bidder will be determined on the basis of the sum of the base bid and the accepted alternates.

ARTICLE 7 - WITHDRAWAL OF BIDS

7.1 Before Opening of Bids

7.1.1 Any bid may be withdrawn prior to the time designated for receipt of bids upon written request.
Withdrawal of bids must be confirmed over the Bidder's signature by written notice post-marked or sent by facsimile on or before the date and time set for receipt of bids.

7.1.2 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids.

7.2 After Opening of Bids

Bidders may withdraw a bid, without penalty, any time up to the time of Award as defined in paragraph 8.1, and upon demonstrating, to the satisfaction of the Awarding Authority, that a bona fide clerical error was made during the preparation of the bid. Failure to conclusively demonstrate a bona fide clerical error may result in forfeiture of the bid deposit.

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

ARTICLE 8 - CONTRACT AWARD

8.1 **Award** means both the determination and selection of the lowest, responsible and eligible bidder, by the Awarding Authority.

8.2 The Awarding Authority will award the contract to the lowest responsible and eligible bidder within thirty days, Saturdays, Sundays, and legal holidays excluded after the opening of bids in accordance with M.G.L c.149 §44A.

8.3 The Contract will be awarded to the lowest responsible and eligible Bidder, except in the event of substitution as provided under M.G.L. c.149 §§44E and 44F, in which cases the procedure as required by said sections shall govern the award of the Contract.

8.4 The award of this Contract is subject to the approval of the Director of the Division of Fisheries and Wildlife (DFW). Contracts without DFW approval shall not be considered valid.

8.5 The Awarding Authority reserves the right to waive any informalities in or to reject any or all Bids if it be in the public interest to do so.

8.6 As used herein, the term "lowest responsible and eligible bidder" shall mean the General Bidder whose bid is the lowest of those Bidders demonstrably possessing the skill, ability, and integrity necessary for the faithful performance of the work, and who meets the requirements for Bidders set forth in M.G.L. c.149 §44A-J and is not debarred from bidding under M.G.L. c.149 §44C; and who shall certify that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

ARTICLE 9 - FORMS REQUIRED FOR CONTRACT APPROVAL

9.1 Upon Award, the General Bidder shall complete the following forms to ensure prompt contract validation. These forms will be provided to the selected General Bidder by DFW. Submit (3) originals of each.

9.2 Owner/Contractor Agreement and Form of Corporate Vote.

9.3 Form of Contractor's Equal Employment Certification in accordance with Article 14 of the General Conditions.

9.4 Form of Sub-Contractor's Equal Employment Certification in accordance with Article 14 of the General Conditions.

9.5 Form of Performance Bond and Form of Payment Bond must be submitted by the General Contractor on the DFG's form, in accordance with Article 18 of the General Conditions. The dates on the bonds must coincide with the contract date, and a current Power-of-Attorney must be attached to each bond.

9.6 Performance and Payment Bonds must also be submitted for all filed subcontractors, if required by the General Bidder on its Form for General Bid, in the total amount of the subcontract payable to the General Contractor.

9.7 Insurance Certificates for the General Contractor and all filed subcontractors are required and must be submitted in accordance with Article 16 of the General Conditions.

9.8 General Contractors must indicate on special perils insurance or installation floater if stored materials are covered.

ARTICLE 10 - CONTRACT VALIDATION

10.1 The Owner-Contractor Agreement shall not be valid until signed by the Director of the Division of Fisheries and Wildlife.

10.2 The Notice to Proceed for construction shall not be issued until the Owner/Contractor Agreement has been validated by the Director of DFW.

10.3 Incomplete or unacceptable submissions of forms required by paragraphs 9.2 - 9.7 will delay the validation of the Owner/Contractor Agreement by Division of Fisheries and Wildlife.

END OF SECTION

SECTION 00400
FORM OF GENERAL BID
TO THE AWARDING AUTHORITY

A. The undersigned proposes to furnish all labor and materials required for "**Division of Fisheries & Wildlife, Well Redevelopment and Turbine Pump Refurbishment/Replacement Project No. DFW_2015_2018** in **Sandwich, MA**

in accordance with Contract Documents prepared by the Chief of Hatcheries, Department of Fish and Game, Division of Fisheries and Wildlife.

For the contract price specified below, subject additions and deductions according to the terms of the specifications

B. This bid includes addenda number(s) _____.

C. The bidder agrees to perform the base bid work described in the specifications and shown on the plans in accordance with the following schedule of unit prices:

THIS FORM MUST BE COMPLETED AND SUBMITTED WITH BID

ITEM NO.	UNIT	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	TOTAL AMOUNT
1	Lump Sum	For miscellaneous work, including but not necessarily limited to mobilization and demobilization to the work sites; performance and payment bonds; insurance; permits, and other incidentals for satisfactorily completing the entire project as specified herein, _____ per Lump Sum	

D. The subdivision of the proposed contract price is as follows:

ITEM I.The work of the general contractor, being all work other than that covered by ITEM 2.

TOTAL OF ITEM 1 .....$ N/A

ITEM 2. Sub-bids as follows:

Sub-trade	Name of Filed Sub-bidder	Sub-bid Amount	Bond Required
N/A	N/A	N/A	N/A

TOTAL OF ITEM 2.....$ N/A

The undersigned agrees that each of the above named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item I of this bid.

The undersigned agrees that if selected as general contractor, they will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.

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

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

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

_____

Name of General Bidder

Signature→

BY: _____

Signature & Title of person signing

Date: _____

_____

Business Address:

_____

(City and State)

Note: If the bidder is a corporation, indicate state of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses of partners if different from business addresses.

SAMPLE – FORM OF CORPORATE VOTE

At a meeting of the Board of Directors of the _____
(Name of Corporation)

_____ held on _____ at which
(Date)

all the Directors were present or waived notice, it was

or

At a regularly called meeting of the Board of Directors of the

_____ held on _____
(Name of Corporation) (Date)

at which a quorum was present, it was voted that _____,
(Name)

officer _____ of

this company, be and he hereby is authorized to execute contracts and bonds in the name and behalf of said company, and affix its corporate seal thereto; and such execution of any contract or obligation in this company's name on behalf by such officer_____
_____ under seal of this company shall be valid and binding upon this company.

A true copy
ATTEST: _____
(Clerk)

Place of business _____
_____
Date of this contract _____
_____

I hereby certify that I am the Clerk of the _____

_____ that
(Name of Corporation)

_____ is the duly elected officer
(Name)
_____ of said company, and that the above vote has not been amended or rescinded and remains in full force and as of this date.

_____
(Clerk) Corporate Seal

00400-6

FORM OF NON-COLLUSIVE AFFIDAVIT

State of _____

County of _____

_____
being first sworn, depose and says:

That he is _____
(a partner or officer of the firm of, etc.)

the party making the foregoing proposal bid, that such proposal or bid is genuine and non-collusive or sham: that said has not colluded, conspired, connived or agreed directly or indirectly with any bidder or person to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the Department of Fish and Game or any person interested in the contract; and that all statements in said proposal or bid are true.

Signature of:

_____
Bidder, if bidder is an individual

_____
Partner, if the bidder is a corporation

Subscribed and sworn to before

me this_____day of _____, 20____

_____ Seal
Notary Public

My commission expires_____

00400-7

REVENUE ENFORCEMENT AND PROTECTION CERTIFICATION (REAP)

Pursuant to Section 36 of Chapter 233 of the Acts of 1983, Amending Section of 49A (b), of Chapter 62c, General Laws,

I,_____

authorized signatory for_____

_____

whose principal place of business is at_____

_____

do hereby certify under the penalties of perjury that to the best of my knowledge and belief_____

_____

has complied with any and all applicable state tax laws.

Name of Corporation or Company_____

Title of Person signing _____

Signature _____ Date _____

The bidder must demonstrate compliance with Commonwealth tax laws, including M.G.L. C. 62C, s49A. The bidder must submit an original or photocopy of a Certificate of Good Standing, which has been issued by the Massachusetts Department of Revenue within the past year. To obtain a Certificate of Good Standing, the bidder must submit the request to:

Department of Revenue, Tax Payer Division
Certificate Unit
P.O. Box 7066
Boston, MA 02204
(617)887-6550
(617)887-6262 FAX

Include the following information:
Name, address and telephone number of the corporation.
Reason for request. Be sure to mark your request with the word "**BID".** Types of taxes to which the corporation is subject and the corresponding Massachusetts identification number (if any).
Power of Attorney Form M-2848, if applicable.
Signature of a major officer of the corporation.

The Certificate of Good Standing must be provided prior to final execution of the Contract Form.

CERTIFICATE OF COMPLIANCE WITH MASSACHUSETTS EMPLOYMENT SECURITY LAW

Pursuant to G.L. c. 151A, s. 19A(b), I, _____
(Name and Title)

_____, signing on behalf of _____
(Name and Title)

_____, hereby certify that the aforementioned employer

has complied with all employment security laws of the Commonwealth

of Massachusetts relating to contributions and payments in lieu of

contributions.

Signed under the penalties of perjury this _____ day of _____, 20____.

_____
(Signature)

00400-9

SECTION 00500
AGREEMENT FORMS

AGREEMENT

THE COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF FISH AND GAME
Division of Fisheries and Wildlife

Clause 1. This agreement made this day of , 2014, between the Commonwealth of Massachusetts, by the Department of Fish & Game, Division of Fisheries and Wildlife, for the said Commonwealth and **_____, a corporation duly organized under the laws of the Commonwealth of Massachusetts and having a usual place of business in _____,** herein called the Contractor.

Clause 2. Witnessed, The parties to this agreement, each in consideration of the agreements on the part of the other herein contained, do hereby agree, the Commonwealth of Massachusetts for itself, and said Contractor for itself and its successors and assigns as follows:
The Contractor agrees to furnish all equipment, machinery, tools and labor and furnish and deliver all materials required to be furnished and delivered in and about the improvement and to do and perform all work for the:

Division of Fisheries and Wildlife, Sandwich State Fish Hatchery, Well Redevelopment and Turbine Pump Refurbishment/Replacement Project including but not necessarily limited to redevelopment of the gravel packed well known as Well 2 at Sandwich State Fish Hatchery and refurbishment of its existing turbine pump and motor, and supply and installation of new turbine pump and motor; and other incidental work.

CONTRACT SUMMARY:

CONTRACT #: (DFW-2015-018)

TOTAL CONTACT AMOUNT: $

CONSTRUCTION COMPLETION DATE: June 30th, 2015

In strict conformity with the provisions herein contained and of the Notice to Contractors, Proposal and Special Provisions hereto attached, and all applicable Standard Specifications with the plans referred to herein. All said plans, Standard Specifications, Supplemental Specifications, Special Provisions, Notice to Contractors and Proposal are hereby made part of this contract.

Clause 3. In consideration of the foregoing premises the Commonwealth agrees to pay and the Contractor agrees to receive as full compensation for everything furnished and done by the Contractor under this contract, including all work required but not shown on the plans for the items herein mentioned, and also for all loss or damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any delay or from any unforeseen obstruction or difficulty encountered in the prosecution of the work, and for all risks of every description connected with the work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the work as herein specified, and for well and faithfully completing the work, and the whole thereof, as herein provided, such unit prices are set out in the accompanying proposal, and for all work required, for which there is no item in the proposal, such compensation as is provided for in the aforesaid specifications.

In witness whereof, the said Contractor has caused these presents to be signed in its name and behalf and its corporate seal to be affixed by

_____Its_____

and _____Its_____

thereto duly authorized, and the said Commonwealth has executed these presents by its Division of Fisheries and Wildlife on the year and day above written

_____
Wayne F. MacCallum, Director, DFG - DFW

_____

BY _____ Contractor

_____ Corporate Seal

00500-2

SECTION 00610
PERFORMANCE BOND

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FISH & GAME, DIVISION OF FISHERIES AND WILDLIFE

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as **Principal**,

and _____ as **Surety**, are held and firmly bound unto

the **COMM. OF MASS., DEPARTMENT OF FISH & GAME, DIVISION OF FISHERIES AND WILDLIFE**, as **Obligee**, in the sum of

_____ **dollars** **$** _____

to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said **Principal** has made a contract with the **Obligee,** bearing the date of _____ 2012

for the construction of **Sandwich State Fish Hatchery Hatchery Well Number 2 Rehabilitation Project** in **Sandwich** Massachusetts

Project Title

NOW, the condition of this obligation is such that if the **Principal** and all Subcontractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms and conditions of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the **Surety,** and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations changes or additions to said contract that may hereafter be made, notice to the **Surety** of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

IN THE EVENT, that the contract is abandoned by the **Principal,** or in the event that the Obligee, under the provisions of Article 19 of the General Conditions of said contract terminates the employment of the **Principal** or the authority of the **Principal** to continue the work, said **Surety** hereby further agrees that said **Surety** shall, if requested in writing by the Obligee, take such action as is necessary to complete said contract.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals this:

_____ Day of _____ 201 4

PRINCIPAL _____	**SURETY** _____
By: _____	**By:** _____
Seal	Attorney-in Fact Seal
Attest: _____	**Attest** _____

The rate for this bond is _____ % for the first $ _____ and _____ % for the next $ _____

The total premium for this bond is **$** _____

00610-1

SECTION 00620
PAYMENT BOND

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FISH & GAME, DIVISION OF FISHERIES AND WILDLIFE

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as **Principal**,

and _____ as **Surety**, are held and firmly bound unto

the **COMM. OF MASS., DEPARTMENT OF FISH & GAME, DIVISION OF FISHERIES AND WILDLIFE**, as **Obligee**, in the sum of

_____ **dollars** **$** _____

to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said **Principal** has made a contract with the **Obligee,** bearing the date of _____ 2014

for the construction of **Sandwich State Fish Hatchery Well Number 2 Rehabilitation Project** in **Sandwich** Massachusetts
Project Title

NOW the conditions of this obligation are such that if the Principal and all subcontractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the Surety of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, provisions of M.G.L. c.30 §39A, and M.G.L. c.149 §29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals this:

_____ Day of _____ 201 4

PRINCIPAL _____	**SURETY** _____
By: _____	**By:** _____
Seal	Attorney-in Fact Seal
Attest: _____	**Attest** _____

The rate for this bond is _____ % for the first **$** _____ and _____ % for the next $ _____

The total premium for this bond is **$** _____

SECTION 00630
FORMS OF SUBCONTRACT

THIS AGREEMENT MADE THIS_____ DAY OF _____ 2012 by and between

_____ a corporation organized and existing under the laws of _____ an individual doing

businesses _____ hereinafter called the "Contractor" and

a corporation organized and existing under the laws of _____ an individual doing business as
hereinafter called the "Subcontractor".

1. The Subcontractor agrees to furnish all labor and materials required for the completion of all work specified in Section No.

of the specifications for _ _____ _____ and the plans referred to therein and
(Name of Sub-Trade)
Addenda No. _____, _____ and_____ for the:

all as prepared by Dept. of Fish and Game - DFW_____for the sum of ($_____)
(Name of Architect or Engineer)
and the Contractor agrees to pay the Subcontractor said sum for said work. This price includes the following alternates (and **other items set forth in the sub-bid):** Alternates No(s).___ , __, __ ,__ ., __, __ .

(a) The Subcontractor agrees to be bound to the Contractor by the terms of the hereinbefore described plans; specifications **(including all general conditions stated therein)** and Addenda No(s). __ , __, __ , __ , and to assume to the Contractor all the obligations and responsibilities that the Contractor by those documents assumes to the _____ Division of Fisheries and Wildlife hereinafter called the "Awarding Authority", except to the extent that provisions contained therein are by their terms or by law applicable only to the Contractor.

(b) The Contractor agrees to be bound to the Subcontractor by the terms of the hereinbefore described documents and to assume to the Subcontractor all the obligations and responsibilities that the Awarding Authority by the terms of the hereinbefore described documents assumes to the Contractor, except to the extent that provisions contained therein are by their terms or by law applicable only to the Awarding Authority.

2. The Contractor agrees to begin, prosecute and complete the entire work specified by the Awarding Authority in an orderly manner so that the Subcontractor will be able to begin, prosecute and complete the work described in this subcontract; and, in consideration thereof, upon notice from the Contractor, either oral or in writing, the Subcontractor agrees to begin, prosecute and complete the work described in this Subcontract in an orderly manner and with due consideration to the date or time specified by the Awarding Authority for the completion of the entire work,

3. The Subcontractor agrees to furnish to the Contractor within a reasonable time after the execution of this subcontract, evidence of workmen's compensation insurance as required by law and evidence of public liability and property damage insurance of the type and in limits required to be furnished to the Awarding Authority by the Contractor.

4. The Contractor agrees that no claim for services rendered or materials furnished by the Contractor to the Subcontractor shall be valid unless written notice thereof is given by the Contractor to the Subcontractor during the first ten (10) days of the calendar month following that in which the claim originated.

5. This agreement is contingent upon the execution of a general contract between the Contractor and the Awarding Authority for the complete work

IN **WITNESS WHEREOF,** the parties hereto have executed this agreement the date and year first above-written.

SEAL

ATTEST _____ _____

Name of Subcontractor

By: _____

Signature

SEAL

ATTEST_____ _____

Name of Contractor

By: _____

Signature

SUBCONTRACTOR'S
PERFORMANCE AND PAYMENT BOND
PUBLIC CONSTRUCTION

KNOW ALL MEN BY THESE PRESENTS:

That we, **as Principal,** hereinafter called the

Subcontractor and **as Surety,** are held and firmly bound unto

, as Obligee, hereinafter called General Contractor in the sum of

dollars

lawful money of the United States of America to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS THE SAID SUBCONTRACTOR entered into a certain subcontract with the said General Contractor bearing date of the ___ day of _____ , 2014 for:

_____

_____

which contract is by reference made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THE CONDITION OF THIS OBLIGATION is such that if the subcontractor shall faithfully perform the subcontract and shall indemnify and hold harmless the General Contractor and the surety or sureties under the labor and materials or payment bond furnished by such General Contractor to the awarding authority against (I) any and all loss and expense arising out of any and all claims in connection with the performance of said subcontract which would be required to be paid under the labor and materials or payment bond furnished by the General Contractor to the awarding authority and (2) attorney's fees in the event the subcontractor after notice, fails to assume the defense of and defend such claims, then this obligation shall be null and void; otherwise it shall remain in full force and virtue.

IN WITNESS WHEREOF, the **Principal and Surety** have hereunto set their hands and seals this:

_____ Day of _____ 201 ___

PRINCIPAL _____	**SURETY** _____
By: _____	**By:** _____
Seal	**Attorney-in Fact Seal**
Attest: _____	**Attest** _____

The rate for this bond is _____ % for the first **$** _____ and _____ % for the next $ _____

The total premium for this bond is **$** _____

00630-2

FORM OF SUBCONTRACTOR'S EQUAL EMPLOYMENT CERTIFICATION

Commonwealth of Massachusetts
DEPARTMENT OF FISH & GAME, DIVISION OF FISHERIES AND WILDLIFE

This certifies that:

Name of Filed Subcontractor

Street Address

City/State/Zip Code 1. Intends to use the

following listed construction trades in the work under this contract:

2. Will comply with the minority manpower ratio and specific affirmative action steps contained in Article 14 of the Conditions of this Contract, and

3. Will obtain similar certifications from each of its subcontractors and submit to the Owner prior to the award of any subcontract under this contract the subcontractor's certification.

Signature of Authorized Representative of Subcontractor

Name and Title

Date

FORM OF SUBCONTRACTOR'S EQUAL EMPLOYMENT OPPORTUNITY

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM

This form is jointly issued and published by the Executive Office for Administration and Finance (ANF), the Office of the Comptroller (CTR) and the Operational Services Division (OSD) as the default contract for all Commonwealth Departments when another form is not prescribed by regulation or policy. Any changes to the official printed language of this form shall be void. Additional non-conflicting terms may be added by Attachment. Contractors may not require any additional agreements, engagement letters, contract forms or other additional terms as part of this Contract without prior Department approval. Click on hyperlinks for definitions, instructions and legal requirements that are incorporated by reference into this Contract. An electronic copy of this form is available at www.mass.gov/osc under Guidance For Vendors - Forms or www.mass.gov/osd under OSD Forms.

CONTRACTOR LEGAL NAME: **(and d/b/a):**	**COMMONWEALTH DEPARTMENT NAME:** **MMARS Department Code:**
Legal Address: (W-9, W-4,T&C):	**Business Mailing Address:**
Contract Manager:	**Billing Address (if different):**
E-Mail:	**Contract Manager:**
Phone: **Fax:**	**E-Mail:**
Contractor Vendor Code:	**Phone:** **Fax:**
Vendor Code Address ID (e.g. "AD001"): AD___. **(Note: The Address Id Must be set up for EFT payments.)**	**MMARS Doc ID(s):** **RFR/Procurement or Other ID Number:**

___ NEW CONTRACT

PROCUREMENT OR EXCEPTION TYPE: (Check one option only)

__ **Statewide Contract** (OSD or an OSD-designated Department)
__ **Collective Purchase** (Attach OSD approval, scope, budget)
__ **Department Procurement** (includes State or Federal grants 815 CMR 2.00) (Attach RFR and Response or other procurement supporting documentation)
__ **Emergency Contract** (Attach justification for emergency, scope, budget)
__ **Contract Employee** (Attach Employment Status Form, scope, budget)
__ **Legislative/Legal or Other**: (Attach authorizing language/justification, scope and budget)

___ CONTRACT AMENDMENT

Enter **Current Contract End Date *Prior*** to Amendment: _____, **20**___.
Enter **Amendment Amount**: $ _____. (or "no change")

AMENDMENT TYPE: (Check one option only. Attach details of Amendment changes.)

__ **Amendment to Scope or Budget** (Attach updated scope and budget)
__ **Interim Contract** (Attach justification for Interim Contract and updated scope/budget)
__ **Contract Employee** (Attach any updates to scope or budget)
__ **Legislative/Legal or Other:** (Attach authorizing language/justification and updated scope and budget)

The following COMMONWEALTH TERMS AND CONDITIONS (T&C) has been executed, filed with CTR and is incorporated by reference into this Contract.

__ Commonwealth Terms and Conditions __ Commonwealth Terms and Conditions For Human and Social Services

COMPENSATION: (Check ONE option): The Department certifies that payments for authorized performance accepted in accordance with the terms of this Contract will be supported in the state accounting system by sufficient appropriations or other non-appropriated funds, subject to intercept for Commonwealth owed debts under 815 CMR 9.00.
__ **Rate Contract** (No Maximum Obligation. Attach details of all rates, units, calculations, conditions or terms and any changes if rates or terms are being amended.)
__ **Maximum Obligation Contract** Enter Total Maximum Obligation for total duration of this Contract (or ***new*** Total if Contract is being amended). $ _____.

PROMPT PAYMENT DISCOUNTS (PPD): Commonwealth payments are issued through EFT 45 days from invoice receipt. Contractors requesting **accelerated** payments must identify a PPD as follows: Payment issued within 10 days __% PPD; Payment issued within 15 days __ % PPD; Payment issued within 20 days __ % PPD; Payment issued within 30 days __% PPD. If PPD percentages are left blank, identify reason: __agree to standard 45 day cycle __ statutory/legal or Ready Payments (G.L. c. 29, § 23A); __ only initial payment (subsequent payments scheduled to support standard EFT 45 day payment cycle. See Prompt Pay Discounts Policy.)

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE or REASON FOR AMENDMENT: (Enter the Contract title, purpose, fiscal year(s) and a detailed description of the scope of performance or what is being amended for a Contract Amendment. Attach all supporting documentation and justifications.)

ANTICIPATED START DATE: (Complete ONE option only) The Department and Contractor certify for this Contract, or Contract Amendment, that Contract obligations:

__ 1. may be incurred as of the Effective Date (latest signature date below) and **no** obligations have been incurred **prior** to the Effective Date.
__ 2. may be incurred as of _____, **20**___, a date **LATER** than the Effective Date below and **no** obligations have been incurred **prior** to the Effective Date.
__3. were incurred as of _____, **20**___ , a date **PRIOR** to the Effective Date below, and the parties agree that payments for any obligations incurred prior to the Effective Date are authorized to be made either as settlement payments or as authorized reimbursement payments, and that the details and circumstances of all obligations under this Contract are attached and incorporated into this Contract. Acceptance of payments forever releases the Commonwealth from further claims related to these obligations.

CONTRACT END DATE: Contract performance shall terminate as of _____, **20**___, with no new obligations being incurred after this date unless the Contract is properly amended, provided that the terms of this Contract and performance expectations and obligations shall survive its termination for the purpose of resolving any claim or dispute, for completing any negotiated terms and warranties, to allow any close out or transition performance, reporting, invoicing or final payments, or during any lapse between amendments.

CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, the **"Effective Date"** of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified above, subject to any required approvals. The Contractor makes all certifications required under the attached Contractor Certifications (incorporated by reference if not attached hereto) under the pains and penalties of perjury, agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein according to the following hierarchy of document precedence, the applicable Commonwealth Terms and Conditions, this Standard Contract Form including the Instructions and Contractor Certifications, the Request for Response (RFR) or other solicitation, the Contractor's Response, and additional negotiated terms, provided that additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in 801 CMR 21.07, incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

AUTHORIZING SIGNATURE FOR THE CONTRACTOR:	**AUTHORIZING SIGNATURE FOR THE COMMONWEALTH:**
X: _____. **Date:** _____. **(Signature and Date Must Be Handwritten At Time of Signature)**	**X:** _____. **Date:** _____. **(Signature and Date Must Be Handwritten At Time of Signature)**
Print Name: _____.	**Print Name:** _____.
Print Title: _____.	**Print Title:** _____.

INSTRUCTIONS AND CONTRACTOR CERTIFICATIONS

The following instructions and terms are incorporated by reference and apply to this Standard Contract Form. Text that appears underlined indicates a "hyperlink" to an Internet or bookmarked site and are unofficial versions of these documents and Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that not all applicable laws have been cited.

CONTRACTOR LEGAL NAME (AND D/B/A): Enter the **Full Legal Name** of the Contractor's business as it appears on the Contractor's W-9 or W-4 Form (Contract Employees only) **and** the applicable Commonwealth Terms and Conditions If Contractor also has a "doing business as" (d/b/a) name, BOTH the legal name and the "d/b/a" name must appear in this section.

Contractor Legal Address: Enter the Legal Address of the Contractor as it appears on the Contractor's W-9 or W-4 Form (Contract Employees only) **and** the applicable Commonwealth Terms and Conditions, which must match the legal address on the 1099I table in MMARS (or the Legal Address in HR/CMS for Contract Employee).

Contractor Contract Manager: Enter the authorized Contract Manager who will be responsible for managing the Contract. The Contract Manager should be an Authorized Signatory or, at a minimum, a person designated by the Contractor to represent the Contractor, receive legal notices and negotiate ongoing Contract issues. The Contract Manager is considered "Key Personnel" and may not be changed without the prior written approval of the Department. If the Contract is posted on Comm-PASS, the Contract Manager must be listed on the Vendor Section tab.

Contractor E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Contractor Contract Manager. This information must be kept current by the Contractor to ensure that the Department can contact the Contractor and provide any required legal notices. Notice received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any written legal notice requirements.

Contractor Vendor Code: The Department must enter the MMARS **Vendor Code** assigned by the Commonwealth. If a Vendor Code has not yet been assigned, leave this space blank and the Department will complete this section when a Vendor Code has been assigned. The Department is responsible under the Vendor File and W-9s Policy for verifying with authorized signatories of the Contractor, as part of contract execution, that the legal name, address and Federal Tax Identification Number (TIN) in the Contract documents match the state accounting system.

Vendor Code Address ID: (e.g., "AD001") The Department must enter the MMARS Vendor Code Address Id identifying the payment remittance address for Contract payments, which MUST be set up for EFT payments PRIOR to the first payment under the Contract in accordance with the Bill Paying and Vendor File and W-9 policies.

COMMONWEALTH DEPARTMENT NAME: Enter the full Department name with the authority to obligate funds encumbered for the Contract.

Commonwealth MMARS Alpha Department Code: Enter the three (3) letter MMARS Code assigned to this Commonwealth Department in the state accounting system.

Department Business Mailing Address: Enter the address where all formal correspondence to the Department must be sent. Unless otherwise specified in the Contract, legal notice sent or received by the Department's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address for the Contract Manager will meet any requirements for legal notice.

Department Billing Address: Enter the Billing Address or email address if invoices must be sent to a different location. Billing or confirmation of delivery of performance issues should be resolved through the listed Contract Managers.

Department Contract Manager: Identify the authorized Contract Manager who will be responsible for managing the Contract, who should be an authorized signatory or an employee designated by the Department to represent the Department to receive legal notices and negotiate ongoing Contract issues.

Department E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Department Contract Manager. Unless otherwise specified in the Contract, legal notice sent or received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract.

MMARS Document ID(s): Enter the MMARS 20 character encumbrance transaction number associated with this Contract which must remain the same for the life of the Contract. If multiple numbers exist for this Contract, identify all Doc Ids.

RFR/Procurement or Other ID Number or Name: Enter the Request for Response (RFR) or other Procurement Reference number, Contract ID Number or other reference/tracking number for this Contract or Amendment and will be entered into the Board Award Field in the MMARS encumbrance transaction for this Contract.

NEW CONTRACTS (left side of Form):

Complete this section ONLY if this Contract is brand new. (Complete the CONTRACT AMENDMENT section for any material changes to an existing or an expired Contract, and for exercising options to renew or annual contracts under a multi-year procurement or grant program.)

PROCUREMENT OR EXCEPTION TYPE: Check the appropriate type of procurement or exception for this Contract. Only one option can be selected. See State Finance Law and General Requirements, Acquisition Policy and Fixed Assets, the Commodities and Services Policy and the Procurement Information Center (Department Contract Guidance) for details.

Statewide Contract (OSD or an OSD-designated Department). Check this option for a Statewide Contract under OSD, or by an OSD-designated Department.

Collective Purchase approved by OSD. Check this option for Contracts approved by OSD for collective purchases through federal, state, local government or other entities.

Department Contract Procurement. Check this option for a Department procurement including state grants and federal sub-grants under 815 CMR 2.00 and State Grants and Federal Subgrants Policy, Departmental Master Agreements (MA). If multi-Department user Contract, identify multi-Department use is allowable in Brief Description.

Emergency Contract. Check this option when the Department has determined that an unforeseen crisis or incident has arisen which requires or mandates immediate purchases to avoid substantial harm to the functioning of government or the provision of necessary or mandated services or whenever the health, welfare or safety of clients or other persons or serious damage to property is threatened.

Contract Employee. Check this option when the Department requires the performance of an Individual Contractor, and when the planned Contract performance with an Individual has been classified using the Employment Status Form (prior to the Contractor's selection) as work of a Contract Employee and not that of an Independent Contractor.

Legislative/Legal or Other. Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Supporting documentation must be attached to explain and justify the exemption.

CONTRACT AMENDMENT (Right Side of Form)

Complete this section for any Contract being renewed, amended or to continue a lapsed Contract. All Contracts with available options to renew must be amended referencing the original procurement and Contract doc ids, since all continuing contracts must be maintained in the same Contract file (even if the underlying appropriation changes each fiscal year.) "See Amendments, Suspensions, and Termination Policy.)

Enter Current Contract End Date: Enter the termination date of the Current Contract being amended, even if this date has already passed. (Note: Current Start Date is not requested since this date does not change and is already recorded in MMARS.)

Enter Amendment Amount: Enter the amount of the Amendment increase or decrease to a Maximum Obligation Contract. Enter "no change" for Rate Contracts or if no change.

AMENDMENT TYPE: Identify the type of Amendment being done. Documentation supporting the updates to performance and budget must be attached. **Amendment to Scope or Budget.** Check this option when renewing a Contract or executing any Amendment ("material change" in Contract terms) even if the Contract has lapsed. The parties may negotiate a change in any element of Contract performance or cost identified in the RFR or the Contractor's response which results in lower costs, or a more cost-effective or better value performance than was presented in the original selected response, provided the negotiation results in a better value within the scope of the RFR than what was proposed by the Contractor in the original selected response. Any "material" change in the Contract terms must be memorialized in a formal Amendment even if a corresponding MMARS transaction is not needed to support the change. Additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in 801 CMR 21.07, incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

Interim Contracts. Check this option for an Interim Contract to prevent a lapse of Contract performance whenever an existing Contract is being re-procured but the new procurement has not been completed, to bridge the gap during implementation between an expiring and a new procurement, or to contract with an interim Contractor when a current Contractor is unable to complete full performance under a Contract.

Contract Employee. Check this option when the Department requires a renewal or other amendment to the performance of a Contract Employee.

Legislative/Legal or Other. Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Attach supporting documentation to explain and justify the exemption and whether Contractor selection has been publicly posted.

COMMONWEALTH TERMS AND CONDITIONS

Identify which Commonwealth Terms and Conditions the Contractor has executed and is

incorporated by reference into this Contract. This Form is signed only once and recorded on the Vendor Customer File (VCUST). See Vendor File and W-9s Policy.

COMPENSATION

Identify if the Contract is a **Rate Contract** (with no stated Maximum Obligation) or a **Maximum Obligation Contract** (with a stated Maximum Obligation) and identify the Maximum Obligation. If the Contract is being amended, enter the new Maximum Obligation based upon the increase or decreasing Amendment. The Total Maximum Obligation must reflect the total funding for the dates of service under the contract, including the Amendment amount if the Contract is being amended. The Maximum Obligation must match the MMARS encumbrance. Funding and allotments must be verified as available and encumbered prior to incurring obligations. If a Contract includes both a Maximum Obligation component and Rate Contract component, check off both, specific Maximum Obligation amounts or amended amounts and Attachments must clearly outline the Contract breakdown to match the encumbrance.

PAYMENTS AND PROMPT PAY DISCOUNTS

Payments are processed within a 45 day payment cycle through EFT in accordance with the Commonwealth Bill Paying Policy for investment and cash flow purposes. Departments may NOT negotiate accelerated payments and Payees are NOT entitled to accelerated payments UNLESS a prompt payment discount (PPD) is provided to support the Commonwealth's loss of investment earnings for this earlier payment, or unless a payments is legally mandated to be made in less than 45 days (e.g., construction contracts, Ready Payments under G.L. c. 29, s. 23A). See Prompt Pay Discounts Policy. PPD are identified as a percentage discount which will be automatically deducted when an accelerated payment is made. Reduced contracts rates may not be negotiated to replace a PPD. If PPD fields are left blank please identify that the Contractor agrees to the standard 45 day cycle; a statutory/legal exemption such as Ready Payments (G.L. c. 29, § 23A); or only an initial accelerated payment for reimbursements or start up costs for a grant, with subsequent payments scheduled to support standard EFT 45 day payment cycle. Financial hardship is not a sufficient justification to accelerate cash flow for *all* payments under a Contract. Initial grant or contract payments may be accelerated for the *first* invoice or initial grant installment, but subsequent periodic installments or invoice payments should be scheduled to support the Payee cash flow needs and the standard 45 day EFT payment cycle in accordance with the Bill Paying Policy. Any accelerated payment that does not provide for a PPD must have a legal justification in Contract file for audit purposes explaining why accelerated payments were allowable without a PPD.

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE

Enter a brief description of the Contract performance, project name and/or other identifying information for the Contract to specifically identify the Contract performance, match the Contract with attachments, determine the appropriate expenditure code (as listed in the Expenditure Classification Handbook) or to identify or clarify important information related to the Contract such as the Fiscal Year(s) of performance (ex. "FY2012" or "FY2012-14"). Identify settlements or other exceptions and attach more detailed justification and supporting documents. Enter "Multi-Department Use" if other Departments can access procurement. For Amendments, identify the purpose and what items are being amended. Merely stating "see attached" or referencing attachments without a narrative description of performance is insufficient.

ANTICIPATED START DATE

The Department and Contractor must certify WHEN obligations under this Contract/Amendment may be incurred. Option 1 is the default option when performance may begin as of the Effective Date (latest signature date and any required approvals). If the parties want a new Contract or renewal to begin as of the upcoming fiscal year then list the fiscal year(s) (ex. "FY2012" or "FY2012-14") in the Brief Description section. Performance starts and encumbrances reflect the default Effective Date (if no FY is listed) or the later FY start date (if a FY is listed). Use Option 2 only when the Contract will be signed well in advance of the start date and identify a specific future start date. Do not use Option 2 for a fiscal year start unless it is certain that the Contract will be signed prior to fiscal year. Option 3 is used in lieu of the Settlement and Release Form when the Contract/Amendment is signed late, and obligations have already been incurred by the Contractor prior to the Effective Date for which the Department has either requested, accepted or deemed legally eligible for reimbursement, and the Contract includes supporting documents justifying the performance or proof of eligibility, and approximate costs. Any obligations incurred outside the scope of the Effective Date under any Option listed, even if the incorrect Option is selected, shall be automatically deemed a settlement included under the terms of the Contract and upon payment to the Contractor will release the Commonwealth from further obligations for the identified performance. All settlement payments require justification and must be under same encumbrance and object codes as the Contract payments. Performance dates are subject to G.L. c.4, § 9.

CONTRACT END DATE

The Department must enter the date that Contract performance will terminate. **If the Contract is being amended and the Contract End Date is not changing, this date must be re-entered again here.** A Contract must be signed for at least the initial duration but not longer than the period of procurement listed in the RFR, or other solicitation document (if applicable). No new performance is allowable beyond the end date without an amendment, but the Department may allow a Contractor to complete minimal close out performance obligations if substantial performance has been made prior to the termination date of the Contract and prior to the end of the fiscal year in which payments are appropriated, provided that any close out performance is subject to appropriation and funding limits under state finance law, and CTR may adjust encumbrances and payments in the state accounting system to enable final close out payments. Performance dates are subject to G.L. c.4, § 9.

CERTIFICATIONS AND EXECUTION

See Department Head Signature Authorization Policy and the Contractor Authorized Signatory Listing for policies on Contractor and Department signatures.

Authorizing Signature for Contractor/Date: The Authorized Contractor Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "Anticipated Contract Start Date". Acceptance of payment by the Contractor shall waive any right of the Contractor to claim the Contract/Amendment is not valid and the Contractor may not void the Contract**. Rubber stamps, typed or other images are not acceptable**. Proof of Contractor signature authorization on a **Contractor Authorized Signatory Listing** may be required by the Department if not already on file.

Contractor Name /Title: The Contractor Authorized Signatory's name and title must appear legibly as it appears on the **Contractor Authorized Signatory Listing**.

Authorizing Signature For Commonwealth/Date: The Authorized Department Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "Anticipated Start Date". **Rubber stamps, typed or other images are not accepted.** The Authorized Signatory must be an employee within the Department legally responsible for the Contract. See Department Head Signature Authorization. The Department must have the legislative funding appropriated for all the costs of this Contract or funding allocated under an approved Interdepartmental Service Agreement (ISA). A Department may not contract for performance to be delivered to or by another state department without specific legislative authorization (unless this Contract is a Statewide Contract). For Contracts requiring Secretariat signoff, evidence of Secretariat signoff must be included in the Contract file.

Department Name /Title: Enter the Authorized Signatory's name and title legibly**.**

CONTRACTOR CERTIFICATIONS AND LEGAL REFERENCES

Notwithstanding verbal or other representations by the parties, the **"**Effective Date**"** of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified, subject to any required approvals. The Contractor makes all certifications required under this Contract under the pains and penalties of perjury, and agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein:

Commonwealth and Contractor Ownership RIghts. The Contractor certifies and agrees that the Commonwealth is entitled to ownership and possession of all "deliverables" purchased or developed with Contract funds. A Department may not relinquish Commonwealth rights to deliverables nor may Contractors sell products developed with Commonwealth resources without just compensation. The Contract should detail all Commonwealth deliverables and ownership rights and any Contractor proprietary rights.

Qualifications. The Contractor certifies it is qualified and shall at all times remain qualified to perform this Contract; that performance shall be timely and meet or exceed industry standards for the performance required, including obtaining requisite licenses, registrations, permits, resources for performance, and sufficient professional, liability; and other appropriate insurance to cover the performance. If the Contractor is a business, the Contractor certifies that it is listed under the Secretary of State's website as licensed to do business in Massachusetts, as required by law.

Business Ethics and Fraud, Waste and Abuse Prevention. The Contractor certifies that performance under this Contract, in addition to meeting the terms of the Contract, will be made using ethical business standards and good stewardship of taxpayer and other public funding and resources to prevent fraud, waste and abuse.

Collusion. The Contractor certifies that this Contract has been offered in good faith and without collusion, fraud or unfair trade practices with any other person, that any actions to avoid or frustrate fair and open competition are prohibited by law, and shall be grounds for rejection or disqualification of a Response or termination of this Contract.

Public Records and Access The Contractor shall provide full access to records related to performance and compliance to the Department and officials listed under Executive Order 195 and G.L. c. 11, s.12 seven (7) years beginning on the first day after the final payment under this Contract or such longer period necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving this Contract. Access to view Contractor records related to any breach or allegation of fraud, waste and/or abuse may not be denied and Contractor can not claim confidentiality or trade secret protections solely for viewing but not retaining documents. Routine Contract performance compliance reports or documents related to any alleged breach or allegation of non-compliance, fraud, waste, abuse or

collusion may be provided electronically and shall be provided at Contractor's own expense. Reasonable costs for copies of non-routine Contract related records shall not exceed the rates for public records under 950 C.M.R. 32.00.

Debarment. The Contractor certifies that neither it nor any of its subcontractors are currently debarred or suspended by the federal or state government under any law or regulation including, Executive Order 147; G.L. c. 29, s. 29F G.L. c.30, § 39R, G.L. c.149, § 27C, G.L. c.149, § 44C, G.L. c.149, § 148B and G.L. c. 152, s. 25C.

Applicable Laws. The Contractor shall comply with all applicable state laws and regulations including but not limited to the applicable Massachusetts General Laws; the Official Code of Massachusetts Regulations; Code of Massachusetts Regulations (unofficial); 801 CMR 21.00 (Procurement of Commodity and Service Procurements, Including Human and Social Services); 815 CMR 2.00 (Grants and Subsidies); 808 CMR 1.00 (Compliance, Reporting and Auditing for Human And Social Services); AICPA Standards; confidentiality of Department records under G.L. c. 66A; and the Massachusetts Constitution Article XVIII if applicable.

Invoices. The Contractor must submit invoices in accordance with the terms of the Contract and the Commonwealth Bill Paying Policy. Contractors must be able to reconcile and properly attribute concurrent payments from multiple Departments. Final invoices in any fiscal year must be submitted no later than August 15th for performance made and received (goods delivered, services completed) prior to June 30th, in order to make payment for that performance prior to the close of the fiscal year to prevent reversion of appropriated funds. Failure to submit timely invoices by August 15th or other date listed in the Contract shall authorize the Department to issue an estimated payment based upon the Department's determination of performance delivered and accepted. The Contractor's acceptance of this estimated payment releases the Commonwealth from further claims for these invoices. If budgetary funds revert due to the Contractor's failure to submit timely final invoices, or for disputing an estimated payment, the Department may deduct a penalty up to 10% from any final payment in the next fiscal year for failure to submit timely invoices.

Payments Subject To Appropriation. Pursuant to G.L. c. 29 § 26, § 27 and § 29, Departments are required to expend funds only for the purposes set forth by the Legislature and within the funding limits established through appropriation, allotment and subsidiary, including mandated allotment reductions triggered by G.L. c. 29, § 9C. A Department cannot authorize or accept performance in excess of an existing appropriation and allotment, or sufficient non-appropriated available funds. Any oral or written representations, commitments, or assurances made by the Department or any other Commonwealth representative are not binding. The Commonwealth has no legal obligation to compensate a Contractor for performance that is not requested and is intentionally delivered by a Contractor outside the scope of a Contract. Contractors should verify funding prior to beginning performance.

Intercept. Contractors may be registered as Customers in the Vendor file if the Contractor owes a Commonwealth debt. Unresolved and undisputed debts, and overpayments of Contract payments that are not reimbursed timely shall be subject to intercept pursuant to G.L. c. 7A, s. 3 and 815 CMR 9.00. Contract overpayments will be subject to immediate intercept or payment offset. The Contractor may not penalize any state Department or assess late fees, cancel a Contract or other services if amounts are intercepted or offset due to recoupment of an overpayment, outstanding taxes, child support, other overdue debts or Contract overpayments.

Tax Law Compliance. The Contractor certifies under the pains and penalties of perjury tax compliance with Federal tax laws; State tax laws including but not limited to G.L. c. 62C, G.L. c. 62C, s. 49A; compliance with all state tax laws, reporting of employees and contractors, withholding and remitting of tax withholdings and child support and is in good standing with respect to all state taxes and returns due; reporting of employees and contractors under G.L. c. 62E, withholding and remitting child support including G.L. c. 119A, s. 12; TIR 05-11; New Independent Contractor Provisions and applicable TIRs.

Bankruptcy, Judgments, Potential Structural Changes, Pending Legal Matters and Conflicts. The Contractor certifies it has not been in bankruptcy and/or receivership within the last three calendar years, and the Contractor certifies that it will immediately notify the Department in writing **at least 45 days prior** to filing for bankruptcy and/or receivership, any potential structural change in its organization, or if there is **any risk** to the solvency of the Contractor that may impact the Contractor's ability to timely fulfill the terms of this Contract or Amendment. The Contractor certifies that at any time during the period of the Contract the Contractor is required to affirmatively disclose in writing to the Department Contract Manager the details of any judgment, criminal conviction, investigation or litigation pending against the Contractor or any of its officers, directors, employees, agents, or subcontractors, including any potential conflicts of interest of which the Contractor has knowledge, or learns of during the Contract term. Law firms or Attorneys providing legal services are required to identify any potential conflict with representation of any Department client in accordance with Massachusetts Board of Bar Overseers (BBO) rules.

Federal Anti-Lobbying and Other Federal Requirements. If receiving federal funds, the Contractor certifies compliance with federal anti-lobbying requirements including 31 USC 1352; other federal requirements; Executive Order 11246; Air Pollution Act; Federal Water Pollution Control Act and Federal Employment Laws.

Protection of Personal Data and Information. The Contractor certifies that all steps will be taken to ensure the security and confidentiality of all Commonwealth data for which the Contractor becomes a holder, either as part of performance or inadvertently during performance, with special attention to restricting access, use and disbursement of personal data and information under G.L. c. 93H and c. 66A and Executive Order 504. The Contractor is required to comply with G.L. c. 93I for the proper disposal of all paper and electronic media, backups or systems containing personal data and information, provided further that the Contractor is required to ensure that any personal data or information transmitted electronically or through a portable device be properly encrypted using (at a minimum) Information Technology Division (ITD) Protection of Sensitive Information, provided further that any Contractor having access to credit card or banking information of Commonwealth customers certifies that the Contractor is PCI compliant in accordance with the Payment Card Industry Council Standards and shall provide confirmation compliance during the Contract, provide further that the Contractor shall immediately notify the Department in the event of any security breach including the unauthorized access, disbursement, use or disposal of personal data or information, and in the event of a security breach, the Contractor shall cooperate fully with the Commonwealth and provide access to any information necessary for the Commonwealth to respond to the security breach and shall be fully responsible for any damages associated with the Contractor's breach including but not limited to G.L. c. 214, s. 3B.

Corporate and Business Filings and Reports. The Contractor certifies compliance with any certification, filing, reporting and service of process requirements of the Secretary of the Commonwealth, the Office of the Attorney General or other Departments as related to its conduct of business in the Commonwealth; and with its incorporating state (or foreign entity).

Employer Requirements. Contractors that are employers certify compliance with applicable state and federal employment laws or regulations, including but not limited to G.L. c. 5, s. 1 (Prevailing Wages for Printing and Distribution of Public Documents); G.L. c. 7, s. 22 (Prevailing Wages for Contracts for Meat Products and Clothing and Apparel); minimum wages and prevailing wage programs and payments; unemployment insurance and contributions; workers' compensation and insurance, child labor laws, AGO fair labor practices; G.L. c. 149 (Labor and Industries); G.L. c. 150A (Labor Relations); G.L. c. 151 and 455 CMR 2.00 (Minimum Fair Wages); G.L. c. 151A (Employment and Training); G. L. c. 151B (Unlawful Discrimination); G.L. c. 151E (Business Discrimination); G.L. c. 152 (Workers' Compensation); G.L. c.153 (Liability for Injuries); 29 USC c. 8 (Federal Fair Labor Standards); 29 USC c. 28 and the Federal Family and Medical Leave Act.

Federal And State Laws And Regulations Prohibiting Discrimination including but not limited to the Federal Equal Employment Oppurtunity (EEO) Laws the Americans with Disabilities Act,; 42 U.S.C Sec. 12,101, et seq., the Rehabilitation Act, 29 USC c. 16 s. 794; 29 USC c. 16. s. 701; 29 USC c. 14, 623; the 42 USC c. 45; (Federal Fair Housing Act); G. L. c. 151B (Unlawful Discrimination); G.L. c. 151E (Business Discrimination); the Public Accommodations Law G.L. c. 272, s. 92A; G.L. c. 272, s. 98 and 98A, Massachusetts Constitution Article CXIV and G.L. c. 93, s. 103; 47 USC c. 5, sc. II, Part II, s. 255 (Telecommunication Act; Chapter 149, Section 105D, G.L. c. 151C, G.L. c. 272, Section 92A, Section 98 and Section 98A, and G.L. c. 111, Section 199A, and Massachusetts Disability-Based Non-Discrimination Standards For Executive Branch Entities, and related Standards and Guidance, authorized under Massachusetts Executive Order or any disability-based protection arising from state or federal law or precedent. See also MCAD and MCAD links and Resources.

Small Business Purchasing Program (SBPP). A Contractor may be eligible to participate in the SBPP, created pursuant to Executive Order 523, if qualified through the SBPP SmartBid subscription process at: www.comm-pass.com and with acceptance of the terms of the SBPP participation agreement.

Limitation of Liability for Information Technology Contracts (and other Contracts as Authorized). The Information Technology Mandatory Specifications and the IT Acquisition Accessibility Contract Language are incorporated by reference into Information Technology Contracts. The following language will apply to Information Technology contracts in the U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, U75, U98 object codes in the Expenditure Classification Handbook or other Contracts as approved by CTR or OSD. Pursuant to Section 11. Indemnification of the Commonwealth Terms and Conditions, the term "other damages" shall include, but shall not be limited to, the reasonable costs the Commonwealth incurs to repair, return, replace or seek cover (purchase of comparable substitute commodities and services) under a Contract. "Other damages" shall not include damages to the Commonwealth as a result of third party claims, provided, however, that the foregoing in no way limits the Commonwealth's right of recovery for personal injury or property damages or patent and copyright infringement under Section 11 nor the Commonwealth's ability to join the contractor as a third party defendant. Further, the term "other damages" shall not include, and in no event shall the contractor be liable for, damages for the Commonwealth's use of contractor provided products or services, loss of Commonwealth records, or data (or other intangible property), loss of use of equipment, lost revenue, lost savings or lost profits of the Commonwealth. In no event shall "other damages" exceed the greater of $100,000, or two times the value of the product or service (as defined in the Contract scope of work) that is the subject of the claim. Section 11 sets forth the contractor's entire liability under a Contract. Nothing in this section shall limit the Commonwealth's ability to negotiate higher limitations of liability in a particular Contract,

provided that any such limitation must specifically reference Section 11 of the Commonwealth Terms and Conditions. In the event the limitation of liability conflicts with accounting standards which mandate that there can be no cap of damages, the limitation shall be considered waived for that audit engagement. These terms may be applied to other Contracts only with prior written confirmation from the Operational Services Division or the Office of the Comptroller. The terms in this Clarification may not be modified.

Northern Ireland Certification. Pursuant to G.L. c. 7 s. 22C for state agencies, state authorities, the House of Representatives or the state Senate, by signing this Contract the Contractor certifies that it does not employ ten or more employees in an office or other facility in Northern Ireland and if the Contractor employs ten or more employees in an office or other facility located in Northern Ireland the Contractor certifies that it does not discriminate in employment, compensation, or the terms, conditions and privileges of employment on account of religious or political belief; and it promotes religious tolerance within the work place, and the eradication of any manifestations of religious and other illegal discrimination; and the Contractor is not engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for use or deployment in any activity in Northern Ireland.

Pandemic, Disaster or Emergency Performance. In the event of a serious emergency, pandemic or disaster outside the control of the Department, the Department may negotiate emergency performance from the Contractor to address the immediate needs of the Commonwealth even if not contemplated under the original Contract or procurement. Payments are subject to appropriation and other payment terms.

Consultant Contractor Certifications (For Consultant Contracts "HH" and "NN" and "U05" object codes subject to G.L. Chapter 29, s. 29A). Contractors must make required disclosures as part of the RFR Response or using the Consultant Contractor Mandatory Submission Form.

Attorneys. Attorneys or firms providing legal services or representing Commonwealth Departments may be subject to G.L. c. 30, s. 65, and if providing litigation services must be approved by the Office of the Attorney General to appear on behalf of a Department, and shall have a continuing obligation to notify the Commonwealth of any conflicts of interest arising under the Contract.

Subcontractor Performance. The Contractor certifies full responsibility for Contract performance, including subcontractors, and that comparable Contract terms will be included in subcontracts, and that the Department will not be required to directly or indirectly manage subcontractors or have any payment obligations to subcontractors. .

EXECUTIVE ORDERS

For covered Executive state Departments, the Contractor certifies compliance with applicable Executive Orders (see also Massachusetts Executive Orders), including but not limited to the specific orders listed below. A breach during period of a Contract may be considered a material breach and subject Contractor to appropriate monetary or Contract sanctions.

Executive Order 481. Prohibiting the Use of Undocumented Workers on State Contracts. For all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, Departments, divisions, councils, bureaus, and offices, now existing and hereafter established, by signing this Contract the Contractor certifies under the pains and penalties of perjury that they shall not knowingly use undocumented workers in connection with the performance of this Contract; that, pursuant to federal requirements, shall verify the immigration status of workers assigned to a Contract without engaging in unlawful discrimination; and shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker

Executive Order 130. Anti-Boycott. The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott (See IRC § 999(b)(3)-(4), and IRS Audit Guidelines Boycotts) or engages in conduct declared to be unlawful by G.L. c. 151E, s. 2. A breach in the warranty, representation, and agreement contained in this paragraph, without limiting such other rights as it may have, the Commonwealth shall be entitled to rescind this Contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

Executive Order 346. Hiring of State Employees By State Contractors Contractor certifies compliance with both the conflict of interest law G.L. c. 268A specifically s. 5 (f) and this order; and includes limitations regarding the hiring of state employees by private companies contracting with the Commonwealth. A privatization contract shall be deemed to include a specific prohibition against the hiring at any time during the term of Contract, and for any position in the Contractor's company, any state management employee who is, was, or will be involved in the preparation of the RFP, the negotiations leading to the awarding of the Contract, the decision to award the Contract, and/or the supervision or oversight of performance under the Contract.

Executive Order 444. Disclosure of Family Relationships With Other State Employees. Each person applying for employment (including Contract work) within the Executive Branch under the Governor must disclose in writing the names of all immediate family related to immediate family by marriage who serve as employees or elected officials of the Commonwealth. All disclosures made by applicants hired by the Executive Branch under the Governor shall be made available for public inspection to the extent permissible by law by the official with whom such disclosure has been filed.

Executive Order 504. Regarding the Security and Confidentiality of Personal Information. For all Contracts involving the Contractor's access to personal information, as defined in G.L. c. 93H, and personal data, as defined in G.L. c. 66A, owned or controlled by Executive Department agencies, or access to agency systems containing such information or data (herein collectively "personal information"), Contractor certifies under the pains and penalties of perjury that the Contractor (1) has read Commonwealth of Massachusetts Executive Order 504 and agrees to protect any and all personal information; and (2) has reviewed all of the Commonwealth **Information Technology Division's Security Policies.** Notwithstanding any contractual provision to the contrary, in connection with the Contractor's performance under this Contract, for all state agencies in the Executive Department, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established, the Contractor shall: (1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth of Massachusetts Information Technology Division's "Security Policies") (3) communicate and enforce the contracting agency's ISP and such Security Policies against all employees (whether such employees are direct or contracted) and subcontractors; (4) implement and maintain any other reasonable appropriate security procedures and practices necessary to protect personal information to which the Contractor is given access by the contracting agency from the unauthorized access, destruction, use, modification, disclosure or loss; (5) be responsible for the full or partial breach of any of these terms by its employees (whether such employees are direct or contracted) or subcontractors during or after the term of this Contract, and any breach of these terms may be regarded as a material breach of this Contract; (6) in the event of any unauthorized access, destruction, use, modification, disclosure or loss of the personal information (collectively referred to as the "unauthorized use"): (a) immediately notify the contracting agency if the Contractor becomes aware of the unauthorized use; (b) provide full cooperation and access to information necessary for the contracting agency to determine the scope of the unauthorized use; and (c) provide full cooperation and access to information necessary for the contracting agency and the Contractor to fulfill any notification requirements. Breach of these terms may be regarded as a material breach of this Contract, such that the Commonwealth may exercise any and all contractual rights and remedies, including without limitation indemnification under Section 11 of the Commonwealth's Terms and Conditions, withholding of payments, Contract suspension, or termination. In addition, the Contractor may be subject to applicable statutory or regulatory penalties, including and without limitation, those imposed pursuant to G.L. c. 93H and under G.L. c. 214, § 3B for violations under M.G.L c. 66A.

Executive Orders 523, 524 and 526. Executive Order 526 (Order Regarding Non-Discrimination, Diversity, Equal Opportunity and Affirmative Action which supersedes Executive Order 478). Executive Order 524 (Establishing the Massachusetts Supplier Diversity Program which supersedes Executive Order 390). Executive Order 523 (Establishing the Massachusetts Small Business Purchasing Program.) All programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background. The Contractor and any subcontractors may not engage in discriminatory employment practices; and the Contractor certifies compliance with applicable federal and state laws, rules, and regulations governing fair labor and employment practices; and the Contractor commits to purchase supplies and services from certified minority or women-owned businesses, small businesses, or businesses owned by socially or economically disadvantaged persons or persons with disabilities. These provisions shall be enforced through the contracting agency, OSD, and/or the Massachusetts Commission Against Discrimination. Any breach shall be regarded as a material breach of the contract that may subject the contractor to appropriate sanctions.

COMMONWEALTH TERMS AND CONDITIONS

jointly published by ANF, CTR and OSD, shall be void. Upon execution of these Commonwealth Terms and Conditions by the Contractor and filing as prescribed by the Office of the Comptroller, these Commonwealth Terms and Conditions will be incorporated by reference into any Contract for Commodities and Services executed by the Contractor and any State Department, in the absence of a superseding law or regulation requiring a different Contract form. Performance shall include services rendered, obligations due, costs incurred, commodities and deliverables provided and accepted by the Department, programs provided or other commitments authorized under a Contract. A deliverable shall include any tangible product to be delivered as an element of performance under a Contract**.** The Commonwealth is entitled to ownership and possession of all deliverables purchased or developed with State funds. Contract shall mean the Standard Contract Form issued jointly by ANF, CTR and OSD.

1. *Contract Effective Start Date.* Notwithstanding verbal or other representations by the parties, or an earlier start date indicated in a Contract, the effective start date of performance under a Contract shall be the date a Contract has been executed by an authorized signatory of the Contractor, the Department, a later date specified in the Contract or the date of any approvals required by law or regulation, whichever is later.

2. *Payments And Compensation.* The Contractor shall only be compensated for performance delivered and accepted by the Department in accordance with the specific terms and conditions of a Contract. All Contract payments are subject to appropriation pursuant to M.G.L. C. 29, §26, or the availability of sufficient non-appropriated funds for the purposes of a Contract, and shall be subject to intercept pursuant to M.G.L. C. 7A, §3 and 815 CMR 9.00. Overpayments shall be reimbursed by the Contractor or may be offset by the Department from future payments in accordance with state finance law. Acceptance by the Contractor of any payment or partial payment, without any written objection by the Contractor, shall in each instance operate as a release and discharge of the State from all claims, liabilities or other obligations relating to the performance of a Contract.

3. *Contractor Payment Mechanism.* All Contractors will be paid using the Payment Voucher System unless a different payment mechanism is required. The Contractor shall timely submit invoices (Payment Vouchers - Form PV) and supporting documentation as prescribed in a Contract. The Department shall review and return rejected invoices within fifteen (15) days of receipt with a written explanation for rejection. Payments shall be made in accordance with the bill paying policy issued by the Office of the Comptroller and 815 CMR 4.00, provided that payment periods listed in a Contract of less than forty-five (45) days from the date of receipt of an invoice shall be effective only to enable a Department to take advantage of early payment incentives and shall not subject any payment made within the forty-five (45) day period to a penalty. The Contractor Payroll System, shall be used only for "Individual Contractors" who have been determined to be "Contract Employees" as a result of the Department's completion of an Internal Revenue Service SS-8 form in accordance with the Omnibus Budget Reconciliation Act (OBRA) 1990, and shall automatically process all state and federal mandated payroll, tax and retirement deductions.

4. *Contract Termination Or Suspension.* A Contract shall terminate on the date specified in a Contract, unless this date is properly amended in accordance with all applicable laws and regulations prior to this date, or unless terminated or suspended under this Section upon prior written notice to the Contractor. The Department may terminate a Contract without cause and without penalty, or may terminate or suspend a Contract if the Contractor breaches any material term or condition or fails to perform or fulfill any material obligation required by a Contract, or in the event of an elimination of an appropriation or availability of sufficient funds for the purposes of a Contract, or in the event of an unforeseen public emergency mandating immediate Department action. Upon immediate notification to the other party, neither the Department nor the Contractor shall be deemed to be in breach for failure or delay in performance due to Acts of God or other causes factually beyond their control and without their fault or negligence. Subcontractor failure to perform or price increases due to market fluctuations or product availability will not be deemed factually beyond the Contractor's control.

5. *Written Notice*. Any notice shall be deemed delivered and received when submitted in writing in person or when delivered by any other appropriate method evidencing actual receipt by the Department or the Contractor. Any written notice of termination or suspension delivered to the Contractor shall state the effective date and period of the notice, the reasons for the termination or suspension, if applicable, any alleged breach or failure to perform, a reasonable period to cure any alleged breach or failure to perform, if applicable, and any instructions or restrictions concerning allowable activities, costs or expenditures by the Contractor during the notice period.

6. *Confidentiality*. The Contractor shall comply with M.G.L. C. 66A if the Contractor becomes a "holder" of "personal data". The Contractor shall also protect the physical security and restrict any access to personal or other Department data in the Contractor's possession, or used by the Contractor in the performance of a Contract, which shall include, but is not limited to the Department's public records, documents, files, software, equipment or systems.

7. *Record-keeping And Retention, Inspection Of Records.* The Contractor shall maintain records, books, files and other data as specified in a Contract and in such detail as shall properly substantiate claims for payment under a Contract, for a minimum retention period of seven (7) years beginning on the first day after the final payment under a Contract, or such longer period as is necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving a Contract. The Department shall have access, as well as any parties identified under Executive Order 195, during the Contractor's regular business hours and upon reasonable prior notice, to such records, including on-site reviews and reproduction of such records at a reasonable expense.

8. *Assignment.* The Contractor may not assign or delegate, in whole or in part, or otherwise transfer any liability, responsibility, obligation, duty or interest under a Contract, with the exception that the Contractor shall be authorized to assign present and prospective claims for money due to the Contractor pursuant to a Contract in accordance with M.G.L. C. 106, §9-318. The Contractor must provide sufficient notice of assignment and supporting documentation to enable the Department to verify and implement the assignment. Payments to third party assignees will be processed as if such payments were being made directly to the Contractor and these payments will be subject to intercept, offset, counter claims or any other Department rights which are available to the Department or the State against the Contractor.

9. *Subcontracting By Contractor.* Any subcontract entered into by the Contractor for the purposes of fulfilling the obligations under a Contract must be in writing, authorized in advance by the Department and shall be consistent with and subject to the provisions of these Commonwealth Terms and Conditions and a Contract. Subcontracts will not relieve or discharge the Contractor from any duty, obligation, responsibility or liability arising under a Contract. The Department is entitled to copies of all subcontracts and shall not be bound by any provisions contained in a subcontract to which it is not a party.

10. *Affirmative Action, Non-Discrimination In Hiring And Employment.* The Contractor shall comply with all federal and state laws, rules and regulations promoting fair employment practices or prohibiting employment discrimination and unfair labor practices and shall not discriminate in the hiring of any applicant for employment nor shall any qualified employee be demoted, discharged or otherwise subject to discrimination in the tenure, position, promotional opportunities, wages, benefits or terms and conditions of their employment because of race, color, national origin, ancestry, age, sex, religion, disability, handicap, sexual orientation or for exercising any rights afforded by law. The Contractor commits to purchasing supplies and services from certified minority or women-owned businesses, small businesses or businesses owned by socially or economically disadvantaged persons or persons with disabilities.

11. *Indemnification.* Unless otherwise exempted by law, the Contractor shall indemnify and hold harmless the State, including the Department, its agents, officers and employees against any and all claims, liabilities and costs for any personal injury or property damages, patent or copyright infringement or other damages that the State may sustain which arise out of or in connection with the Contractor's performance of a Contract, including but not limited to the negligence, reckless or intentional conduct of the Contractor, its agents, officers, employees or subcontractors. The Contractor shall at no time be considered an agent or representative of the Department or the State. After prompt notification of a claim by the State, the Contractor shall have an opportunity to participate in the defense of such claim and any negotiated settlement agreement or judgment. The State shall not be

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liable for any costs incurred by the Contractor arising under this paragraph. Any indemnification of the Contractor shall be subject to appropriation and applicable law.

12. *Waivers.* Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach.

13. *Risk Of Loss.* The Contractor shall bear the risk of loss for any Contractor materials used for a Contract and for all deliverables, Department personal or other data which is in the possession of the Contractor or used by the Contractor in the performance of a Contract until possession, ownership and full legal title to the deliverables are transferred to and accepted by the Department.

14. *Forum, Choice of Law And Mediation.* Any actions arising out of a Contract shall be governed by the laws of Massachusetts, and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. The Department, with the approval of the Attorney General's Office, and the Contractor may agree to voluntary mediation through the Massachusetts Office of Dispute Resolution (MODR) of any Contract dispute and will share the costs of such mediation. No legal or equitable rights of the parties shall be limited by this Section.

15. *Contract Boilerplate Interpretation, Severability, Conflicts With Law, Integration.* Any amendment or attachment to any Contract which contains conflicting language or has the affect of a deleting, replacing or modifying any printed language of these Commonwealth Terms and Conditions, as officially published by ANF, CTR and OSD, shall be interpreted as superseded by the official printed language. If any provision of a Contract is found to be superseded by state or federal law or regulation, in whole or in part, then both parties shall be relieved of all obligations under that provision only to the extent necessary to comply with the superseding law, provided however, that the remaining provisions of the Contract, or portions thereof, shall be enforced to the fullest extent permitted by law. All amendments must be executed by the parties in accordance with Section 1. of these Commonwealth Terms and Conditions and filed with the original record copy of a Contract as prescribed by CTR. The printed language of the Standard Contract Form, as officially published by ANF, CTR and OSD, which incorporates by reference these Commonwealth Terms and Conditions, shall supersede any conflicting verbal or written agreements relating to the performance of a Contract, or attached thereto, including contract forms, purchase orders or invoices of the Contractor. The order of priority of documents to interpret a Contract shall be as follows: the printed language of the Commonwealth Terms and Conditions, the Standard Contract Form, the Department's Request for Response (RFR) solicitation document and the Contractor's Response to the RFR solicitation, excluding any language stricken by a Department as unacceptable and including any negotiated terms and conditions allowable pursuant to law or regulation.

IN WITNESS WHEREOF, The Contractor certify under the pains and penalties of perjury that it shall comply with these Commonwealth Terms and Conditions for any applicable Contract executed with the Commonwealth as certified by their authorized signatory below:

CONTRACTOR AUTHORIZED SIGNATORY: _____
(signature)

Print Name: _____

Title: _____

Date: _____

(Check One): _____ Organization _____ Individual

Full Legal Organization or Individual Name: _____

Doing Business As: Name (If Different): _____

Tax Identification Number: ____ ____ ____ ____ ____ ____ ____ ____ ____

Address: _____

Telephone: _____ FAX: _____

INSTRUCTIONS FOR FILING THE COMMONWEALTH TERMS AND CONDITIONS

A "Request for Verification of Taxation Reporting Information" form (Massachusetts Substitute W-9 Format), that contains the Contractor's correct TIN, name and legal address information, must be on file with the Office of the Comptroller. If the Contractor has not previously filed this form with the Comptroller, or if the information contained on a previously filed form has changed, please fill out a W-9 form and return it attached to the executed COMMONWEALTH TERMS AND CONDITIONS.

If the Contractor is responding to a Request for Response (RFR), the COMMONWEALTH TERMS AND CONDITIONS must be submitted with the Response to RFR or as specified in the RFR. Otherwise, Departments or Contractors must timely submit the completed and properly executed COMMONWEALTH TERMS AND CONDITIONS (and the W-9 form if applicable) to the***: Payee and Payments Unit, Office of the Comptroller, 9th Floor, One Ashburton Place, Boston, MA 02108*** in order to record the filing of this form on the MMARS Vendor File. Contractors are required to execute and file this form only once.

SECTION 00800
SPECIAL PROVISIONS

For Division of Fisheries and Wildlife, Sandwich State Trout Hatchery, Well Redevelopment and Turbine Pump and Motor Replacement Project including but not necessarily limited to redevelopment of the gravel packed well known as Well 2 at Sandwich Hatchery, acquisition and installation of a new turbine pump and motor, refurbishment of the existing turbine pump and motor (for use as an emergency backup), and any other incidental work for a complete job.

PART 1 - GENERAL

All relevant portions of the latest edition of the State Building Code (8th Edition), and the special provisions contained herein shall apply to the work performed under this Contract.

The work to be performed under this Contract shall, in general, consist of the following:

1.1 BASE BID

A. The Contractor shall provide all labor, materials, chemicals and equipment to satisfactorily clean and recondition Well #2 at Sandwich State Trout Hatchery using the Aquafreed process or approved equal. The Contractor shall conduct a video inspection of the well before and after reconditioning. The Contractor shall also determine the capacity of the well before and after reconditioning.

B. The Contractor shall supply and install a new vertical turbine pump, main column shaft and premium efficiency motor and necessary appurtenances to replace the existing turbine pump and motor that meets the specifications described herein. The Contractor's attention is directed to Section 0400 – Form of General Bid and the complete listing of Unit Price items of work.

C. The Contract shall fully recondition the existing vertical turbine pump, shaft and motor according the specifications described herein. The reconditioned pump and motor will serve as an emergency back-up for the new pump and motor that is to be installed as part of this project.

D. The Contractor shall apply for, pay all fees, and obtain all permits necessary to complete the work, lawfully. The Contractor shall comply with all provisions of permits, including coordination and inspections of work by the appropriate approving Authorities.

E. Material and shop drawings shall be submitted to the Chief of Hatcheries, where specified, for approval in accordance with Section 01300 for all work specified herein.

F. Complete final cleanup of the site and facility to the complete satisfaction of the Owner. The work shall include the cost of legal disposal of all excess or waste materials generated from this project in a manner which is consistent with any local, state and federal rules and regulations for disposal of such materials.

from this project in a manner which is consistent with any local, state and federal rules and regulations for disposal of such materials.

G. Furnish all pump test results and other information related to work done wells, well inspection videos, pumps and motors, pump information, warranties and contract closeout materials prior to making the final payment request. Five Percent (5%) retainage shall be held until all work, warranties and contract paperwork is satisfactorily complete and accepted by the Owner.

1.3 DESCRIPTION OF WELL AND EXISTING PUMPING EQUIPMENT

A. **SANDWICH HATCHERY WELL 2:** Well 2 is located south of the visitor parking lot adjacent to the backup electrical generator. The 12 X 24 inch gravel packed well was constructed in 1992. Total well depth of the well from the floor of the pump house to the bottom of the screen is about 90 feet. The stainless steel screen is 25 feet long with 10 slot (0.01 inch) size. The original capacity of the well after installation was about 300 gpm. After installation it was determined that total drift off center of the well is 5 5/8" S.W. The well construction logs are in Appendix I.

The existing pump is a Goulds two stage model 10RJLO manufactured in 1991. The pump was refurbised in 2008. The rebuild included a new shaft, discharge impeller and column shaft. The premium efficiency motor was installed new in 2006 and rebuilt in 2008. It is a 20 HP US Motors 3 phase, 460 V, 23.2 amps and 3525 rpm.

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The well has not been reconditioned since it was put into service in 1993. Currently it is estimated to produce between 200 and 250 gpm.

1.4 SCOPE OF WORK

A. **INTENT:** Under these specifications, it is intended that the Contractor shall furnish all equipment, labor, chemicals, and materials necessary to video inspect the well bore and screen before and after cleaning and redevelop the gravel pack water supply Well 2 at Sandwich State Trout Hatchery. The Contractor shall supply and install a new lineshaft vertical turbine pump and motor capable of producing up to 350 gpm compatible with the existing discharge head. The Contractor shall also recondition the discharge head. Reconditioning of the discharge head shall include complete cleaning, including sandblastings if it is deemed necessary to properly complete the job, structural repairs if required and painting with an epoxy based paint. The Contractor shall also fully recondition the existing turbine pump including but not limited to cleaning, and painting the pump exterior and installation of column unit, install new wear rings, bearings, bushings and sand collars on the column shaft, and clean the motor and replace the upper and lower motor bearings with OEM bearing sets. The contractor will be responsible for obtaining permits, if required, from the Massachusetts Department of Environmental Protection, Town of Sandwich and Conservation Commissions and the EPA if so required prior to beginning any on-site work.

B. **PRE-REDEVELOPMENT TESTS TO BE CONDUCTED ON THE WELL:** Prior to pulling the pumping equipment, the Contractor shall conduct a test of the well and pumping

equipment by isolating the well from the system, connecting a temporary discharge line and orifice in order to pipe water to the hatchery water distribution system or to an approved drain line, and operating the pump at a minimum of four different flow rates to establish a baseline for evaluating of the redevelopment effort. Vibration, voltage and amperage readings are also to be collected and recorded during the pre-cleaning test procedures.

C. **REMOVAL AND INSPECTION OF EXISTING PUMPING EQUIPMENT**

1. The contractor shall remove the pump and motor from the well, taking all precautions to avoid damaging the well pit, well casings, seals, discharge piping or pumping equipment. The pumping equipment, column pipe, and discharge head shall be carefully disassembled, cleaned by high pressure washing (except the column pipe, which will not be reconditions; the contractor is to supply new column pipe as part of this contract) and sandblasted following industry standards, inspected and repaired by the Contractor according to the specifications describe herein. The Contractor shall supply a written report to the Chief of Hatcheries for any repairs with an itemized cost proposal that are necessary beyond those specified herein as part of the base bid price.
2. The Contractor shall be responsible for disposal of all pumping equipment that is to be discarded in accordance with all applicable local, state and federal rules and regulations that will not be reconditioned or put back into service.

PART 2 – PRODUCTS

The Contractor shall furnish the required amount of chemicals to effectively treat the water in and surrounding the well in order to remove all incrustation residue or deposits to restore as much of the original capacity of the well as possible. The amounts and types of chemicals that will be used, along with NSF Standard 60 certification sheets, shall be submitted to the Chief of Hatcheries for review prior to use. All chemicals used shall be certified under NSF Standard 60.

The Contractor shall provide and post at the job site Material Safety Data Sheets (MSDS) for each chemical brought to the site.

2.1 CARBON DIOXIDE

A. Carbon dioxide shall be 99.9% liquid state.

2.2. PUMP, SHAFT AND MOTOR CLEANING, INSPECTION AND RECONDITIONG

A. The intent of this project is to refurbish the existing pump and motor in order that it will be readily available for re-use in Well #2 in the event of an emergency need.

B. Where applicable, the Contractor shall use Type 416 stainless steel nuts, bolts and washers for this job.

C. All wear rings, bushings, and sand collars on the column shaft and pump bowl assembly shall be replaced. All additional parts shall be inspected and a written report that details all parts that require replacement shall be provided to the Chief of Hatcheries. The report shall contain an itemized cost estimate for all parts, labor and other associated costs to perform the repairs. All bushings, bearings and wear rings shall be tungsten carbide, PTFE/graphite or approved equals. They must not contain brass, bronze, copper or zinc due to the toxicity of these metals to trout. Sand collars shall be rubber or approved equal. Costs for additional repairs and parts will be part of an extra work order that shall require approval from the Chief Fiscal Officer prior to proceeding.

D. The discharge head and flange shall be inspected for condition and wear. It shall be cleaned by high pressure washing and sandblasting, or other method that complies with industry standards for such work. Upon completion of cleaning, the Contractor shall inspect it for defects and excess wear. The exterior shall be painted with a bitumastic enamel similar to Intertol#49 thick or 2 part Tnemec brand epoxy. All cleaning and painting work shall be conducted in an area outside the well head area. The Contractor shall submit a written report to the Chief of Hatcheries that details all defects and itemizes repair parts, labor and other associated costs to repair the defects. Costs for repairs beyond cleaning and painting will be part of an extra work order that shall require approval from the Chief Fiscal Officer prior to proceeding. NOTE: the discharge head will be re-installed as part of this project and therefore shall be compatible with the new turbine pump and motor.

E. The motor shall be thoroughly cleaned and examined for wear and failed components by a shop qualified to perform such work. The upper and lower bearings shall be replaced with factory specified bearing sets. The Contractor shall submit a written report to the Chief of Hatcheries that details any additional repairs required to insure proper and efficient operation of the motor. The report shall include an itemized cost estimate for all recommended additional repairs to the motor. The costs for motor inspection, cleaning and bearing replacement shall be included in the bid price. The Contractor shall submit a written report to the Chief of Hatcheries that details all defects and itemizes repair parts, labor and other associated costs to repair the defects. Any addition motor repair costs shall be part of an extra work order and must be approved in writing by the Chief of Fiscal Officer prior to proceeding.

2.4. SPECIFIC DESIGN REQUIREMENTS FOR THE NEW VERTICAL TURBINE PUMP AND MOTOR

A. TIME FRAME TO ORDER NEW PUMP AND MOTOR

1. Within 30 days from execution of this contract, the Contractor shall order the replacement pump and motor per these specifications in order to insure that it will be delivered in time to complete all work prior to June 15, 2015. The pump shall be capable of pumping up to 350 gallons per minute but shall be capable of being adjusted to pump less if the refurbished well capacity is less than 350 gpm after reconditioning. The Contractor shall submit in writing to the Chief of Hatcheries all specifications of the proposed pump and motor and the Chief of Hatcheries shall approve the proposed pump and motor prior to the contractor ordering it. The Contractor must include as part of their bid package the name of

the manufacturer of the lineshaft vertical turbine pump and the manufacturer of the motor that will be supplied under the terms of their bid.

B. WELL PUMP AND MOTOR DESIGN
   1. It shall be the responsibility of the contractor to determine the specific design of the lineshaft vertical turbine pump and motor unit that is capable of pumping up to 350 gpm. It shall be the responsibility of the contractor to make their own specific determination of TDH in order to proper size the pump and motor. Due to fiscal year time constraints, it will not be feasible to wait until after the specific capacity of the well is determined following cleaning to design and order the new turbine pump. All bearings, bushings and wear rings that contact water may not contain brass, bronze, zinc or copper due to the toxicity of these metals to trout. They must be comprised of tungsten carbide, PTFE/graphite or approved equals.

C. WELL PUMP MANUFACTURER
   1. Pump shall be line shaft vertical turbine manufactured by Goulds Pumps or approved equivalents of equal quality.

D. MOTOR MANUFACTURER
   1. The motor shall be manufactured by US Motors or approved equal.
   2. Motor shall meet all current standards for a premium efficiency design with at least a NEMA nominal efficiency of 90.2% and guaranteed efficiency of 88.5%. It shall be three phase, 460 volts, 3525 rpm, 20 HP, although the actual HP rating of the motor shall be designed to operate the pump according to manufacturer specifications.

E. COLUMN ASSEMBLY
   1. Column pipe shall be of ASTM A53 Grade A steel pipe. Ends shall be machined with 8 threads per inch with a 1/8 inch taper and faced parallel to butt against machined shoulders in the column couplings. Intermediate sections of column shaft shall not exceed 10 feet for pump speeds up to 2200 rpm, or 5 feet for pumps over 2200 RPM. Top and bottom sections of column pipe shall not exceed 5 feet. The upper end of bottom and intermediate column pipes shall be fitted with coupling of ASTM A48 Class 30 cast iron.
   2. The coupling shall have an integrally cast spider hub to hold and accurately align the line shaft bearing. The line shaft bearings shall be of synthetic rubber. The external shape of the bearing shall be such as to retain it in the coupling spider hub without use of auxiliary collars of rings. The internal shape of the bearing shall be a polygon to provide minimum friction contact to the shaft sleeves. Replacement bearings shall be capable of being installed by hand without special tools.
   3. Line shafts shall be of ASTM A108 Grade 1045 steel ground and polished with a surface finish not to exceed 40 rms. Shaft diameter selection shall be based on a combined shear stress of not more than 18% of the ultimate strength, or not in excess of 30% of the elastic limit in tension. Intermediate shaft sections shall be interchangeable and shall not exceed 10 feet in length. The butting ends shall be machined square to the axis of the shaft and the faces shall be recessed to ensure proper contact. The shaft ends shall be threaded from solid ASTM A108

Grade B1112 or 12L14 steel bars and designed with a safety factor 1- ½ times the shaft safety factor. Threads shall be left hand to tighten pump operation. The couplings shall be without vent holes. The shaft shall be provided with an ASTM A296 Type 304 stainless steel sleeve to act as a journal for each rubber line shaft bearing. The sleeve shall be placed on a full size shaft without undercutting and secured in position by a suitable adhesive. Replacement sleeves shall permit field installation without special tools.

4. Pump columns (interior and exterior) shall be epoxy coated to reduce corrosion.

E. PUMP BOWLS, SUCTION AND DISCHARGE CASES

1. Pumps shall be the deep well vertical turbine design and shall be manufactured by Goulds Pumps or approved equivalents of equal quality.
2. Pump bowls, suction and discharge cases shall be of close grained cast iron equivalent to ASTM A48 Class 30 without imperfections. The bowl water passages shall be epoxy coated to provide optimum performance and consistency of output. The suction case shall be fitted with replaceable wear rings of 416 stainless steel.
3. Wear rings shall have the minimum practical clearance to the mating cylindrical surface of the impeller to provide adequate sealing independent of vertical positioning of the impellers.
4. Bowls and cases shall have carbon or approved equivalent sleeve type bushings to support and guide the shaft.
5. Bushing material shall be carbon or approved equivalent.
6. A sand collar of rubber or approved equivalent shall be provided to protect the suction case bearing from abrasives. The intermediate stages shall be selected to provide the maximum efficiency with the least number of stages.

F. IMPELLER

1. Impeller shall be of the enclosed type of 416 stainless steel, accurately cast, machined, balanced and filled for optimum performance and minimum vibration. The design shall be non-overloading for the capacity of the motor selected.
2. The impeller shall be securely fastened to the bowl shaft with taper collets of ASTM A582 416 stainless steel.

G. BOWL SHAFT

1. Bowl shaft shall be of sufficient diameter to transmit the pump horsepower with a liberal safety factor and rigidly support the impellers between the bowl or case bearings.
2. The bowl shaft material shall be high chrome stainless steel of ASTM A276 Grade 410.

I. STUFFING BOX

1. The stuffing box shall be of the deep bore type with a minimum of 6 rings of packing and seal cage. Connections for the grease inlet and pressure relief shall be provided. The packing gland shall be of the stainless steel type and secured in place with ASTM A193 Grade B8 stainless steel studs and stainless steel nuts

J. WELL LEVEL SENSOR AND SHUTOOF

1. The Contractor shall furnish and fully install a water level transducer-type sensor in the well with the capability to measure and display the well drawdown depth and will automatically shut the well if drawdown exceeds a safe level. The electronic control and display module shall be located in the pump house. The cable suspended level sensor shall transmit the gauge pressure of the water column above the sensor by means of a different silicon semiconductor sensor protected by an internal 316 stainless steel diaphragm and fill fluid. The body of the sensor shall be 316 stainless steel. The sensor shall be suspended by the electrical cable which shall be jacketed with polyethylene. The cable shall be continuous from the sensor to the electronic module. Splices will not be allowed. The unit shall have a range of 0 –30 psi.

PART 3 – EXECUTION

3.1 EQUIPMENT REMOVAL AND TESTING

1. Contractor shall prior to pulling and after reinstalling (end of cleaning) the new existing pump conduct two performance tests (ie. at the beginning and end of redevelopment) at the highest rate feasible pump each well for 2 hours utilizing the existing pumping equipment and discharge to determine specific capacity and for evaluation of the effectiveness of the well cleaning efforts. The pumping rates and durations are to be as close as possible in the before and after tests although the Owner recognizes that a new pump and motor will be installed will not allow for a direct comparison of performance.

3.2 VIDEO INSPECTIONS

A. Video inspections shall be performed on the well casing and screen following removal of the pump and equipment and again prior to the start of well cleaning. A second video inspection of each well shall be performed after cleaning is complete and prior to installation of the pumping equipment. The Hatchery Manager and Chief of Hatcheries shall be notified prior to conducting the video inspections so they may witness them if desired.
B. The Contractor shall use a video camera and equipment capable of recording video images in color. The camera unit shall be capable of articulating downward and also sideways to view the casing and well screen. The camera unit shall have a depth counter to monitor and record the camera depth.
C. The Contractor shall allow enough time to examine casing joints, welds, screen slot openings and bottom plate.
D. Prior to video inspection, a pump capable of pumping 20 gpm shall be placed in the well to provide a vertical upward flow of water to facilitate viewing.
E. Video inspections shall be performed on the well before and after cleaning.
F. The Contractor shall provide the Chief of Hatcheries with 2 copies (DVD or CD) of the before cleaning and after cleaning video of each facility on DVE or CD. VHS tape format is not acceptable.

3.3 WELL CLEANING

A. The Contractor shall anticipate 35 hours of actual redevelopment time for the well. This does not included time for removal of equipment, installation of Contractor's equipment, video inspection, jetting/chemical injections, chemical reaction time, pre and end of day as well as post specific capacity tests. The Contractor shall be required to complete the following:

1. Measure and record the static water level and the depth of the wells before, during and after each cleaning treatment at an identical pumping rate approved by the Chief of Hatcheries. The existing pumps shall be utilized to establish the initial and final specific capacity rating of each well. The pumping rates and durations are to be identical in order to evaluate well performance improvement. The Contractor shall provide a pump during the well cleaning and final tests capable of pumping sufficient water to measure the specific capacity of the well.
2. Determine the specific capacity of the well according to the following schedule:
    a. Before well cleaning. The specific capacity to be determined utilizing the existing pump after well has been pumping continuously for two hours at a rate the well is initially capable of supporting and in agreement with the Chief of Hatcheries. The Contractor is to coordinate with the Chief of Hatcheries to assist in operating the well pumps in advance of specific capacity measurements. The discharge shall be measured through a circular orifice pipe properly sized for the anticipated flow.
    b. After the cleaning process is completed and reinstallation of the new pump, determine the specific capacity after pumping continuously for two hours at the same pumping rate performed in Section 3.3 A.2a.
3. Discharge of waste and chemicals. The Contractor shall obtain all required permits and discharge all wastes from the cleaning operations at least 100 feet away from the radius around the well and any other existing wells, at a location to be determined by the Hatchery Manager and Chief of Hatcheries. The Contractor shall discharge the water from the neutralizing tank. Water and sediment pumped from the wells during development shall be discharged through an approved orifice onto an energy dissipater erosion and sediment control system. The Contractor is responsible for connecting development discharge to a sediment settlement tank. The sediment control system shall be located outside of all wetland buffer zones and on property owned or controlled by the Owner. The Contractor shall check and record the pH of the neutralized water frequently. No discharge water, chemicals, or waste shall be discharged directly into any surface waters.
4. Safety equipment, as required by OSHA for working in confined space conditions, shall be worn and applied by workers while working with the acids and polymer. The Contractor shall insure that there is adequate ventilation during acid and polymer treatment and shall be responsible for the safety of all personnel involved in the work and protection of equipment. For safety reasons, the Contractor shall supply and maintain a two-person crew during all activities and handling of the chemicals.
5. The Contractor shall verify that the well is cleaned to its original depth. The contractor shall remove any accumulations of sand and silt in the well such that the well is clean to its original design depth.

B. WELL CLEANING PROCESS

1. Scope of Work: The project shall involve cleaning and redeveloping the well by the AquaFreed process or approved equal process. Acid cleaning by use of hydrochloric acid or other strong acid are acceptable alternate methods. The work shall include the furnishing of all labor, materials and equipment necessary for the complete redevelopment of Well #1. Contractor shall anticipate 35 hours of actual redevelopment time for the well. This does not included time for removal of equipment, installation of Contractor's equipment, video inspection, jetting/chemical injections, chemical reaction time, pre and end of day as well as post specific capacity tests.
2. General Procedures: The well rehabilitation process shall be a three (3) phase system utilizing the injection of 99.9% liquefied carbon dioxide (CO_2). The column of CO_2 injected into the well shall be sufficient to effectively fill the well bore and surrounding formation. A packer shall be set to confine the injection of the AquaFreed gasses to the water producing zones. Injection pressures shall not exceed 325 psi and temperatures shall be at or near zero (0) degree F to insure penetration of the gas and liquefied gases into the surrounding formation. Down hole pressures shall range between 0 – 70 psi and down hole temperature of the CO_2 shall range between 32 degree F and -110 degrees F.

   Temperature and pressures shall be regulated by the contractor to encourage rapid expansion of the liquefied CO_2 and release of energy sufficient to dislodge encrusted minerals and biological growth from the well and surrounding water bearing formation. The Contractor shall allow a minimum of 12 hours of contact time for the CO_2 in the scaled well. The process shall be conducted and monitored by personnel specifically trained and authorized to apply the AquaFreed process or similar approved equal process.

3. Specific Steps for Well Cleaning and Redevelopment

   A. Phase 1: The Contractor shall wire brushing the entire well casing and screen and then pump off all dislodged material. The contractor then shall modify the top of well casing as necessary to utilize appropriate adapters and sealing appurtenances to properly control and implement the process. The Contractor shall install an injection line system with a packer or isolation assembly to seal the well at a desired depth to confine the treatment area.
   B. Phase 2: The Contractor shall introduce a minimum of 6000 lbs (pounds) of liquefied or gaseous CO_2 through a controlled injector process into the screen, gravel pack and surrounding formation at such a rate as determined necessary to best control and conduct the rehabilitation process. This process may be conducted over a period of two (2) days to properly introduce the material into the well system. This phase of the process shall produce carbonic acid within the formation and provide sufficient physical agitation of the carbonic acid and water within the formation to initiate the rehabilitation process through the rapid expansion of the liquefied gases.
   C. Phase 3: The Contractor shall mechanically develop the well at rates sufficient to remove newly dislodged particles and plugging material from the well and near-well formation. Waste material shall not be discharged into water

courses and must comply with all Massachusetts DEP and federal EPA discharge regulations.

Mechanical Redevelopment: Mechanical redevelopment of the well shall consist of pumping and surging with high capacity surge equipment until such time that the water is deemed to be clear and sand-free. The well shall be considered thoroughly redeveloped when the specific capacity (G.P.M. per foot of drawdown) is relatively constant and the well does not produce sand in excess of sand production limitations, or is considered sufficiently redeveloped by the Owner. Specific capacity shall be checked at the beginning and end of each development day. The Contractor shall supply the Owner a written report on the final Specific Capacity of the well once it is thoroughly redeveloped.

D. Discharge of waste and chemicals. The Contractor shall obtain all required permits and discharge all wastes from the cleaning operations at a safe distance away from the radius around the well and any other existing wells, wetlands or waterways. The Contractor shall discharge the water produced from the well during the cleaning process through a sediment settling tank. Water and sediment pumped from the wells during development shall be discharged through an approved orifice onto an energy dissipater erosion control system. No discharge water shall be discharged directly into any surface waters.

4. Contractor Qualifications and Training: All personnel involved in the well cleaning shall be certified and trained in the AquaFreed process or approved equal process. The Contractor must provided proof documentation as part of the bid requirements that all personnel that will be involved in on-site work are properly trained in utilizing all equipment and chemicals involved in the proposed well cleaning process. The Contractor shall also provide documentation of having treated a minimum of 25 wells utilizing the proposed well cleaning and rehabilitation process since 2010. Site workers shall wear personnel protective clothing and devices as necessary to meet all health and safety requirements in order to perform the work in a safe manner that meet all OSHA requirements.

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3.4 CLEAN-UP AND BASIS OF ACCEPTANCE

A. Upon completion of all specified work the pump station and surrounding area shall be left in condition equal to or better than prior to initiation of the work. All waste materials, including pump parts that will no longer be used, shall be removed from the site.
B. The Contractor shall provide all documentation and reports pertaining to this Contract as specified herein.

3.5 WORK OBSERVATION

A. The Hatchery Manager or his designee may be on-site to observe all work relative this Contract. Prior to performing any work at either hatchery, the Contractor shall arrange a schedule of work with the respective Hatchery Manager.

PRE-BID MEETING

None Required – The Contractor is solely responsible for Examination of Location, as described below for making their bid.

PROSECUTION OF WORK

The Contractor shall plan their work so that the hatchery facility is properly secured at the end of each day.

All materials and equipment of the Contractor left on the site shall be at their own risk and the Department will not be responsible for any damage or theft incurred.

EXAMINATION OF LOCATION

The Contractor must satisfy itself by their own investigation and research of the site and detail of each hatchery regarding all conditions affecting the work, the amount of labor, materials and equipment needed, and make their bid in sole reliance thereon.

To schedule a time to investigate the job site contact Mr. Adam Davies, Acting Hatchery Manager at 508-888-0008.

SCHEDULE OF OPERATIONS

No work shall be performed under this Contract on Saturdays, Sundays or legal holidays unless approval is given by the Hatchery Manager. The stations are normally open five (5) days per week from Monday through Friday from 7:00 a.m. to 3:30 p.m. Working outside normal business hours must be requested in writing by the Contractor and approved by the Owner during Construction. The work request shall be made no less than 72-hours prior to the date work is planned.

DESIGN STANDARDS AND WARRANTY

Building related work shall comply with the latest edition of the Massachusetts State Building Code, 8th Edition, including most recent amendments.

Site related wok shall comply with the Engineer's technical specifications, plans and details; and Standard Specifications For Highways and Bridges, 1988 Edition, as revised.

All materials furnished shall meet or exceed the stated design requirements.

All warranties as received from the manufacturer of the equipment pertinent to its components or satisfactory use shall be turned over to the Department at the time of acceptance at no cost to the Department. Each warranty so received shall indicate its expiration date.

SUBSTITUTION OF EQUIPMENT AND/OR MATERIALS

Whenever a certain item or its equal is stated in the specifications and the Contractor proposes to substitute an alternate, it shall be his responsibility to furnish sufficient evidence in writing as to the adequacy of the alternate prior to approval by the Engineer for its use.

PROTECTION OF WORK

The Contractor shall protect, at his own expense, his own materials and work from any cause and shall protect materials and work of others from direct and consequential damage, including floors, and fires due to his operations. Any such damage during the construction and/or guarantee shall be repaired by the Contractor using mechanics skilled in the various trades involved at no extra expense to the owner.

PATENTED DEVICES, MATERIALS AND PROCESSES

It is mutually understood and agreed that, without exception, Contract prices are to include all royalties and costs arising from patents, trademarks and copyrights in any way involved in the work. It is the intent that whenever the Contractor is required or desires to use any design, device, material or process covered by letters patent or copyright, the right for such use shall be provided for by suitable legal agreement with the patentee or owners. A copy of this agreement shall be filed with the Engineer; however, whether or not such agreement is made or filed as noted, the Contractor and surety in all cases shall indemnify and save harmless the Party of the First Part from any and all claims for infringement by reason of the use of any such patented design, device, material or process to be involved under the Contract. He, or They, shall indemnify the party of the First Party for any cost, expenses and damages which may be obliged to pay, by reason of any such infringement, at any time during the prosecution or after the completion of the work.

PREPARATION OF PROPOSALS

However, in the event of an error in the bid (e.g., clerical error, mathematical error) the Department may interpret the bid to protect the public interest in securing the lowest responsible bid for the Contract. Any such errors may be interpreted to the benefit of the Department.

INSURANCE REQUIREMENTS

Insurers shall be licensed and registered in accordance with Massachusetts General Laws. Policies shall indemnify against loss with no deductible amount. Policies shall not contain any provisions for Contractor self-insurance.

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, et cetera, will occur.

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

WITHDRAWAL OF PROPOSALS

A bidder may withdraw a bid on a clear showing to the satisfaction of the Department that the bid amount resulted from bona fide clerical or mechanical error of a substantial nature or from other similar unforeseen circumstances. The Department may not necessarily return the bid deposit.

CONSIDERATION OF PROPOSALS

A proposal will be considered irregular and will be rejected if it is determined that any of the unit prices are materially unbalanced to the potential detriment of the Department and Division. The bidder will be required to justify in writing the price or prices bid for the work in question before the Department and Division decide to award the Contract or reject the bid.

DEBRIS

Debris will not be permitted to accumulate, and the immediate working areas shall be kept clean.

Debris shall be removed from the site and disposed of by the Contractor. The Contractor shall make his own arrangements for disposal. No disposal shall be made on the property of Commonwealth of Massachusetts.

LAWS ORDINANCES AND PERMITS

A. The Contractor shall comply with all the laws, ordinances, codes, rules and regulations of all local and state government authorities, as well as the rules of the National Fire Protection association, having jurisdiction over the premises and of any public utilities specified. However, requirements in the specification shall be followed when in excess of local and state minimum requirements.
B. If any work is performed and changes are necessary to conform to the codes, laws, ordinances, etc. as aforesaid, these changes shall be made at the Contractor's expense.
C. The Contractor shall secure and pay for all permits and inspections required by any of the foregoing authorities and pay all other costs in connection with this work.

COMPLETION DATE

The Contractor shall commence work promptly upon receipt of the signed Contract and shall complete the work, as follows:

No later than **June 15th, 2015.**

PERMITS AND LICENSES

The Contractor shall procure all required permits and licenses, pay all categories, fees and taxes and shall give all notices necessary and incidental to the lawful and prosecution of the work. Copies of all required permits and licenses shall be filed with the Owner prior to the beginning of work. All costs associated with licenses and permits shall be considered incidental to the Contract and no specific payment will be made.

ASBESTOS CONTAINING MATERIALS

A. No asbestos containing materials (ACM) including but not limited to floor tiles, ceiling tiles, roof shingles, or pipes will be permitted to be installed under this Contract.
B. The presence of asbestos containing materials associated with the existing building is unknown. Should the Contractor encounter suspect materials which affect completion

of his work he shall leave those material undisturbed in-place, stop work if warranted, and immediately notify the Owner so that the proper testing and abatement work can be completed under a Change of Conditions, and at the Owner's expense.

ATTACHMENTS TO THIS SECTION

None

SECTION 01010
SUMMARY OF WORK

1. GENERAL SCOPE OF WORK

The Work under the Contract consists of:

BASE BID:

A. Material and shop drawings shall be submitted to the Chief of Hatcheries for approval in accordance with Section 01300 for all work.

B. The Contractor shall provide all labor, materials, chemicals and equipment to satisfactorily clean and recondition Well 2 at Sandwich State Trout Hatchery. The Contractor shall conduct a video inspection of the well before and after reconditioning. The Contractor shall also determine the capacity of the well before and after reconditioning.

C. The Contractor shall recondition the pumping equipment and motor following the specifications described herein. The Contractor shall also supply and install a new vertical turbine pump and premium efficiency motor that meets the specifications described herein. The Contractor's attention is directed to Section 0400 – Form of General Bid and the complete listing of Unit Price items of work.

D. The Contractor shall apply for, pay all fees, and obtain all permits necessary to complete the work, lawfully. The Contractor shall comply with all provisions of permits, including coordination and inspections of work by the appropriate approving Authorities.

E. Material and shop drawings shall be submitted to the Chief of Hatcheries, where specified, for approval in accordance with Section 01300 for all work specified herein

F. Complete final cleanup of the site and facility to the complete satisfaction of the Owner. The work shall include the cost of legal disposal of all excess or waste materials generated from this project in a manner which is consistent with any local, state and federal rules and regulations for disposal of such materials.

G. Furnish all Test Results, Warranties and Contract Closeout materials prior to making the Final Payment request. Five Percent (5%) retainage shall be held until all work, warranties and contract paperwork is satisfactorily complete and accepted by the Owner.

In addition, work under the Contract includes:

(1.) Work outside the Project Site as called for in the Contract Documents and as required for the performance of the Work.

(2.) The restoration of any items damaged or destroyed by encroaching upon areas outside the Project Site.

(3.) Providing and restoring, where appropriate, all temporary facilities.

2. TIME OF COMPLETION

A. In accordance with Article 9 of the General Conditions, the BASE BID Work shall start as stated in the Notice to Proceed and shall be completed **no later than June 15th, 2015.**

3. WORK UNDER SEPARATE CONTRACT

A. Coordination by Owner

NONE

B. Coordination by Contractor

(1.) The following items shall be provided by others under a separate agreement with the Owner for which the Contractor has coordinating responsibility.

a.) All required permit applications and costs of permits shall be the responsibility of the Contractor.

4. ITEMS FURNISHED BY OWNER

A. The following items will be furnished and delivered f.o.b. to the Project Site by others at no expense to the Contractor.

NONE -ANTICIPATED

END OF SECTION

SECTION 01020
UNIT PRICES

1. GENERAL PROVISIONS

The Unit Prices for items set forth in the Schedule of Unit Prices in Section 00400 shall be used to determine adjustments to the Contract Sum when changes in the Work involving said items are made in accordance with Article 8 of the General Conditions and other sections of the Contract Documents.

2. REQUIREMENTS

A. Unit Price will be paid in accordance with Unit Prices listed by the General Contractor on the Schedule of Unit Prices, based on quantities provided by the Chief of Hatcheries.

B. All Unit Prices shall include their pro-rata share of all costs for overhead, profit, bond, materials, equipment, and disposal required to complete the work item.

C. The Contractor shall compute the Unit Prices based on a potential variance of plus or minus 25 percent from the quantities listed on the Schedule of Unit Prices.

D. The Owner may choose not to approve any or all unit prices prior to Award of the Contract if it deems the Unit Price unreasonable. In this case, the change order process described in Article 8 of the General Conditions will be used for Work described in the Unit Price Schedule, when any change of the base contract scope is required.

3. APPLICABILITY OF UNIT PRICES

A. The payment lines shall be as indicated in the Contract Documents.

B. Prior to commencing removal or placement of materials set forth in the Schedule of Unit Prices, the Contractor shall notify the Chief of Hatcheries in sufficient time to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Chief of Hatcheries will be considered in the determination of adjustments to the Contract Sum.

C. Performance of Work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not such Work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Chief of Hatcheries.

END OF SECTION 01020

SECTION 01040
EXISTING CONDITIONS

1. GENERAL PROVISIONS

A. The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

2. EXISTING CONDITIONS

A. Before submitting a bid, the Contractor shall make a thorough examination of the conditions at the site, checking the requirements of the Plans and Specifications with the existing conditions.

B. No claim for extra compensation or extension of time will be allowed on account of the Contractor's failure to estimate properly the quantities, locations, and measurements of all items required to complete the work which could be discerned from visiting the site.

C. The Contractor shall report any discrepancies to the Chief of Hatcheries and request an interpretation.

D. The Contractor's attention is directed to Section 01010 – Summary of Work, Part 1.8 and 3.2 involving Site Conditions and Contaminated Materials, respectively; and

E. Section 02220 – Contaminated Materials in its entirety.

END OF SECTION 01040

SECTION 01045
CUTTING, PATCHING, CLEANING

1. RELATED DOCUMENTS

A. This section supplements the General Conditions.

B. Consult the individual sections of the specifications for specific items required under those sections.

2. WORK INCLUDED

A. Unless specified elsewhere, the Contractor shall be responsible for:

1. All cutting and patching required for the project construction.
2. Products and installation for patching and extending Work.
3. Transition and adjustments.
4. Repair of damaged surfaces, finishes, and cleaning

B. Subcontractors shall cut existing construction, under the direction of the General Contractor, to provide for installation of components required by their respective trades or performance of other construction activities required by their trade and the subsequent fitting and patching required to restore surfaces to their original condition. In instances of conflicts of trades the General Contractor shall coordinate proper control of cutting by the trades and be responsible for unnecessary over cutting or damage caused by improper cutting and or patching.

3. EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting, including elements subject to damage or movement during cutting and patching. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

B. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Engineer's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Beginning of cutting or patching means acceptance of existing conditions.

E. After uncovering existing Work, assess conditions affecting performance of work.

4. PREPARATION

A. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B. Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

C. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

D. Close openings in exterior surfaces to protect existing work [and salvage items] from weather and extremes of temperature and humidity. Insulate duct work and piping to prevent condensation in exposed areas.

E. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

F. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

G. Remove debris and abandoned items from area and from concealed spaces.

H. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

5. CUTTING

A. Execute all cutting and fitting necessary to complete the Work.

B. Where services are required to be remove, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C. Uncover work to install improperly sequenced work.

D. Remove and replace defective or non-conforming work.

E. Provide openings in the Work for penetration of mechanical and electrical work. Cut holes and slots as small as possible, nearly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover opening when not in use.

F. Employ skilled and experienced workers to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

G. Cut rigid materials using power saw or core drill. Cut through concrete and masonry using a cutting machine, such as a carborundum saw or a diamond-core drill. Pneumatic tools shall not be allowed without prior approval.

H. Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.

I. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

J. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.

K. Do not cut structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.

L. Do not cut operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

6. PATCHING

A. Execute patching to complement adjacent, undisturbed finishes.

B. Fit products together to integrate with other Work.

C. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

D. Restore work with new products in accordance with requirements of Contract Documents.

E. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

F. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with appropriate material to full thickness of the penetrated element as necessary to maintain the required rating.

G. Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

H. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

I. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

J. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

K. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

L. Where walls or partitions are to be removed, patch and repair voids left in floor, wall and ceiling surfaces where the existing construction is removed. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings

and replace with new materials, if necessary, to achieve uniform color and appearance.

M. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.

N. Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

7. CLEANING

A. In addition to cleaning specified in Section 01520, clean all areas affected by the work of this Section.

B. Completely remove paint, mortar, oils, putty, and similar items.

C. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01100
LABOR REGULATIONS

1. MINIMUM MINORITY PERCENTAGES

A. The following minimum minority percentages are applicable as per Article 14 of the General Conditions.

Location	Not Less than
Boston Impact Area (Jamaica Plain (part), Mattapan, South Cove, Chinatown, Bay Village, Roxbury, Dorchester, South End):.	30%
Boston: Other Areas:	10%
Cambridge:	12%
New Bedford:	18%
Springfield:	10%
All other cities and towns:	5%

B. These percentages shall apply to the Contractor and to all Subcontractors, regardless of tier, for all on-site Work.

2. WAGE RATES

A. The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the attached "Minimum Wage Rates" as determined by the Director of the Department of Labor and Work Force Development. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract. Any questions relative to the applicability of any wage rate shall be directed to the Department of Labor and Workforce Development.

B. Keep posted on the site a legible copy of said schedule. Provide the Owner, on a weekly basis, and keep an on-site file of the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Department, Engineer, or any other agency having jurisdiction. .

C. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council wherever rates for journeymen or apprentices are not listed.

D. Pay reserve police officers employed on the Work the prevailing rate of wages paid to regular police officers as required by MGL c149 § 34B, as amended. Such police officers shall be covered by Worker's Compensation Insurance and Employers Liability Insurance provided by the Contractor.

E. The Contractor and all subcontractors shall provide certified payroll affidavits verifying compliance with MGL c.149 §§26 - 27H.

F. The Contractor and all subcontractors shall provide a Statement of Compliance within 15 days of the completion of its portion of the work. This statement shall be submitted to the Owner on the form found elsewhere in this section.

G. The Contractor and all its subcontractors shall furnish to the Owner, with the first certified payroll report, documentation indicating that each employee has successfully completed 10 hours of a course in construction safety and health. This course must be approved by the United States Occupational Health and Safety Administration (OSHA)

END OF SECTION 01100

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

DEVAL L. PATRICK
Governor

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

RACHEL KAPRIELIAN
Secretary

HEATHER E. ROWE
Director

Awarding Authority: Division of Fisheries and Wildlife

Contract Number: DFW_2015_018 **City/Town:** SANDWICH

Description of Work: Project is to refurbish well #2 at Sandwich Hatchery by redevelopment of the well via the AquaFreed process and to install a new vertical turbine motor and pump as well as rebuild the existing turbine

Job Location: 164 Route 6A Sandwich

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 Division of Apprentice Standards (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. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice 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 criminal penalties.

Issue Date: 10/31/2014 **Wage Request Number:** 20141031-022

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.30	$9.91	$8.80	$0.00	$50.01
	12/01/2014	$31.30	$9.91	$9.33	$0.00	$50.54
	06/01/2015	$31.65	$9.91	$9.33	$0.00	$50.89
	08/01/2015	$31.65	$10.41	$9.33	$0.00	$51.39
	12/01/2015	$31.65	$10.41	$10.08	$0.00	$52.14
	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 *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.37	$9.91	$8.80	$0.00	$50.08
	12/01/2014	$31.37	$9.91	$9.33	$0.00	$50.61
	06/01/2015	$31.72	$9.91	$9.33	$0.00	$50.96
	08/01/2015	$31.72	$10.41	$9.33	$0.00	$51.46
	12/01/2015	$31.72	$10.41	$10.08	$0.00	$52.21
	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 *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.49	$9.91	$8.80	$0.00	$50.20
	12/01/2014	$31.49	$9.91	$9.33	$0.00	$50.73
	06/01/2015	$31.84	$9.91	$9.33	$0.00	$51.08
	08/01/2015	$31.84	$10.41	$9.33	$0.00	$51.58
	12/01/2015	$31.84	$10.41	$10.08	$0.00	$52.33
	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 *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2014	$87.36	$9.80	$18.17	$0.00	$115.33
	08/01/2015	$90.51	$9.80	$18.17	$0.00	$118.48
AIR TRACK OPERATOR *LABORERS - ZONE 2*	06/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	12/01/2014	$31.60	$7.30	$12.10	$0.00	$51.00
	06/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	12/01/2015	$32.60	$7.30	$12.10	$0.00	$52.00
	06/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
	12/01/2016	$33.85	$7.30	$12.10	$0.00	$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS WORKER (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)*	06/01/2014	$31.58	$10.40	$5.95	$0.00	$47.93
	12/01/2014	$32.48	$10.40	$5.95	$0.00	$48.83
	06/01/2015	$33.43	$10.40	$5.95	$0.00	$49.78
	12/01/2015	$34.38	$10.40	$5.95	$0.00	$50.73
ASPHALT RAKER *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 2*	06/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	12/01/2014	$31.60	$7.30	$12.10	$0.00	$51.00
	06/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	12/01/2015	$32.60	$7.30	$12.10	$0.00	$52.00
	06/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
	12/01/2016	$33.85	$7.30	$12.10	$0.00	$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2010	$37.70	$6.97	$11.18	$0.00	$55.85

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$24.51	$6.97	$11.18	$0.00	$42.66
2	65	$24.51	$6.97	$11.18	$0.00	$42.66
3	70	$26.39	$6.97	$11.18	$0.00	$44.54
4	75	$28.28	$6.97	$11.18	$0.00	$46.43
5	80	$30.16	$6.97	$11.18	$0.00	$48.31
6	85	$32.05	$6.97	$11.18	$0.00	$50.20
7	90	$33.93	$6.97	$11.18	$0.00	$52.08
8	95	$35.82	$6.97	$11.18	$0.00	$53.97

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (NEW BEDFORD)*	08/01/2014	$48.96	$10.18	$18.22	$0.00	$77.36
	02/01/2015	$49.52	$10.18	$18.22	$0.00	$77.92
	08/01/2015	$50.42	$10.18	$18.29	$0.00	$78.89
	02/01/2016	$50.99	$10.18	$18.29	$0.00	$79.46
	08/01/2016	$51.89	$10.18	$18.37	$0.00	$80.44
	02/01/2017	$52.46	$10.18	$18.37	$0.00	$81.01

Apprentice - *BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.48	$10.18	$18.22	$0.00	$52.88
2	60	$29.38	$10.18	$18.22	$0.00	$57.78
3	70	$34.27	$10.18	$18.22	$0.00	$62.67
4	80	$39.17	$10.18	$18.22	$0.00	$67.57
5	90	$44.06	$10.18	$18.22	$0.00	$72.46

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.76	$10.18	$18.22	$0.00	$53.16
2	60	$29.71	$10.18	$18.22	$0.00	$58.11
3	70	$34.66	$10.18	$18.22	$0.00	$63.06
4	80	$39.62	$10.18	$18.22	$0.00	$68.02
5	90	$44.57	$10.18	$18.22	$0.00	$72.97

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BULLDOZER/GRADER/SCRAPER *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$35.20	$7.30	$12.90	$0.00	$55.40
	12/01/2014	$35.95	$7.30	$12.90	$0.00	$56.15
	06/01/2015	$36.70	$7.30	$12.90	$0.00	$56.90
	12/01/2015	$37.45	$7.30	$12.90	$0.00	$57.65
	06/01/2016	$38.20	$7.30	$12.90	$0.00	$58.40
	12/01/2016	$39.20	$7.30	$12.90	$0.00	$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$34.05	$7.30	$12.90	$0.00	$54.25
	12/01/2014	$34.80	$7.30	$12.90	$0.00	$55.00
	06/01/2015	$35.55	$7.30	$12.90	$0.00	$55.75
	12/01/2015	$36.30	$7.30	$12.90	$0.00	$56.50
	06/01/2016	$37.05	$7.30	$12.90	$0.00	$57.25
	12/01/2016	$38.05	$7.30	$12.90	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$34.05	$7.30	$12.90	$0.00	$54.25
	12/01/2014	$34.80	$7.30	$12.90	$0.00	$55.00
	06/01/2015	$35.55	$7.30	$12.90	$0.00	$55.75
	12/01/2015	$36.30	$7.30	$12.90	$0.00	$56.50
	06/01/2016	$37.05	$7.30	$12.90	$0.00	$57.25
	12/01/2016	$38.05	$7.30	$12.90	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS -ZONE 2 (Eastern Massachusetts)*	09/01/2014	$35.35	$9.80	$16.11	$0.00	$61.26
	03/01/2015	$36.12	$9.80	$16.11	$0.00	$62.03

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Zone 2 Eastern MA*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.68	$9.80	$1.57	$0.00	$29.05
2	60	$21.21	$9.80	$1.57	$0.00	$32.58
3	70	$24.75	$9.80	$11.40	$0.00	$45.95
4	75	$26.51	$9.80	$11.40	$0.00	$47.71
5	80	$28.28	$9.80	$12.97	$0.00	$51.05
6	80	$28.28	$9.80	$12.97	$0.00	$51.05
7	90	$31.82	$9.80	$14.54	$0.00	$56.16
8	90	$31.82	$9.80	$14.54	$0.00	$56.16

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.06	$9.80	$1.57	$0.00	$29.43
2	60	$21.67	$9.80	$1.57	$0.00	$33.04
3	70	$25.28	$9.80	$11.40	$0.00	$46.48
4	75	$27.09	$9.80	$11.40	$0.00	$48.29
5	80	$28.90	$9.80	$12.97	$0.00	$51.67
6	80	$28.90	$9.80	$12.97	$0.00	$51.67
7	90	$32.51	$9.80	$14.54	$0.00	$56.85
8	90	$32.51	$9.80	$14.54	$0.00	$56.85

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (NEW BEDFORD)*	07/01/2014	$43.77	$10.90	$18.71	$1.30	$74.68
	01/01/2015	$44.69	$10.90	$18.71	$1.30	$75.60
	07/01/2015	$45.29	$10.90	$18.71	$1.30	$76.20
	01/01/2016	$46.21	$10.90	$18.71	$1.30	$77.12

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CEMENT MASONRY/PLASTERING - Eastern Mass (New Bedford)*

Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.89	$10.90	$12.21	$1.30	$46.30
2	60	$26.26	$10.90	$13.71	$1.30	$52.17
3	65	$28.45	$10.90	$14.71	$1.30	$55.36
4	70	$30.64	$10.90	$15.71	$1.30	$58.55
5	75	$32.83	$10.90	$16.71	$1.30	$61.74
6	80	$35.02	$10.90	$17.71	$1.30	$64.93
7	90	$39.39	$10.90	$18.71	$1.30	$70.30

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.35	$10.90	$12.21	$1.30	$46.76
2	60	$26.81	$10.90	$13.71	$1.30	$52.72
3	65	$29.05	$10.90	$14.71	$1.30	$55.96
4	70	$31.28	$10.90	$15.71	$1.30	$59.19
5	75	$33.52	$10.90	$16.71	$1.30	$62.43
6	80	$35.75	$10.90	$17.71	$1.30	$65.66
7	90	$40.22	$10.90	$18.71	$1.30	$71.13

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	12/01/2014	$43.49	$10.00	$14.20	$0.00	$67.69
	06/01/2015	$44.24	$10.00	$14.20	$0.00	$68.44
	12/01/2015	$45.49	$10.00	$14.20	$0.00	$69.69
	06/01/2016	$46.24	$10.00	$14.20	$0.00	$70.44
	12/01/2016	$47.49	$10.00	$14.20	$0.00	$71.69
	06/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
	12/01/2017	$49.49	$10.00	$14.20	$0.00	$73.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$28.80	$10.00	$14.20	$0.00	$53.00
	12/01/2014	$29.50	$10.00	$14.20	$0.00	$53.70
	06/01/2015	$30.02	$10.00	$14.20	$0.00	$54.22
	12/01/2015	$30.89	$10.00	$14.20	$0.00	$55.09
	06/01/2016	$31.41	$10.00	$14.20	$0.00	$55.61
	12/01/2016	$32.28	$10.00	$14.20	$0.00	$56.48
	06/01/2017	$32.97	$10.00	$14.20	$0.00	$57.17
	12/01/2017	$33.66	$10.00	$14.20	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2014	$46.76	$7.85	$16.10	$0.00	$70.71
	01/01/2015	$47.66	$7.85	$16.10	$0.00	$71.61
	07/01/2015	$48.56	$7.85	$16.10	$0.00	$72.51
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.38	$7.85	$0.00	$0.00	$31.23
2	55	$25.72	$7.85	$3.66	$0.00	$37.23
3	60	$28.06	$7.85	$3.99	$0.00	$39.90
4	65	$30.39	$7.85	$4.32	$0.00	$42.56
5	70	$32.73	$7.85	$14.11	$0.00	$54.69
6	75	$35.07	$7.85	$14.44	$0.00	$57.36
7	80	$37.41	$7.85	$14.77	$0.00	$60.03
8	90	$42.08	$7.85	$15.44	$0.00	$65.37

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.83	$7.85	$0.00	$0.00	$31.68
2	55	$26.21	$7.85	$3.66	$0.00	$37.72
3	60	$28.60	$7.85	$3.99	$0.00	$40.44
4	65	$30.98	$7.85	$4.32	$0.00	$43.15
5	70	$33.36	$7.85	$14.11	$0.00	$55.32
6	75	$35.75	$7.85	$14.44	$0.00	$58.04
7	80	$38.13	$7.85	$14.77	$0.00	$60.75
8	90	$42.89	$7.85	$15.44	$0.00	$66.18

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: ADZEMAN *LABORERS - ZONE 2*	06/01/2014	$34.25	$7.30	$12.70	$0.00	$54.25
	12/01/2014	$35.00	$7.30	$12.70	$0.00	$55.00
	06/01/2015	$35.75	$7.30	$12.70	$0.00	$55.75
	12/01/2015	$36.50	$7.30	$12.70	$0.00	$56.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2014	$35.25	$7.30	$12.70	$0.00	$55.25
	12/01/2014	$36.00	$7.30	$12.70	$0.00	$56.00
	06/01/2015	$36.75	$7.30	$12.70	$0.00	$56.75
	12/01/2015	$37.50	$7.30	$12.70	$0.00	$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS *LABORERS - ZONE 2*	06/01/2014	$35.00	$7.30	$12.70	$0.00	$55.00
	12/01/2014	$35.75	$7.30	$12.70	$0.00	$55.75
	06/01/2015	$36.50	$7.30	$12.70	$0.00	$56.50
	12/01/2015	$37.25	$7.30	$12.70	$0.00	$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 2*	06/01/2014	$35.25	$7.30	$12.70	$0.00	$55.25
	12/01/2014	$36.00	$7.30	$12.70	$0.00	$56.00
	06/01/2015	$36.75	$7.30	$12.70	$0.00	$56.75
	12/01/2015	$37.50	$7.30	$12.70	$0.00	$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2014	$35.00	$7.30	$12.70	$0.00	$55.00
	12/01/2014	$35.75	$7.30	$12.70	$0.00	$55.75
	06/01/2015	$36.50	$7.30	$12.70	$0.00	$56.50
	12/01/2015	$37.25	$7.30	$12.70	$0.00	$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER *LABORERS - ZONE 2*	06/01/2014	$34.25	$7.30	$12.70	$0.00	$54.25
	12/01/2014	$35.00	$7.30	$12.70	$0.00	$55.00
	06/01/2015	$35.75	$7.30	$12.70	$0.00	$55.75
	12/01/2015	$36.50	$7.30	$12.70	$0.00	$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2014	$58.24	$9.80	$18.17	$0.00	$86.21
	08/01/2015	$60.34	$9.80	$18.17	$0.00	$88.31
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2014	$41.60	$9.80	$18.17	$0.00	$69.57
	08/01/2015	$43.10	$9.80	$18.17	$0.00	$71.07
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2014	$62.40	$9.80	$18.17	$0.00	$90.37
	08/01/2015	$64.65	$9.80	$18.17	$0.00	$92.62
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2014	$87.36	$9.80	$18.17	$0.00	$115.33
	08/01/2015	$90.51	$9.80	$18.17	$0.00	$118.48

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELECTRICIAN *ELECTRICIANS LOCAL 223*	09/01/2014	$37.31	$8.00	$11.03	$0.00	$56.34
	09/01/2015	$38.31	$8.40	$11.28	$0.00	$57.99
	09/01/2016	$39.21	$8.90	$11.51	$0.00	$59.62

Apprentice - *ELECTRICIAN - Local 223*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.92	$0.00	$0.45	$0.00	$15.37
2	42	$15.67	$0.00	$0.47	$0.00	$16.14
3	45	$16.79	$8.00	$0.50	$0.00	$25.29
4	48	$17.91	$8.00	$3.30	$0.00	$29.21
5	50	$18.66	$8.00	$3.41	$0.00	$30.07
6	55	$20.52	$8.00	$3.68	$0.00	$32.20
7	60	$22.39	$8.00	$3.94	$0.00	$34.33
8	65	$24.25	$8.00	$4.22	$0.00	$36.47
9	70	$26.12	$8.00	$4.48	$0.00	$38.60
10	75	$27.98	$8.00	$4.76	$0.00	$40.74

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$15.32	$0.00	$0.46	$0.00	$15.78
2	42	$16.09	$0.00	$0.48	$0.00	$16.57
3	45	$17.24	$8.40	$0.52	$0.00	$26.16
4	48	$18.39	$8.40	$3.36	$0.00	$30.15
5	50	$19.16	$8.40	$3.47	$0.00	$31.03
6	55	$21.07	$8.40	$3.75	$0.00	$33.22
7	60	$22.99	$8.40	$4.03	$0.00	$35.42
8	65	$24.90	$8.40	$4.31	$0.00	$37.61
9	70	$26.82	$8.40	$5.28	$0.00	$40.50
10	75	$28.73	$8.40	$4.86	$0.00	$41.99

Notes:

Steps are 750 hours

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2012	$52.45	$8.78	$6.96	$0.00	$68.19

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELEVATOR CONSTRUCTOR - Local 4*

Effective Date - 01/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.23	$8.78	$0.00	$0.00	$35.01
2	55	$28.85	$8.78	$6.96	$0.00	$44.59
3	65	$34.09	$8.78	$6.96	$0.00	$49.83
4	70	$36.72	$8.78	$6.96	$0.00	$52.46
5	80	$41.96	$8.78	$6.96	$0.00	$57.70

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2012	$38.59	$8.78	$6.96	$0.00	$54.33
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2014	$38.87	$10.00	$14.18	$0.00	$63.05
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2014	$40.29	$10.00	$14.18	$0.00	$64.47
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2014	$20.92	$10.00	$14.18	$0.00	$45.10
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 223*	09/01/2014	$37.31	$8.00	$11.03	$0.00	$56.34
	09/01/2015	$38.31	$8.40	$11.28	$0.00	$57.99
	09/01/2016	$39.21	$8.90	$11.51	$0.00	$59.62
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING *ELECTRICIANS LOCAL 223*	09/01/2014	$31.71	$8.00	$9.38	$0.00	$49.09
	09/01/2015	$32.56	$8.40	$9.59	$0.00	$50.55
	09/01/2016	$33.33	$8.90	$9.78	$0.00	$52.01
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIREMAN (ASST. ENGINEER) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$34.59	$10.00	$14.20	$0.00	$58.79
	12/01/2014	$35.43	$10.00	$14.20	$0.00	$59.63
	06/01/2015	$36.05	$10.00	$14.20	$0.00	$60.25
	12/01/2015	$37.10	$10.00	$14.20	$0.00	$61.30
	06/01/2016	$37.72	$10.00	$14.20	$0.00	$61.92
	12/01/2016	$38.76	$10.00	$14.20	$0.00	$62.96
	06/01/2017	$39.60	$10.00	$14.20	$0.00	$63.80
	12/01/2017	$40.43	$10.00	$14.20	$0.00	$64.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER *LABORERS - ZONE 2*	06/01/2014	$20.50	$7.30	$12.10	$0.00	$39.90
	12/01/2014	$20.50	$7.30	$12.10	$0.00	$39.90
	06/01/2015	$20.50	$7.30	$12.10	$0.00	$39.90
	12/01/2015	$20.50	$7.30	$12.10	$0.00	$39.90
	06/01/2016	$20.50	$7.30	$12.10	$0.00	$39.90
	12/01/2016	$20.50	$7.30	$12.10	$0.00	$39.90
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE II*	09/01/2014	$38.09	$9.80	$17.21	$0.00	$65.10

Apprentice - *FLOORCOVERER - Local 2168 Zone II*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.05	$9.80	$1.79	$0.00	$30.64
2	55	$20.95	$9.80	$1.79	$0.00	$32.54
3	60	$22.85	$9.80	$11.84	$0.00	$44.49
4	65	$24.76	$9.80	$11.84	$0.00	$46.40
5	70	$26.66	$9.80	$13.63	$0.00	$50.09
6	75	$28.57	$9.80	$13.63	$0.00	$52.00
7	80	$30.47	$9.80	$15.42	$0.00	$55.69
8	85	$32.38	$9.80	$15.42	$0.00	$57.60

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GENERATOR/LIGHTING PLANT/HEATERS *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$28.80	$10.00	$14.20	$0.00	$53.00
	12/01/2014	$29.50	$10.00	$14.20	$0.00	$53.70
	06/01/2015	$30.02	$10.00	$14.20	$0.00	$54.22
	12/01/2015	$30.89	$10.00	$14.20	$0.00	$55.09
	06/01/2016	$31.41	$10.00	$14.20	$0.00	$55.61
	12/01/2016	$32.28	$10.00	$14.20	$0.00	$56.48
	06/01/2017	$32.97	$10.00	$14.20	$0.00	$57.17
	12/01/2017	$33.66	$10.00	$14.20	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 1333*	06/01/2014	$34.58	$9.80	$7.75	$0.00	$52.13
	06/01/2015	$35.08	$10.25	$8.00	$0.00	$53.33
	06/01/2016	$35.58	$10.70	$8.25	$0.00	$54.53

Apprentice - *GLAZIER - Local 1333*

Effective Date - 06/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.29	$9.80	$1.00	$0.00	$28.09
2	56	$19.45	$9.80	$1.00	$0.00	$30.25
3	63	$21.61	$9.80	$1.50	$0.00	$32.91
4	69	$23.77	$9.80	$1.50	$0.00	$35.07
5	75	$25.94	$9.80	$2.00	$0.00	$37.74
6	81	$28.10	$9.80	$2.00	$0.00	$39.90
7	88	$30.26	$9.80	$7.75	$0.00	$47.81
8	94	$32.42	$9.80	$7.75	$0.00	$49.97

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.54	$10.25	$1.00	$0.00	$28.79
2	56	$19.73	$10.25	$1.00	$0.00	$30.98
3	63	$21.93	$10.25	$1.50	$0.00	$33.68
4	69	$24.12	$10.25	$1.50	$0.00	$35.87
5	75	$26.31	$10.25	$2.00	$0.00	$38.56
6	81	$28.50	$10.25	$2.00	$0.00	$40.75
7	88	$30.70	$10.25	$8.00	$0.00	$48.95
8	94	$32.89	$10.25	$8.00	$0.00	$51.14

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69

Apprentice - *OPERATING ENGINEERS - Local 4*

Effective Date - 06/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$22.82	$10.00	$0.00	$0.00	$32.82
2	60	$24.89	$10.00	$14.18	$0.00	$49.07
3	65	$26.97	$10.00	$14.18	$0.00	$51.15
4	70	$29.04	$10.00	$14.18	$0.00	$53.22
5	75	$31.12	$10.00	$14.18	$0.00	$55.30
6	80	$33.19	$10.00	$14.18	$0.00	$57.37
7	85	$35.27	$10.00	$14.18	$0.00	$59.45
8	90	$37.34	$10.00	$14.18	$0.00	$61.52

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$23.37	$10.00	$0.00	$0.00	$33.37
2	60	$25.49	$10.00	$14.18	$0.00	$49.67
3	65	$27.62	$10.00	$14.18	$0.00	$51.80
4	70	$29.74	$10.00	$14.18	$0.00	$53.92
5	75	$31.87	$10.00	$14.18	$0.00	$56.05
6	80	$33.99	$10.00	$14.18	$0.00	$58.17
7	85	$36.12	$10.00	$14.18	$0.00	$60.30
8	90	$38.24	$10.00	$14.18	$0.00	$62.42

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 17 - B*	04/01/2013	$34.64	$9.82	$12.31	$1.70	$58.47

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 223*	09/01/2014	$37.31	$8.00	$11.03	$0.00	$56.34
	09/01/2015	$38.31	$8.40	$11.28	$0.00	$57.99
	09/01/2016	$39.21	$8.90	$11.51	$0.00	$59.62

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 17 - B*	04/01/2013	$34.64	$9.82	$12.31	$1.70	$58.47

For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) *PLUMBERS & PIPEFITTERS LOCAL 51*	09/01/2014	$35.88	$11.00	$15.35	$0.00	$62.23
	03/01/2015	$36.63	$11.00	$15.35	$0.00	$62.98
	09/01/2015	$37.38	$11.00	$15.35	$0.00	$63.73
	03/01/2016	$38.13	$11.00	$15.35	$0.00	$64.48
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PLUMBERS & PIPEFITTERS LOCAL 51*	09/01/2014	$35.88	$11.00	$15.35	$0.00	$62.23
	03/01/2015	$36.63	$11.00	$15.35	$0.00	$62.98
	09/01/2015	$37.38	$11.00	$15.35	$0.00	$63.73
	03/01/2016	$38.13	$11.00	$15.35	$0.00	$64.48
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS *LABORERS - ZONE 2*	06/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	12/01/2014	$31.60	$7.30	$12.10	$0.00	$51.00
	06/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	12/01/2015	$32.60	$7.30	$12.10	$0.00	$52.00
	06/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
	12/01/2016	$33.85	$7.30	$12.10	$0.00	$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)*	09/01/2014	$38.98	$11.25	$12.60	$0.00	$62.83

Apprentice - *ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Southern MA*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.49	$11.25	$11.00	$0.00	$41.74
2	60	$23.39	$11.25	$11.32	$0.00	$45.96
3	70	$27.29	$11.25	$11.64	$0.00	$50.18
4	80	$31.18	$11.25	$11.96	$0.00	$54.39

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 37*	09/16/2014	$33.96	$7.70	$14.80	$0.00	$56.46
	03/16/2015	$34.66	$7.70	$14.80	$0.00	$57.16
	09/16/2015	$35.36	$7.70	$14.80	$0.00	$57.86
	03/16/2016	$36.06	$7.70	$14.80	$0.00	$58.56

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 37*

Effective Date - 09/16/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	$23.77	$7.70	$14.80	$0.00	$46.27
2	75	$25.47	$7.70	$14.80	$0.00	$47.97
3	80	$27.17	$7.70	$14.80	$0.00	$49.67
4	85	$28.87	$7.70	$14.80	$0.00	$51.37
5	90	$30.56	$7.70	$14.80	$0.00	$53.06
6	95	$32.26	$7.70	$14.80	$0.00	$54.76

Effective Date - 03/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	$24.26	$7.70	$14.80	$0.00	$46.76
2	75	$26.00	$7.70	$14.80	$0.00	$48.50
3	80	$27.73	$7.70	$14.80	$0.00	$50.23
4	85	$29.46	$7.70	$14.80	$0.00	$51.96
5	90	$31.19	$7.70	$14.80	$0.00	$53.69
6	95	$32.93	$7.70	$14.80	$0.00	$55.43

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LABORER - Zone 2*

Effective Date - 06/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$18.21	$7.30	$12.10	$0.00	$37.61
2	70	$21.25	$7.30	$12.10	$0.00	$40.65
3	80	$24.28	$7.30	$12.10	$0.00	$43.68
4	90	$27.32	$7.30	$12.10	$0.00	$46.72

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$18.51	$7.30	$12.10	$0.00	$37.91
2	70	$21.60	$7.30	$12.10	$0.00	$41.00
3	80	$24.68	$7.30	$12.10	$0.00	$44.08
4	90	$27.77	$7.30	$12.10	$0.00	$47.17

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 2*	06/01/2014	$30.55	$7.30	$12.05	$0.00	$49.90
	12/01/2014	$31.05	$7.30	$12.05	$0.00	$50.40
	06/01/2015	$31.55	$7.30	$12.05	$0.00	$50.90
	12/01/2015	$32.05	$7.30	$12.05	$0.00	$51.40
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$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*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2014	$37.37	$10.18	$16.90	$0.00	$64.45
	02/01/2015	$37.82	$10.18	$16.90	$0.00	$64.90
	08/01/2015	$38.53	$10.18	$16.97	$0.00	$65.68
	02/01/2016	$38.98	$10.18	$16.97	$0.00	$66.13
	08/01/2016	$39.68	$10.18	$17.05	$0.00	$66.91
	02/01/2017	$40.14	$10.18	$17.05	$0.00	$67.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE & TILE FINISHER - Local 3 Marble & Tile*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.69	$10.18	$16.90	$0.00	$45.77
2	60	$22.42	$10.18	$16.90	$0.00	$49.50
3	70	$26.16	$10.18	$16.90	$0.00	$53.24
4	80	$29.90	$10.18	$16.90	$0.00	$56.98
5	90	$33.63	$10.18	$16.90	$0.00	$60.71

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.91	$10.18	$16.90	$0.00	$45.99
2	60	$22.69	$10.18	$16.90	$0.00	$49.77
3	70	$26.47	$10.18	$16.90	$0.00	$53.55
4	80	$30.26	$10.18	$16.90	$0.00	$57.34
5	90	$34.04	$10.18	$16.90	$0.00	$61.12

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2014	$49.00	$10.18	$18.22	$0.00	$77.40
	02/01/2015	$49.56	$10.18	$18.22	$0.00	$77.96
	08/01/2015	$50.46	$10.18	$18.29	$0.00	$78.93
	02/01/2016	$51.03	$10.18	$18.29	$0.00	$79.50
	08/01/2016	$51.93	$10.18	$18.37	$0.00	$80.48
	02/01/2017	$52.50	$10.18	$18.37	$0.00	$81.05

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.50	$10.18	$18.22	$0.00	$52.90
2	60	$29.40	$10.18	$18.22	$0.00	$57.80
3	70	$34.30	$10.18	$18.22	$0.00	$62.70
4	80	$39.20	$10.18	$18.22	$0.00	$67.60
5	90	$44.10	$10.18	$18.22	$0.00	$72.50

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.78	$10.18	$18.22	$0.00	$53.18
2	60	$29.74	$10.18	$18.22	$0.00	$58.14
3	70	$34.69	$10.18	$18.22	$0.00	$63.09
4	80	$39.65	$10.18	$18.22	$0.00	$68.05
5	90	$44.60	$10.18	$18.22	$0.00	$73.00

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2) *MILLWRIGHTS LOCAL 1121 - Zone 2*	10/01/2014	$33.92	$9.80	$16.21	$0.00	$59.93
	04/01/2015	$34.69	$9.80	$16.21	$0.00	$60.70

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MILLWRIGHT - Local 1121 Zone 2*

Effective Date - 10/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$18.66	$9.80	$4.48	$0.00	$32.94
2	65	$22.05	$9.80	$13.36	$0.00	$45.21
3	75	$25.44	$9.80	$14.18	$0.00	$49.42
4	85	$28.83	$9.80	$14.99	$0.00	$53.62

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 *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$21.48	$10.00	$14.20	$0.00	$45.68
	12/01/2014	$22.00	$10.00	$14.20	$0.00	$46.20
	06/01/2015	$22.38	$10.00	$14.20	$0.00	$46.58
	12/01/2015	$23.03	$10.00	$14.20	$0.00	$47.23
	06/01/2016	$23.42	$10.00	$14.20	$0.00	$47.62
	12/01/2016	$24.07	$10.00	$14.20	$0.00	$48.27
	06/01/2017	$24.58	$10.00	$14.20	$0.00	$48.78
	12/01/2017	$25.10	$10.00	$14.20	$0.00	$49.30
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$25.03	$10.00	$14.20	$0.00	$49.23
	12/01/2014	$25.64	$10.00	$14.20	$0.00	$49.84
	06/01/2015	$26.09	$10.00	$14.20	$0.00	$50.29
	12/01/2015	$26.84	$10.00	$14.20	$0.00	$51.04
	06/01/2016	$27.30	$10.00	$14.20	$0.00	$51.50
	12/01/2016	$28.05	$10.00	$14.20	$0.00	$52.25
	06/01/2017	$28.65	$10.00	$14.20	$0.00	$52.85
	12/01/2017	$29.26	$10.00	$14.20	$0.00	$53.46
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2014	$46.76	$7.85	$16.10	$0.00	$70.71
	01/01/2015	$47.66	$7.85	$16.10	$0.00	$71.61
	07/01/2015	$48.56	$7.85	$16.10	$0.00	$72.51
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.38	$7.85	$0.00	$0.00	$31.23
2	55	$25.72	$7.85	$3.66	$0.00	$37.23
3	60	$28.06	$7.85	$3.99	$0.00	$39.90
4	65	$30.39	$7.85	$4.32	$0.00	$42.56
5	70	$32.73	$7.85	$14.11	$0.00	$54.69
6	75	$35.07	$7.85	$14.44	$0.00	$57.36
7	80	$37.41	$7.85	$14.77	$0.00	$60.03
8	90	$42.08	$7.85	$15.44	$0.00	$65.37

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.83	$7.85	$0.00	$0.00	$31.68
2	55	$26.21	$7.85	$3.66	$0.00	$37.72
3	60	$28.60	$7.85	$3.99	$0.00	$40.44
4	65	$30.98	$7.85	$4.32	$0.00	$43.15
5	70	$33.36	$7.85	$14.11	$0.00	$55.32
6	75	$35.75	$7.85	$14.44	$0.00	$58.04
7	80	$38.13	$7.85	$14.77	$0.00	$60.75
8	90	$42.89	$7.85	$15.44	$0.00	$66.18

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2014	$37.66	$7.85	$16.10	$0.00	$61.61
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	01/01/2015	$38.56	$7.85	$16.10	$0.00	$62.51
	07/01/2015	$39.46	$7.85	$16.10	$0.00	$63.41
	01/01/2016	$40.41	$7.85	$16.10	$0.00	$64.36
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.83	$7.85	$0.00	$0.00	$26.68
2	55	$20.71	$7.85	$3.66	$0.00	$32.22
3	60	$22.60	$7.85	$3.99	$0.00	$34.44
4	65	$24.48	$7.85	$4.32	$0.00	$36.65
5	70	$26.36	$7.85	$14.11	$0.00	$48.32
6	75	$28.25	$7.85	$14.44	$0.00	$50.54
7	80	$30.13	$7.85	$14.77	$0.00	$52.75
8	90	$33.89	$7.85	$15.44	$0.00	$57.18

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.28	$7.85	$0.00	$0.00	$27.13
2	55	$21.21	$7.85	$3.66	$0.00	$32.72
3	60	$23.14	$7.85	$3.99	$0.00	$34.98
4	65	$25.06	$7.85	$4.32	$0.00	$37.23
5	70	$26.99	$7.85	$14.11	$0.00	$48.95
6	75	$28.92	$7.85	$14.44	$0.00	$51.21
7	80	$30.85	$7.85	$14.77	$0.00	$53.47
8	90	$34.70	$7.85	$15.44	$0.00	$57.99

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2014	$35.72	$7.85	$16.10	$0.00	$59.67
	01/01/2015	$36.62	$7.85	$16.10	$0.00	$60.57
	07/01/2015	$37.52	$7.85	$16.10	$0.00	$61.47
	01/01/2016	$38.47	$7.85	$16.10	$0.00	$62.42
	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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint*

Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.86	$7.85	$0.00	$0.00	$25.71
2	55	$19.65	$7.85	$3.66	$0.00	$31.16
3	60	$21.43	$7.85	$3.99	$0.00	$33.27
4	65	$23.22	$7.85	$4.32	$0.00	$35.39
5	70	$25.00	$7.85	$14.11	$0.00	$46.96
6	75	$26.79	$7.85	$14.44	$0.00	$49.08
7	80	$28.58	$7.85	$14.77	$0.00	$51.20
8	90	$32.15	$7.85	$15.44	$0.00	$55.44

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.31	$7.85	$0.00	$0.00	$26.16
2	55	$20.14	$7.85	$3.66	$0.00	$31.65
3	60	$21.97	$7.85	$3.99	$0.00	$33.81
4	65	$23.80	$7.85	$4.32	$0.00	$35.97
5	70	$25.63	$7.85	$14.11	$0.00	$47.59
6	75	$27.47	$7.85	$14.44	$0.00	$49.76
7	80	$29.30	$7.85	$14.77	$0.00	$51.92
8	90	$32.96	$7.85	$15.44	$0.00	$56.25

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS) *LABORERS - ZONE 2*	06/01/2014	$30.35	$7.30	$12.10	$0.00	$49.75
	12/01/2014	$30.85	$7.30	$12.10	$0.00	$50.25
	06/01/2015	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2015	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2016	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2016	$33.10	$7.30	$12.10	$0.00	$52.50
For Apprentice rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	07/01/2014	$36.26	$7.85	$16.10	$0.00	$60.21
	01/01/2015	$37.16	$7.85	$16.10	$0.00	$61.11
	07/01/2015	$38.06	$7.85	$16.10	$0.00	$62.01
	01/01/2016	$39.01	$7.85	$16.10	$0.00	$62.96
	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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER - Local 35 Zone 2 - BRUSH NEW*

Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.13	$7.85	$0.00	$0.00	$25.98
2	55	$19.94	$7.85	$3.66	$0.00	$31.45
3	60	$21.76	$7.85	$3.99	$0.00	$33.60
4	65	$23.57	$7.85	$4.32	$0.00	$35.74
5	70	$25.38	$7.85	$14.11	$0.00	$47.34
6	75	$27.20	$7.85	$14.44	$0.00	$49.49
7	80	$29.01	$7.85	$14.77	$0.00	$51.63
8	90	$32.63	$7.85	$15.44	$0.00	$55.92

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.58	$7.85	$0.00	$0.00	$26.43
2	55	$20.44	$7.85	$3.66	$0.00	$31.95
3	60	$22.30	$7.85	$3.99	$0.00	$34.14
4	65	$24.15	$7.85	$4.32	$0.00	$36.32
5	70	$26.01	$7.85	$14.11	$0.00	$47.97
6	75	$27.87	$7.85	$14.44	$0.00	$50.16
7	80	$29.73	$7.85	$14.77	$0.00	$52.35
8	90	$33.44	$7.85	$15.44	$0.00	$56.73

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2014	$34.32	$7.85	$16.10	$0.00	$58.27
	01/01/2015	$35.22	$7.85	$16.10	$0.00	$59.17
	07/01/2015	$36.12	$7.85	$16.10	$0.00	$60.07
	01/01/2016	$37.07	$7.85	$16.10	$0.00	$61.02
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.16	$7.85	$0.00	$0.00	$25.01
2	55	$18.88	$7.85	$3.66	$0.00	$30.39
3	60	$20.59	$7.85	$3.99	$0.00	$32.43
4	65	$22.31	$7.85	$4.32	$0.00	$34.48
5	70	$24.02	$7.85	$14.11	$0.00	$45.98
6	75	$25.74	$7.85	$14.44	$0.00	$48.03
7	80	$27.46	$7.85	$14.77	$0.00	$50.08
8	90	$30.89	$7.85	$15.44	$0.00	$54.18

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.61	$7.85	$0.00	$0.00	$25.46
2	55	$19.37	$7.85	$3.66	$0.00	$30.88
3	60	$21.13	$7.85	$3.99	$0.00	$32.97
4	65	$22.89	$7.85	$4.32	$0.00	$35.06
5	70	$24.65	$7.85	$14.11	$0.00	$46.61
6	75	$26.42	$7.85	$14.44	$0.00	$48.71
7	80	$28.18	$7.85	$14.77	$0.00	$50.80
8	90	$31.70	$7.85	$15.44	$0.00	$54.99

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.28	$9.07	$8.00	$0.00	$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 2)*	09/01/2013	$37.01	$9.80	$18.17	$0.00	$64.98
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 2)*	09/01/2013	$37.01	$9.80	$18.17	$0.00	$64.98

Apprentice - *PILE DRIVER - Local 56 Zone 2*

Effective Date - 09/01/2013

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

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1$49.52/2$53.83/3$58.14/4$60.30/5$62.45/6$62.45/7$66.76/8$66.76

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
PLUMBER & PIPEFITTER *PLUMBERS & PIPEFITTERS LOCAL 51*	09/01/2014	$35.88	$11.00	$15.35	$0.00	$62.23
	03/01/2015	$36.63	$11.00	$15.35	$0.00	$62.98
	09/01/2015	$37.38	$11.00	$15.35	$0.00	$63.73
	03/01/2016	$38.13	$11.00	$15.35	$0.00	$64.48

Apprentice - *PLUMBER/PIPEFITTER - Local 51*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.35	$11.00	$1.50	$0.00	$26.85
2	50	$17.94	$11.00	$1.50	$0.00	$30.44
3	60	$21.53	$11.00	$7.85	$0.00	$40.38
4	70	$25.12	$11.00	$11.66	$0.00	$47.78
5	80	$28.70	$11.00	$15.35	$0.00	$55.05

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.65	$11.00	$1.50	$0.00	$27.15
2	50	$18.32	$11.00	$1.50	$0.00	$30.82
3	60	$21.98	$11.00	$7.85	$0.00	$40.83
4	70	$25.64	$11.00	$11.66	$0.00	$48.30
5	80	$29.30	$11.00	$15.35	$0.00	$55.65

Notes:

Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) *PLUMBERS & PIPEFITTERS LOCAL 51*	09/01/2014	$35.88	$11.00	$15.35	$0.00	$62.23
	03/01/2015	$36.63	$11.00	$15.35	$0.00	$62.98
	09/01/2015	$37.38	$11.00	$15.35	$0.00	$63.73
	03/01/2016	$38.13	$11.00	$15.35	$0.00	$64.48
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER *LABORERS - ZONE 2*	06/01/2014	$31.35	$7.30	$12.10	$0.00	$50.75
	12/01/2014	$31.85	$7.30	$12.10	$0.00	$51.25
	06/01/2015	$32.35	$7.30	$12.10	$0.00	$51.75
	12/01/2015	$32.85	$7.30	$12.10	$0.00	$52.25
	06/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
	12/01/2016	$34.10	$7.30	$12.10	$0.00	$53.50
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$28.80	$10.00	$14.20	$0.00	$53.00
	12/01/2014	$29.50	$10.00	$14.20	$0.00	$53.70
	06/01/2015	$30.02	$10.00	$14.20	$0.00	$54.22
	12/01/2015	$30.89	$10.00	$14.20	$0.00	$55.09
	06/01/2016	$31.41	$10.00	$14.20	$0.00	$55.61
	12/01/2016	$32.28	$10.00	$14.20	$0.00	$56.48
	06/01/2017	$32.97	$10.00	$14.20	$0.00	$57.17
	12/01/2017	$33.66	$10.00	$14.20	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER *TEAMSTERS LOCAL 59*	06/01/2008	$19.00	$5.10	$4.21	$0.00	$28.31
RECLAIMERS *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) *CARPENTERS -ZONE 2 (Residential Wood)*	04/01/2011	$24.24	$8.67	$15.51	$0.00	$48.42

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RESIDENTIAL WOOD FRAME CARPENTER **	05/01/2011	$24.24	$6.34	$6.23	$0.00	$36.81

** 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. *CARPENTERS -ZONE 2 (Residential Wood)*

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 *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 33*	08/01/2014	$39.21	$10.50	$11.60	$0.00	$61.31
	02/01/2015	$40.11	$10.50	$11.60	$0.00	$62.21
	08/01/2015	$41.01	$10.50	$11.60	$0.00	$63.11
	02/01/2016	$41.91	$10.50	$11.60	$0.00	$64.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 33*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.61	$10.50	$3.38	$0.00	$33.49
2	60	$23.53	$10.50	$11.60	$0.00	$45.63
3	65	$25.49	$10.50	$11.60	$0.00	$47.59
4	75	$29.41	$10.50	$11.60	$0.00	$51.51
5	85	$33.33	$10.50	$11.60	$0.00	$55.43

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.06	$10.50	$3.38	$0.00	$33.94
2	60	$24.07	$10.50	$11.60	$0.00	$46.17
3	65	$26.07	$10.50	$11.60	$0.00	$48.17
4	75	$30.08	$10.50	$11.60	$0.00	$52.18
5	85	$34.09	$10.50	$11.60	$0.00	$56.19

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*	08/01/2014	$39.46	$10.50	$11.60	$0.00	$61.56
	02/01/2015	$40.36	$10.50	$11.60	$0.00	$62.46
	08/01/2015	$41.26	$10.50	$11.60	$0.00	$63.36
	02/01/2016	$42.16	$10.50	$11.60	$0.00	$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 17 - B*	04/01/2013	$34.64	$9.82	$12.31	$1.70	$58.47

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SHEET METAL WORKER - Local 17-B*

Effective Date - 04/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$13.86	$9.82	$2.88	$0.81	$27.37
2	45	$15.59	$9.82	$3.23	$0.87	$29.51
3	50	$17.32	$9.82	$7.51	$1.05	$35.70
4	55	$19.05	$9.82	$7.51	$1.10	$37.48
5	60	$20.78	$9.82	$9.96	$1.22	$41.78
6	65	$22.52	$9.82	$10.16	$1.28	$43.78
7	70	$24.25	$9.82	$10.37	$1.33	$45.77
8	75	$25.98	$9.82	$10.57	$1.39	$47.76
9	80	$27.71	$9.82	$10.77	$1.45	$49.75
10	85	$29.44	$9.82	$10.98	$1.51	$51.75

Notes:

Apprentice to Journeyworker Ratio:1:3

SIGN ERECTOR *PAINTERS LOCAL 35 - ZONE 2*	06/01/2013	$25.81	$7.07	$7.05	$0.00	$39.93

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.59	$9.91	$8.80	$0.00	$50.30
	12/01/2014	$31.59	$9.91	$9.33	$0.00	$50.83
	06/01/2015	$31.94	$9.91	$9.33	$0.00	$51.18
	08/01/2015	$31.94	$10.41	$9.33	$0.00	$51.68
	12/01/2015	$31.94	$10.41	$10.08	$0.00	$52.43
	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 *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.88	$9.91	$8.80	$0.00	$50.59
	12/01/2014	$31.88	$9.91	$9.33	$0.00	$51.12
	06/01/2015	$32.23	$9.91	$9.33	$0.00	$51.47
	08/01/2015	$32.23	$10.41	$9.33	$0.00	$51.97
	12/01/2015	$32.23	$10.41	$10.08	$0.00	$52.72
	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 *SPRINKLER FITTERS LOCAL 550 - (Section C) Zone 2B*	10/01/2014	$45.31	$8.42	$14.35	$0.00	$68.08
	01/01/2015	$45.31	$8.42	$14.50	$0.00	$68.23
	03/01/2015	$49.12	$8.42	$14.50	$0.00	$72.04
	10/01/2015	$50.16	$8.42	$14.50	$0.00	$73.08
	01/01/2016	$50.16	$8.67	$14.65	$0.00	$73.48
	03/01/2016	$51.06	$8.67	$14.65	$0.00	$74.38
	10/01/2016	$52.10	$8.67	$14.65	$0.00	$75.42
	03/01/2017	$53.00	$8.67	$14.65	$0.00	$76.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SPRINKLER FITTER - Local 550 (Section C) Zone 2B*

Effective Date - 10/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.12	$8.42	$8.25	$0.00	$34.79
2	40	$18.12	$8.42	$8.25	$0.00	$34.79
3	45	$20.39	$8.42	$8.25	$0.00	$37.06
4	50	$22.66	$8.42	$8.25	$0.00	$39.33
5	55	$24.92	$8.42	$8.25	$0.00	$41.59
6	60	$27.19	$8.42	$8.25	$0.00	$43.86
7	65	$29.45	$8.42	$8.25	$0.00	$46.12
8	70	$31.72	$8.42	$8.25	$0.00	$48.39
9	75	$33.98	$8.42	$8.25	$0.00	$50.65
10	80	$36.25	$8.42	$8.25	$0.00	$52.92

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.12	$8.42	$8.40	$0.00	$34.94
2	40	$18.12	$8.42	$8.40	$0.00	$34.94
3	45	$20.39	$8.42	$8.40	$0.00	$37.21
4	50	$22.66	$8.42	$8.40	$0.00	$39.48
5	55	$24.92	$8.42	$8.40	$0.00	$41.74
6	60	$27.19	$8.42	$8.40	$0.00	$44.01
7	65	$29.45	$8.42	$8.40	$0.00	$46.27
8	70	$31.72	$8.42	$8.40	$0.00	$48.54
9	75	$33.98	$8.42	$8.40	$0.00	$50.80
10	80	$36.25	$8.42	$8.40	$0.00	$53.07

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 223*	09/01/2014	$31.71	$8.00	$9.38	$0.00	$49.09
	09/01/2015	$32.56	$8.40	$9.59	$0.00	$50.55
	09/01/2016	$33.33	$8.90	$9.78	$0.00	$52.01

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 223*

Effective Date - 09/01/2014

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

Notes: See Electrician Apprentice Wages
Steps are 750hrs
Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2014	$47.90	$10.18	$18.22	$0.00	$76.30
	02/01/2015	$48.46	$10.18	$18.22	$0.00	$76.86
	08/01/2015	$49.36	$10.18	$18.29	$0.00	$77.83
	02/01/2016	$49.93	$10.18	$18.29	$0.00	$78.40
	08/01/2016	$50.83	$10.18	$18.37	$0.00	$79.38
	02/01/2017	$51.40	$10.18	$18.37	$0.00	$79.95

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *TERRAZZO FINISHER - Local 3 Marble & Tile*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.95	$10.18	$18.22	$0.00	$52.35
2	60	$28.74	$10.18	$18.22	$0.00	$57.14
3	70	$33.53	$10.18	$18.22	$0.00	$61.93
4	80	$38.32	$10.18	$18.22	$0.00	$66.72
5	90	$43.11	$10.18	$18.22	$0.00	$71.51

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.23	$10.18	$18.22	$0.00	$52.63
2	60	$29.08	$10.18	$18.22	$0.00	$57.48
3	70	$33.92	$10.18	$18.22	$0.00	$62.32
4	80	$38.77	$10.18	$18.22	$0.00	$67.17
5	90	$43.61	$10.18	$18.22	$0.00	$72.01

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$35.45	$7.30	$12.90	$0.00	$55.65
	12/01/2014	$36.20	$7.30	$12.90	$0.00	$56.40
	06/01/2015	$36.95	$7.30	$12.90	$0.00	$57.15
	12/01/2015	$37.70	$7.30	$12.90	$0.00	$57.90
	06/01/2016	$38.45	$7.30	$12.90	$0.00	$58.65
	12/01/2016	$39.45	$7.30	$12.90	$0.00	$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$34.17	$7.30	$12.90	$0.00	$54.37
	12/01/2014	$34.92	$7.30	$12.90	$0.00	$55.12
	06/01/2015	$35.67	$7.30	$12.90	$0.00	$55.87
	12/01/2015	$36.42	$7.30	$12.90	$0.00	$56.62
	06/01/2016	$37.17	$7.30	$12.90	$0.00	$57.37
	12/01/2016	$38.17	$7.30	$12.90	$0.00	$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2014	$34.05	$7.30	$12.90	$0.00	$54.25
	12/01/2014	$34.80	$7.30	$12.90	$0.00	$55.00
	06/01/2015	$35.55	$7.30	$12.90	$0.00	$55.75
	12/01/2015	$36.30	$7.30	$12.90	$0.00	$56.50
	06/01/2016	$37.05	$7.30	$12.90	$0.00	$57.25
	12/01/2016	$38.05	$7.30	$12.90	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.10	$10.00	$14.20	$0.00	$65.30
	12/01/2014	$42.09	$10.00	$14.20	$0.00	$66.29
	06/01/2015	$42.83	$10.00	$14.20	$0.00	$67.03
	12/01/2015	$44.07	$10.00	$14.20	$0.00	$68.27
	06/01/2016	$44.82	$10.00	$14.20	$0.00	$69.02
	12/01/2016	$46.05	$10.00	$14.20	$0.00	$70.25
	06/01/2017	$47.04	$10.00	$14.20	$0.00	$71.24
	12/01/2017	$48.03	$10.00	$14.20	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$32.17	$9.91	$8.80	$0.00	$50.88
	12/01/2014	$32.17	$9.91	$9.33	$0.00	$51.41
	06/01/2015	$32.52	$9.91	$9.33	$0.00	$51.76
	08/01/2015	$32.52	$10.41	$9.33	$0.00	$52.26
	12/01/2015	$32.52	$10.41	$10.08	$0.00	$53.01
	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 *LABORERS (COMPRESSED AIR)*	06/01/2014	$46.33	$7.30	$13.30	$0.00	$66.93
	12/01/2014	$47.08	$7.30	$13.30	$0.00	$67.68
	06/01/2015	$47.83	$7.30	$13.30	$0.00	$68.43
	12/01/2015	$48.58	$7.30	$13.30	$0.00	$69.18
	06/01/2016	$49.33	$7.30	$13.30	$0.00	$69.93
	12/01/2016	$50.33	$7.30	$13.30	$0.00	$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	06/01/2014	$48.33	$7.30	$13.30	$0.00	$68.93
	12/01/2014	$49.08	$7.30	$13.30	$0.00	$69.68
	06/01/2015	$49.83	$7.30	$13.30	$0.00	$70.43
	12/01/2015	$50.58	$7.30	$13.30	$0.00	$71.18
	06/01/2016	$51.33	$7.30	$13.30	$0.00	$71.93
	12/01/2016	$52.33	$7.30	$13.30	$0.00	$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	06/01/2014	$38.40	$7.30	$13.30	$0.00	$59.00
	12/01/2014	$39.15	$7.30	$13.30	$0.00	$59.75
	06/01/2015	$39.90	$7.30	$13.30	$0.00	$60.50
	12/01/2015	$40.65	$7.30	$13.30	$0.00	$61.25
	06/01/2016	$41.40	$7.30	$13.30	$0.00	$62.00
	12/01/2016	$42.40	$7.30	$13.30	$0.00	$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	06/01/2014	$40.40	$7.30	$13.30	$0.00	$61.00
	12/01/2014	$41.15	$7.30	$13.30	$0.00	$61.75
	06/01/2015	$41.90	$7.30	$13.30	$0.00	$62.50
	12/01/2015	$42.65	$7.30	$13.30	$0.00	$63.25
	06/01/2016	$43.40	$7.30	$13.30	$0.00	$64.00
	12/01/2016	$44.40	$7.30	$13.30	$0.00	$65.00
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2014	$31.59	$9.91	$8.80	$0.00	$50.30
	12/01/2014	$31.59	$9.91	$9.33	$0.00	$50.83
	06/01/2015	$31.94	$9.91	$9.33	$0.00	$51.18
	08/01/2015	$31.94	$10.41	$9.33	$0.00	$51.68
	12/01/2015	$31.94	$10.41	$10.08	$0.00	$52.43
	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 *LABORERS - ZONE 2*	06/01/2014	$30.60	$7.30	$12.10	$0.00	$50.00
	12/01/2014	$31.10	$7.30	$12.10	$0.00	$50.50
	06/01/2015	$31.60	$7.30	$12.10	$0.00	$51.00
	12/01/2015	$32.10	$7.30	$12.10	$0.00	$51.50
	06/01/2016	$32.60	$7.30	$12.10	$0.00	$52.00
	12/01/2016	$33.35	$7.30	$12.10	$0.00	$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2014	$41.49	$10.00	$14.20	$0.00	$65.69
	12/01/2014	$42.49	$10.00	$14.20	$0.00	$66.69
	06/01/2015	$43.24	$10.00	$14.20	$0.00	$67.44
	12/01/2015	$44.49	$10.00	$14.20	$0.00	$68.69
	06/01/2016	$45.24	$10.00	$14.20	$0.00	$69.44
	12/01/2016	$46.49	$10.00	$14.20	$0.00	$70.69
	06/01/2017	$47.49	$10.00	$14.20	$0.00	$71.69
	12/01/2017	$48.49	$10.00	$14.20	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER *PLUMBERS & PIPEFITTERS LOCAL 51*	09/01/2014	$35.88	$11.00	$15.35	$0.00	$62.23
	03/01/2015	$36.63	$11.00	$15.35	$0.00	$62.98
	09/01/2015	$37.38	$11.00	$15.35	$0.00	$63.73
	03/01/2016	$38.13	$11.00	$15.35	$0.00	$64.48
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$25.66	$8.70	$4.48	$0.00	$38.84
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$36.55	$8.70	$6.58	$0.00	$51.83
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$29.94	$8.70	$6.05	$0.00	$44.69
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$23.52	$8.70	$5.24	$0.00	$37.46
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$36.35	$8.70	$9.43	$0.00	$54.48
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$32.08	$8.70	$6.59	$0.00	$47.37
For apprentice rates see "Apprentice- LINEMAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104* For apprentice rates see "Apprentice- LINEMAN"	09/01/2013	$23.52	$8.70	$3.72	$0.00	$35.94
GROUNDMAN -Inexperienced (<2000 Hrs.) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104* For apprentice rates see "Apprentice- LINEMAN"	09/01/2013	$19.25	$8.70	$2.85	$0.00	$30.80
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$42.77	$8.70	$11.78	$0.00	$63.25

Apprentice - *LINEMAN (Outside Electrical) - East Local 104*

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$25.66	$8.70	$4.24	$0.00	$38.60
2	65	$27.80	$8.70	$4.71	$0.00	$41.21
3	70	$29.94	$8.70	$5.43	$0.00	$44.07
4	75	$32.08	$8.70	$6.16	$0.00	$46.94
5	80	$34.22	$8.70	$6.88	$0.00	$49.80
6	85	$36.35	$8.70	$7.62	$0.00	$52.67
7	90	$38.49	$8.70	$8.83	$0.00	$56.02

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$26.33	$4.18	$2.79	$0.00	$33.30
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TREE TRIMMER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104* 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.	01/29/2012	$17.18	$3.37	$0.00	$0.00	$20.55
TREE TRIMMER GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104* 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.	01/29/2012	$15.15	$3.37	$0.00	$0.00	$18.52

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)
Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.
*** APP to JM; 1:1, 2:2, 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.

SECTION 01300
SUBMITTALS - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1. RELATED DOCUMENTS

   A. This Section supplements Subparagraphs 4.6.3 and 5.3.5 and Paragraphs 4.7, 4.8, and 4.15 of the General Conditions.

   B. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

2. GENERAL PROCEDURES FOR SUBMITTALS

   A. Timeliness - The Contractor shall transmit each submittal to the Chief of Hatcheries sufficiently in advance of performing related Work or other applicable activities so that the installation is not delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Engineer in advance of the Work.

   B. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the Engineer’s approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.

   C. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Chief of Hatcheries. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.

   D. Engineer's Action - The Chief of Hatcheries will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:

      (1.) Final Unrestricted Release: Where marked "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.

      (2.) Final-But-Restricted Release: When marked “Approved as Noted” the Work may proceed provided it complies with the Chief of Hatcheries’ notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend on these compliances.

      (3.) Returned for Resubmittal: When marked "Revise and Resubmit" or "Disapproved" the Work covered by the submittal (such as purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new

submittal resubmitted without delay, in accordance with the Chief of Hatcheries' notations stating the reasons for returning the submittal.

E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.

3. OR EQUALS

A. Definition - Whenever a specification section names one or more brands for a given item, and the Contractor wishes to submit, for consideration, another brand, the submission shall be considered an "or-equal" or a "material substitution". For the purposes of this Contract, the terms "or-equal" and "material substitution" shall be considered synonymous.

B. In no case may an item be furnished on the Work other than the item named or described, unless the Chief of Hatcheries, with the Owner's written concurrence, shall consider the item equal to the Item so named or described, as provided by M.G.L. c.30 § 39M.

C. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Chief of Hatcheries at the expense of the Contractor submitting the substitution.

D. The Chief of Hatcheries and/or the Department may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor shall bear full cost for providing, delivering, and disposal of all such samples.

E. The Contractor shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work that may be caused by such substitution.

F. Or Equal Approval Process - On the transmittal, or on a separate sheet attached to the submission, the Contractor shall direct attention to any deviations, including minor limitations and variations, from the Contract Documents.

(1.) The Contractor shall submit to the Chief of Hatcheries for consideration of any or-equal substitution a written point-by-point comparison containing the name and full particulars of the proposed product and the product named or described in the Contract Documents.

(2.) Such submittal shall in no event be made later than 120 calendar days prior to the incorporation of the item into the Work. In any case in which the time period specified in the Contract Documents from the Notice to Proceed to Substantial Completion is less than 120 days, this requirement can be waived by the Chief of Hatcheries.

(3.) Upon receipt of a written request for approval of an or-equal substitution, the Engineer shall investigate whether the proposed item shall be considered equal to the item named or described in the Contract Documents. Upon conclusion of the investigation, the Chief of Hatcheries shall promptly advise the Contractor that the item is, or is not, considered acceptable as on Or-Equal substitution. Such written notice must have the concurrence of the Administrator.

4. SUBMISSION OF PRODUCT DATA

   A. The Contractor shall submit 5 copies of Product Data to the Chief of Hatcheries. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.

   B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not impair legibility.

   C. Product Data returned by the Chief of Hatcheries as "Disapproved" shall be resubmitted in 5 copies until approval is obtained.

   D. When the Product Data are acceptable, the Department's Engineer will stamp them "Approved" or "Approved as Corrected", retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.

   E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

5. SUBMISSION OF SHOP DRAWINGS

   A. Shop Drawings shall be complete, giving all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.

   B. Shop Drawings shall be for whole systems. Partial submissions will not be accepted.

   C. The Engineer reserves the right to review and approve shop drawings only after approval of related product data and samples.

   D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Department Engineer's stamp.

   E. The Contractor shall submit to the Engineer one legible, reproducible transparency and two black line prints of each shop drawing. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.

   F. When the Engineer returns a transparency with the stamp "Revise and Resubmit" or "Disapproved", the Contractor shall correct the original drawing or prepare a new drawing and resubmit a transparency and two prints thereof to the Engineer for approval. This procedure shall be repeated until the Engineer's approval is obtained.

   G. When the Engineer returns a transparency with the stamp "Approved" or "Approved as Corrected", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 4 prints to the Engineer.

   H. The Contractor shall maintain one full set of approved shop drawings at the site.

6. SUBMISSION OF SAMPLES

   A. Unless otherwise specified in the individual section, the Contractor shall submit two

specimens of each sample.

B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work.

C. Samples of items of interior finishes shall be submitted all at once to permit a coordinated selection of colors and finishes.

D. Samples that can be conveniently mailed shall be sent directly to the Chief of Hatcheries, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.

E. All other samples shall be delivered at the field office of the Project Representative with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Engineer.

F. If a sample is rejected by the Department’s Engineer, a new sample shall be resubmitted in the specified manner. This procedure shall be repeated until the Engineer approves the sample.

G. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications, at no additional cost to the Owner.

END OF SECTION 01300

SECTION 01500
TEMPORARY FACILITIES

1. GENERAL REQUIREMENTS

    A. The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Chief of Hatcheries. The Contractor bears full responsibility for reproviding any facility removed prior to Substantial Completion

    B. Removal of all temporary facilities shall be a condition precedent to Substantial Completion unless directed otherwise by the Engineer or specifically noted in the specifications.

    C. The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulations.

2. FIELD OFFICES – Not Required

3. TEMPORARY TELEPHONES - Not Required

4. TEMPORARY TOILETS

    A. The Contractor shall provide and service an adequate number of toilet booths with chemical type toilets.

    B. The toilets shall be erected in a location approved by the Engineer and shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements.

    C. Under no circumstances will the Contractor's personnel be allowed to use Owner's toilets.

5. TEMPORARY CONSTRUCTION FENCE

    A. The Contractor shall be responsible for providing and maintaining temporary fencing or barricades around the construction as may be necessary to assure the safety of all persons authorized or unauthorized. Such protective measures shall be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

6. TEMPORARY STRUCTURES AND MATERIAL HANDLING

    A. The Contractor shall provide such storage sheds, temporary buildings, or trailers as

required for the performance of the Contract. Subcontractors shall provide their own temporary buildings and trailers.

B. Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.

7. TEMPORARY STAGING, STAIRS, CHUTES

A. Except as otherwise specified, the Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking over 8 ft. in height, as required for the use of all trades for proper execution of the Work.

B. The Contractor shall furnish, install, maintain in safe condition, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.

C. Permanent stairs shall be erected as soon as possible, for which the Contractor shall provide temporary protective treads, risers, handrails, and shaft protection.

D. The Contractor shall furnish, install, maintain, and remove covered chutes from openings in the exterior walls of upper floors. Such shall be in convenient locations and permit disposal of rubbish directly into trucks or disposal units.

E. Debris shall not be allowed to fall freely from upper levels of the building. Materials shall not be dropped from open windows.

8. HOISTING FACILITIES

A. Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades. All such hoisting service shall be without cost to the Subcontractors.

10. TEMPORARY WATER

A. The Contractor may make use of the available water supply at the site for construction purposes, provided the permission of the Owner is obtained beforehand and only as long as the water is not used wastefully.

B. The Contractor shall provide all necessary piping and hoses to utilize the available sources of water.

C. The Contractor shall provide an adequate supply of cool drinking water with individual drinking cups for personnel on the job.

11. TEMPORARY ELECTRICITY

A. The Contractor may make use of the electricity available at the site, metered and paid for by the Owner, provided that the Contractor shall supply proper adapters and extension cords.

(1.) Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the Contractor shall provide temporary service to supply the power.

(2.) The temporary electric service shall include, but not be limited to labor, materials, and equipment necessary to supply temporary power of adequate capacity for the project.

(3.) Transformers and meters, when required by the power company, will be furnished by the power company and the contractor shall pay the costs therefore.

B. Temporary electrical Work shall be performed under the direct supervision of at least one master electrician, who will be present on the project at all times when such work is being performed.

C. The Contractor shall furnish, install, and maintain lamps in operating condition. The Contractor, and each Subcontractor, shall furnish their own extension cords and additional lamps as may be required for their work. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for the trade requiring same.

D. All lamps installed in permanent lighting fixtures and used as temporary lights during the construction period shall be removed and replaced shortly before Substantial Completion by the set of lamps required to be provided under the Electrical section of the specifications.

E. All temporary work shall be provided in conformity with the National Electric Code, State laws, and requirements of the power company. Particular attention is called to Commonwealth of Massachusetts, Department of Labor and Workforce Devlopment Regulations.

12. WEATHER PROTECTION

A. The Contractor shall provide temporary enclosures and heat to permit work to be carried on during the months of November through March in compliance with MGL c.149 §44G (d). These specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible in the opinion of the Owner. Without limitation this includes such items as excavation, pile driving, steel erection, erection of certain exterior wall panels, roofing, and similar operations.

B. "Weather Protection" means the temporary protection of that Work adversely affected by moisture, wind, and cold by covering, enclosing, and/or heating. This protection shall provide adequate working areas during the months of November through March

as determined by the Owner and consistent with the construction schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum of 40 degrees F. at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Documents with added regard to performance obligations of the Contractor.

C. Within 30 calendar days after award of the Contract, the Contractor shall submit in writing, to the Engineer for approval, three (3) copies of the proposed methods for "Weather Protection".

D. The Contractor shall assume the entire responsibility for weather protection during construction (until Substantial Completion), and shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation.

E. Work damaged by frost shall be removed and replaced by and at the Contractor's expense and as directed by the Engineer.

F. It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Contractor to the execution of the Work. This provision shall not constitute any waiver, release, or lessening of the Contractor's obligation to bring the Work to Substantial Completion within the period of time set forth in the Contract Documents**.**

14. PROJECT SIGN – Not Required

END OF SECTION 01500

SECTION 01510
PROTECTION

1. PROTECTION OF PERSONS & PROPERTIES

   A. The Hatchery will be occupied during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the Department's employees and general public during construction.

   B. Any damage to buildings, roads, (public and private), bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner.

   C. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

2. TEMPORARY PROTECTION

   A. The Contractor shall:

      (1.) Protect excavations, trenches, buildings, and materials at all times from rain water, ground water, backing-up, or leakage of sewers, drains, or other piping, or from water damage of any origin. Provide all pumps, piping, coverings, and other materials and equipment as required by job conditions to accomplish this requirement.

      (2.) In addition to the weather protection during the months of November to March specified elsewhere, provide temporary watertight enclosures for openings in exterior walls and in roof decks when and as required to protect the Work from damage by inclement weather. Temporary enclosures shall be provided with adequate means of ventilation to prevent accumulation of moisture in the buildings.

      (3.) Provide temporary wood doors for exterior entrances and elsewhere as required. Permanent door enclosures shall not be used as temporary enclosures.

      (4.) Protect sills, jambs, and heads of openings through which materials are handled.

      (5.) Protect decks and slabs to receive work by other trades from any soiling which will prevent proper adhesion of subsequent Work. Decks and slabs shall be left clean and free of blemishes at the time other trades begin the application of their work.

      (6.) Protect concrete slabs to remain exposed and finished floors against mechanical damage, plaster droppings, oil, grease, paint, or other material which will stain the floor finish. Install and maintain adequate strips of building paper or other protection on finished floors in rooms where other trades will do future Work.

(7.) Protect all surfaces to receive work by other trades from any soiling which will prevent proper execution of subsequent work

(8.) Protect other areas, furniture, and private property of the resident and the Owner. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.

B. Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.

C. After the installation of the Work by any Subcontractor is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

3. ACCESS

The Contractor shall, at all times, leave an unobstructed way along walks and roadways, and shall maintain barriers and lights for the protection of all persons and property in all locations where materials are stored or work is in progress.

4. SECURITY

A. The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests.

B. Where excavation is involved, the Contractor shall be responsible for providing continuous watchmen service as necessary, to insure adequate protection of the general public.

5. NOISE AND DUST CONTROL

A. The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, dust, and other disturbances by:

(l.) Keeping common pedestrian and vehicular circulation areas clean and unobstructed;

(2.) Insulating work area from occupied portions as far as possible; and

(3.) Sealing dust and fumes from contaminating occupied spaces.

6. FIRE PROTECTION

A. The Contractor shall take necessary precautions to insure against fire during

construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and that combustible rubbish and construction debris is promptly removed from the site.

B. Installation of equipment suitable for fire protection shall be done as soon as possible after commencement of the Work. The Contractor's attention is directed to the requirements of the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulation 454 CMR.

7. WIND PROTECTION

Should high wind warnings be issued by the U.S. Weather Bureau, the Contractor shall take every precaution to minimize danger to persons, to the Work, and to the adjacent property.

8. WEATHER PROTECTION

The Contractor shall provide Weather Protection as required by Specification Section 01500 Temporary Facilities and any other specific requirements of the Contract Documents.

END OF SECTION 01510

SECTION 01520
CLEANING UP

1. RELATED DOCUMENTS

   A. This section supplements Article 4.17 of the General Conditions.
   B. Consult the individual sections of the specifications for cleaning of Work installed under those sections.

2. CLEANING DURING CONSTRUCTION

   A. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
      1. Do not burn or bury rubbish and waste materials on the site.
      2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
      3. Do not dispose of wastes into streams or waterways.
   B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
   C. Do not allow materials and rubbish to drop free or be thrown from upper floors, but remove by use of a material hoist or rubbish chutes.
   D. Maintain the Site free from accumulations of waste, debris, and rubbish.
   E. Provide on-site containers for collection of waste materials and rubbish.
   F. At the end of each day, remove and legally dispose waste materials and rubbish from site.
   G. Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until Substantial Completion.
   H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
   I. Disposal of materials shall be in compliance with all applicable laws, ordinances, codes, and by-laws.

3. FINAL CLEANING

   A. Prior to submitting a request to the Engineer to certify Substantial Completion of the Work, the Contractor shall inspect all interior and exterior spaces and verify that all waste materials, rubbish, tools, equipment, machinery, and surplus materials have been removed, and that all sight-exposed surfaces are clean. Leave the Project clean and ready for occupancy.
   B. Unless otherwise specified under other sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
   C. Cleaning shall include all surfaces, interior and exterior, which the Contractor has had access to, whether new or existing.

D. Employ experienced workmen or professional cleaners for final cleaning.

E. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.

F. Use cleaning materials which will not create a hazard to health or property and which will not damage surfaces.

G. All broken or defective glass caused by the Contractor's Work shall be replaced at the expense of the Contractor.

H. Remove grease, mastic, adhesive, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective specifications.

I. Clean and polish all new and existing glass and plastic glazing (if any) throughout the building(s), on both sides. Clean plastic glazing in accordance with the manufacturer's directions. This cleaning shall be completed by qualified window cleaners at the expense of the Contractor just prior to acceptance of the Work.

J. Wash and polish all mirrors.

K. Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.

L. Polish glossy surfaces to a clear shine.

M. Do the final cleaning of resilient floors and wood floors as specified under the respective sections of the Specifications.

N. Leave all architectural metals, hardware, and fixtures in undamaged, polished conditions.

O. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.

P. In cleaning items with manufacturer's finish or items previously finished by a Subcontractor, care shall be taken not to damage such manufacturer's or Subcontractor's finish. In cleaning glass and finish surfaces, care shall be taken not to use detergents or other cleaning agents which may stain adjoining finish surfaces. Any damage to finishes caused by cleaning operations shall be repaired at the Contractor's expense.

Q. Broom clean exposed concrete surfaces and paved surfaces. Rake clean other surfaces of grounds.

R. Ventilating systems - Replace filters and clean ducts, blowers, and coils if units were operated during construction.

S. Owner's responsibility for cleaning commences at Substantial Completion.

END OF SECTION 01520

SECTION 01700
PROJECT CLOSEOUT

1. RELATED DOCUMENTS

   A. This section supplements the General Conditions.

   B. Consult the individual sections of the specifications for specific items required under those sections.

2. OCCUPANCY PERMIT

   A. IF REQUIRED BY PERMIT, the Contractor shall coordinate the efforts of all Subcontractors and obtain the Occupancy Permit from the local Building Department. The Contractor shall pay any Building Department fee associated with the Occupancy Permit.

3. SUBSTANTIAL COMPLETION

   A. Prior to requesting Substantial Completion as provided in Article 9.6 of the General Conditions the Contractor shall make a thorough inspection of the Work. During this inspection the Contractor shall prepare a comprehensive list of all items remaining to be completed or corrected. This list shall include all remaining Contractor and Subcontractor items to be provided under the Contract Documents.

   B. Upon completion of the items noted on the Contractor's list the Contractor shall notify the Engineer that the Work is Substantially Complete. The Engineer shall then conduct a similar thorough inspection. If the Architect agrees that the Work is Substantially Complete, the Engineer will promptly make a thorough inspection and prepare a punch list, setting forth in accurate detail any items on the Contractor's list and additional items that are not acceptable or incomplete. The Contractor shall coordinate all Subcontractors to achieve prompt completion of the punch list.

   C. The Contractor shall not be relieved of the responsibility to provide Contract items left off of the Engineer's punch list.

   D. If the Engineer determines that the Work is not Substantially Complete, the Engineer shall inform the Contractor of those items that must be completed before the Engineer will prepare a punch list. Upon completion of those items, the Contractor shall again request the Engineer to prepare a punch list.

   E. When the punch list has been prepared, the Engineer will arrange a meeting with the Contractor and Subcontractors to identify and explain all punch list items and answer questions on work which must be done before final acceptance.

   F. The Engineer may revise the punch list, from time to time, to ensure that all items of Work are properly completed.

   G. The Engineer shall prepare the Certificate of Substantial Completion in accordance with Article 9.6 of the General Conditions.

4. RECORD DRAWINGS

   A. Consult the individual sections of the Specifications for the specific requirements of those sections. In cases of inconsistency the more stringent requirement, as directed by the Engineer, shall be required.

   B. Prior to final payment and completion the Contractor shall provide all marked up As Built Drawings and as required under other sections of the Specifications.

5. OPERATING AND MAINTENANCE INSTRUCTIONS

   A. Consult the individual sections of the specifications for the specific requirements for those sections and for further details and descriptions of the requirements

   B. Prior to final payment and completion the Contractor shall provide all Operating Manuals and Maintenance Instructions as required by the Contract Documents.

   C. OPERATING INSTRUCTIONS AND MANUALS

      1. Subcontractors, installers, and suppliers shall furnish to the Contractor two sets of operating and maintenance instructions of all mechanical, electrical, and manually operated equipment furnished and installed by them. Mechanical and electrical subcontractors shall furnish instructions as specified in their respective sections.

      2. The Contractor shall collect all of the above instructions, bind them into two complete sets, and submit them to the Architect who will deliver them to the Owner.

      3. Submission of operating and maintenance instructions shall be a condition precedent to final payment.

   D. INSTRUCTION OF OWNER'S PERSONNEL

      1. Where specified in the individual sections of the specifications, the Contractor and Subcontractor shall instruct the Owner's personnel at the site, in the use and maintenance of equipment installed under the Contract.

      2. Submission to the Engineer of a certificate of compliance to this requirement, signed by the Contractor and the Owner's Representative, shall be a condition precedent to final payment.

6. FINAL COMPLETION

   A. RELATED REQUIREMENTS

      The Contractor's attention is directed to Article 9.7 of the General Conditions and the Standard Specifications.

   B. FULL RELEASE OF RETAINAGE

1. Upon completion of all work, and after receipt of all appropriate marked up As Built Drawings, Operating Manuals, Warranties, Guarantees, and Spare Parts required by the Contract Documents, the Engineer shall prepare the Certificate of Final Completion.

2. This certificate shall be processed in accordance with the procedures described in the Standard Specifications.

3. The Contractor's signature on this Certificate shall be notarized.

4. The Contractor shall provide a final Application for Payment to complement the close-out process.

C. PARTIAL RELEASE OF RETAINAGE

1. If within 65 days after Substantial Completion, any of the items on the Engineer's punch list are not complete or if the Contractor has not provided the appropriate marked up As Built Drawings, Operating Manuals, Warranties, Guarantees, or Spare Parts the Engineer shall assign a monetary value for each incomplete item as well as any other items as provided by M.G.L. c.30 §39K, and the Engineer shall prepare a Certificate for Partial Release of Retainage

2. If the Engineer is required to prepare a Certificate for Partial Release of Retainage the Contractor shall complete all remaining Work in accordance with the provisions of Article 9.7 of the General Conditions.

3. The Contractor's signature on this Certificate shall be notarized.

4. The Contractor may make a request for additional releases of retainage when portions of the Work listed on the Engineer's punch list have been satisfactorily completed. Each request shall be accompanied by a new application for payment and a new signed and notarized Certificate for Partial Release of Retainage.

5. The Engineer's inspections, required to complete the additional payment applications described in subparagraph C4 above, are subject to provisions of subparagraph 9.7.5 of the General Conditions.

6. Upon completion of all remaining items, the Final Release of Retainage shall be processed in accordance with paragraph B above.

END OF SECTION 001700

SECTION 01720
SURVEYS AND RECORD DRAWINGS

1. SURVEYS
   None required

2. RECORD DRAWINGS
   None required

END OF SECTION 01720

SECTION 16000- BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION OF WORK

A. This Section includes the following:

1 Electrical equipment coordination and installation.
2 Low voltage electric power.
3 Grounding and bonding.
4 Hangers and supports.
5 Raceways and boxes.
6 Identification for electrical systems.
7 Common electrical installation requirements.

1.3 DEFINITIONS

A. EPDM: Ethylene-propylene-diene monomer.

B. NBR: Acrylonitrile-butadiene rubber.

1.4 COORDINATION

A. Coordinate arrangement, mounting, and support of electrical equipment:

1 To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2 To provide for ease of disconnecting the equipment with minimum interference to other installations.
3 To allow right of way for piping and conduit installed at required slope.
4 So connecting raceways, cables, and wireways will be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices.

C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

PART 2 - PRODUCTS

2.1 LOW VOLTAGE ELECTRIC POWER

A. Conductors and Cables:

— Copper Conductors: Comply with NEMA WC70. Minimum size for power and lighting shall be No. 12. Minimum size for low voltage control shall be No. 16.

— Conductor Insulation: Comply with NEMA WC70 for Types THHN-THWN and SO.

— Multiconductor Cable: Comply with NEMA WC70 for armored cable, Type AC, metal-clad cable, Type MC, nonmetallic-sheathed cable, Type NM, Type SO and Type USE with separate internal ground wire.

— B. Connectors and Splices:

— 1. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

— 2.2 GROUNDING AND BONDING

A. Insulated Conductors: Copper wire or cable insulated for 600V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors:

1 Solid Conductors: ASTM B3.

2 Stranded Conductors: ASTM B8.

3 Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.

4 Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.

C. Grounding Bus: Rectangular bars of annealed copper, 1/4 by 2 inches in cross section, unless otherwise indicated; with insulators.

D. Connectors: Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.

1. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.

a. Pipe Connectors: Clamp type, sized for pipe.

2. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

2.3 HANGERS AND SUPPORTS

A. Support, Anchorage, and Attachment Components:

1. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

a. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.

b. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.

c. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.

d. Channel Dimensions: Selected for applicable load criteria.

2. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiberresin

channels and angles with 9/16-inch diameter holes at a maximum of 8 inches o.c., in at least 1 surface.

a. Fittings and Accessories: Products of channel and angle manufacturer and designed for use with those items.

b. Fitting and Accessory Materials: Same as channels and angles, except metal items may be stainless steel.

c. Rated Strength: Selected to suit applicable load criteria.

1 Raceway and Cable Supports: As described in NECA 1 and NECA 101.

2 Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

3 Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.

4 Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

2.4 RACEWAYS AND BOXES

A. Nonmetallic Conduit and Tubing:

1 ENT: NEMA TC 13.

2 RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.

3 LFNC: UL 1660.

4 Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.

5. Fittings for LFNC: UL 514B.

B. Nonmetallic Wireways:

1 Description: Fiberglass polyester, extruded and fabricated to size and shape indicated, with no holes or knockouts. Cover is gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections are flanged, with stainless-steel screws and oil-resistant gaskets.

2 Description: PVC plastic, extruded and fabricated to size and shape indicated, with snap-on cover and mechanically coupled connections with plastic fasteners.

3 Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

C. Boxes, Enclosures, And Cabinets:

1. Nonmetallic Outlet and Device Boxes: NEMA OS 2.

2. Hinged-Cover Enclosures: NEMA 250, Type 4X, with continuous-hinge cover with flush latch, unless otherwise indicated.

a. Metal Enclosures: Stainless steel.

3. Cabinets:

a. NEMA 250, Type 4X, 316 stainless steel box with removable interior panel and removable front.

b. Hinged door in front cover with flush latch and concealed hinge.

c. Key latch to match panelboards.

d. Metal barriers to separate wiring of different systems and voltage.

e. Accessory feet, where required for freestanding equipment, shall be 316 stainless steel.

2.5 IDENTIFICATION FOR ELECTRICAL SYSTEMS

A. Power Raceway Identification Materials:

1. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
2. Colors for Raceways Carrying Circuits at 600 V or Less:
a. Black letters on an orange field.
b. Legend: Indicate voltage and system or service type.
3. Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
4. Tape and Stencil for Raceways Carrying Circuits More Than 600 V: 4-inch wide black stripes on 10-inch centers diagonally over orange background that extends full length of raceway or duct and is 12 inches wide. Stop stripes at legends.

B. Power and Control Cable Identification Materials:

1. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

C. Conductor Identification Materials:

1 Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.

2 Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

3 Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

a. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

D. Warning Labels and Signs:

1. Comply with NFPA 70 and 29 CFR 1910.145.

2. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

3. Baked-Enamel Warning Signs:

a. Pre-printed aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.

b. 1/4-inch grommets in corners for mounting.

c. Nominal size, 7 by 10 inches.

4. Warning label and sign shall include, but are not limited to, the following legends:

a. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."

b. Workspace Clearance Warning: "WARNING - REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

E. Instruction Signs:

1. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch thick for signs up to 20 sq. inches and 1/8 inch thick for larger sizes.

a. Engraved legend with black letters on white face.

b. Punched or drilled for mechanical fasteners.

c. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

F. Equipment Identification Labels:

1. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch.

G. Cable Ties:

1. General-Purpose Cable Ties: Fungus inert, self extinguishing, one piece, self locking, Type 6/6 nylon.

a. Minimum Width: 3/16 inch.

b. Tensile Strength at 73 deg F, According to ASTM D 638: 12,000 psi.

c. Temperature Range: Minus 40 to plus 185 deg F.

d. Color: Black except where used for color-coding.

H. Miscellaneous Identification Products:

1. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

2.6 MOTORS

A. General Motor Requirements:

1. Comply with IEEE 841 for severe-duty motors.

B. Motor Characteristics:

1 Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea level.

2 Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

C. Polyphase Motors:

1. Description: NEMA MG 1, Design B, medium induction motor.
2. Efficiency: Energy efficient, as defined in NEMA MG 1.
3. Service Factor: 1.15.
4. Multispeed Motors: Variable torque.
a. For motors with 2:1 speed ratio, consequent pole, single winding.
b. For motors with other than 2:1 speed ratio, separate winding for each speed.
5. Rotor: Random-wound, squirrel cage.
6. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.
7. Temperature Rise: Class B.
8. Insulation: Class F.
9. Code Letter Designation:
a. Motors 15 HP and Larger: NEMA starting Code F or Code G.
b. Motors Smaller Than 15 HP: Manufacturer's standard starting characteristic.
10. Enclosure Material: Cast iron for motor frame sizes 324T and larger; rolled steel for motor frame sizes smaller than 324T.

D. Polyphase Motors with Additional Requirements:

1. Motors Used with Reduced-Voltage and Multispeed Controllers: Match wiring connection requirements for controller with required motor leads. Provide terminals in motor terminal box, suited to control method.

2. Motors greater than 20 HP shall be VFD capable and driven. Motors less than 20 HP shall be direct on line start or soft start.

3. Motors Used with Variable Frequency Controllers: Ratings, characteristics, and features coordinated with and approved by controller manufacturer.

a. Windings: Copper magnet wire with moisture-resistant insulation varnish, designed and tested to resist transient spikes, high frequencies, and short time rise pulses produced by pulse-width modulated inverters.

b. Energy- and Premium-Efficient Motors: Class B temperature rise; Class F insulation.

c. Inverter-Duty Motors: Class F temperature rise; Class H insulation.

d. Thermal Protection: Comply with NEMA MG 1 requirements for thermally protected motors.

4. Severe-Duty Motors: Comply with IEEE 841, with 1.15 minimum service factor.

E. Single-Phase Motors:

1. Motors larger than 1/20 HP shall be one of the following, to suit starting torque and requirements of specific motor application:

a. Permanent-split capacitor.

b. Split phase.

c. Capacitor start, inductor run.

d. Capacitor start, capacitor run.

1 Multispeed Motors: Variable-torque, permanent-split-capacitor type.

2 Bearings: Pre-lubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.

3 Motors 1/20 HP and Smaller: Shaded-pole type.

4 Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

2.7 OTHERS

A. Replacements or alternatives require prior written approval by the Engineer.

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Comply with NEC and all local codes.

B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future

disconnecting with minimum interference with other items in the vicinity.

E. Right of Way: Give to piping systems installed at a required slope.

F. All skid equipment configurations shall be supplied with a single point, 480 Volt, 3 Phase connection for all skid electrical requirements. Vendor to supply transformer for any other skid voltage requirements.

END OF SECTION

Sandwich State Fish Hatchery

Well#2 Construction Logs

WELL #2

Department of Environmental Management/Division of Water Resources

WELL COMPLETION REPORT

WELL LOCATION

Address: Rt. 6A

City/Town: Sandwich, Ma.

Well owner: Div. of Fisheries

Address: One Rabbit Hill Rd.
Westboro, Ma. 01581

Board of Health permit obtained: yes ☐ no ☐

GEOGRAPHIC DESCRIPTION

_____ (feet) N S E W of (circle)

_____ (road)

_____ (mi. in tenths) N S E W of (circle)

intersect. w/ 6A (road)

WELL USE

Domestic ☐ Public ☐ Industrial ☐

Monitoring ☐ Other: Fishery

Method drilled: Auger, bucket

Date drilled: 7/2 - 7/6/92

CASING

Type: Steel

Length: _____ ft. Dia(I.D.): 12 in.

Length into bedrock: N/A ft.

Protective well seal:

Grout ☐ Other _____

WELL DATA

Total well depth: 90' ft.

Depth to bedrock: N/A ft.

Water bearing rock/unconsolidated material:

Description: Sand

Water-bearing zones:

1) From _____ To _____

2) From _____ To _____

3) From _____ To _____

Gravel pack well: dia. 24"

Screen: dia. 12

Slot # .010 length 25 from 65 to 90

STATIC WATER LEVEL (all wells)

Static water level below land surface: -2.2' ft. Date: 10/13/92

WELL TEST (production wells)

Drawdown: 60.90 ft. after pumping 72 hr. _____ min. at 298 gpm

How measured: Meter Recovery: over flow ft. after – hr. 3.20 min.

LOG of FORMATIONS

Materials	From	To
Coarse Sand	0	5
Clay	5	10
Sand Grav.	10	30
Sand Silt	30	65
Fine Sand	65	75
Sand	75	90

COMMENTS

Silt & Fine Sand Aqua tard

Driller: LaFramboise Well Drilling

Firm: Brian Warren

Address: P.O. Box 303

City/Town: Thompson, Ct.

Supervising Driller Reg.#: 32

Office use only

6/17/92
CEI Project 92-75

SANDWICH FISH HATCHERY

0 - 50 ft : Very fine sand, silt & clay.
55 - 65 ft : Sand fine - med.

65 ft : Sand fine to medium, uniform.

D_{60} : (0.37 mm) 0.015" D_{50} : (0.34 mm) 0.013" D_{10} : (0.18 mm) 0.007"

$C_u = D_{60}/D_{10} = 0.015"/0.007" = 2.14$

70 ft : Sand, fine to medium, uniform.

D_{60} (0.39 mm) 0.015" D_{50} (0.35 mm) 0.014" D_{10} (0.17 mm) 0.007"

$C_u = 0.015"/0.007" = 2.14$

75 ft : Sand, fine to medium, trace coarse sand ; uniform.

D_{60} (0.39 mm) 0.015" D_{50} (0.31 mm) 0.012" D_{10} (0.18 mm) 0.007"

$C_u = 0.015"/0.007" = 2.14$

80 ft : Sand, fine to medium, trace coarse sand; uniform.

D_{60} (0.39 mm) 0.015" D_{50} (0.33 mm) 0.013" D_{10} (0.18 mm) 0.007"

$C_u = 0.015"/0.007" = 2.14$

85 ft : Sand, fine to medium, trace coarse sand; uniform.

D_{60} (0.56 mm) 0.022" D_{50} (0.46 mm) 0.018". D_{10} (0.018 mm) 0.007"

$C_u = 0.022" / 0.007" = 3.14$

86 - 87 ft : Sand, fine to medium, trace coarse sand; uniform

D_{60} (0.55 mm) 0.022" D_{50} (0.46 mm) 0.018" D_{10} (0.21 mm) 0.008"

$C_u = 0.022" / 0.008" = 2.75$

WELL TYPE

The Uniformity coefficients for all sieved samples are in the range of 2-4. Given this distribution a naturally developed well is a very reasonable solution especially as a cost savings measure.

SCREEN LENGTH

Assuming that the aquifer is under confined condition (indicated by flowing wells & silty sand confining unit abou 50 ft), and that the the developable aquifer is between the depths of ± 50-87 ft, good water well design practice dictates that approximately 75% of this interval should be screened to obtain up to 90% of the maximum specific capacity available were the entire aquifer to be screened. Thus, I recommend you consider a 25 ft long screen over the interval 62-87 ft.

SCREEN SLOT SIZE

A very conservative approach to this issue is always the best to use. It is even more imperitive when

obvious, on steeply sloped grain size distribution curves as we have in this instance (i.e. very uniform material) a small error in the location on the slope due to poorly collected samples will allow a greater percentage of material to pass into the screen. Thus, in this instance I would recommend using the 30% passing size from the finest sample in the screened interval. This is represented by:

65 ft: (0.26 mm) 0.010" 70 ft: (0.26 mm) 0.010"

75 ft: (0.26 mm) 0.010" 80 ft: (0.26 mm) 0.010"

85 ft (0.29 mm) 0.011" 86-87 ft: (0.31 mm) 0.012"

Thus the finer 65-80 ft samples all suggest a 10-slot screen size. A table of 10 slot × 25 ft long screens is provided below for your reference.

10-slot (0.010") × 25 ft long std & shallow well construction screen

Well Diameter (in)	Max. Yield in Gallons/minute std. Const.	Shallow Const.
10	248	317
12	295	458
14	256	504

If you use a less conservative slot size (such as 40% passing), which yields a 15-slot screen, the shallow well construction yields would be.

Well Diameter (in)	Well Yield - 25 ft screen (GPM)
10	453
12	648
14	711

I would recommend the 12" dia. 10-slot, shallow well construci

NEW #2 WELL

WELL #2

0

Sandwich Fish Hatchery Sandwich MA.

Nov. 19-92 12"x24" G.P. WELL

Note ALL MEASUREMENTS FROM TOP OF CASING

Depth 93.3 15' SCREEN

AREA AROUND WELL WAS BACK FILLED WITH SAND IN order TO MAKE SITE ACCESSABLE FOR drill rig. WE THEN BACKED rig into WELL site AND SET UP rig AND pumping EQUIPMENT. WE THEN INSTALLED 94' OF SURGE PIPE with 10" SURGE block 5' OFF bottom OF SCREEN AND 12" SURGE block AT TOP OF SCREEN. WELL WAS THEN pumped AT A RATE OF 165 G.P.M with drAW down TO 27.80 in G.P. WELL AND 0.95 in obs.

Note No STATIC WATER LEVELS WERE TAKEN BECAUSE WELLS OVER FLOW.

G.P. WELL FREE FLOWS 27 G.P.M @ 1.00 A.G

obs WELL " " 7 G.P.M @ 1.40 A.G.

AFTER pumping AND SURGING FOR 4hrs WELL pumping 150 G.P.M. with drAWdown TO 22.80 in WELL AND 2.05 in WELL.

TOTAL 8½ hrs.

Nov. 20-92 WELL WAS pumped AND SURGED FOR 9hrs AND A TOTAL 13hrs. WELL pumping 206 G.P.M with drAW-down TO 27.0 in G.P. WELL AND 4.60 in obs. (7.6 G.P.F)

TOTAL 9hrs.

(2)

NOV. 24-92 WELL WAS pumped AND SURGED FOR 7hrs AND TOTAL 20hrs. WELL pumping 206 with drAW down TO 26.0 in G.P. WELL AND 3.60 in obs. (7.9 G.P.F.) WE THEN pulled out SURGE pipE AND SURGE blocks AND CAPPED WELL OFF. WE ALSO WELDED A 2" STEEL CUPLING into SIDE OF 12" CASING AND ATTACHED APPOXIMATLED 15' SECTION OF 2" PLASTIC pipE into cupling SO OVER FLOW FROM WELL COULD RUN OFF into brook NEAR WELL. RIG WAS dismANTLED AND ALL EQUIPMENT picKED up AND demobilized back TO LANCASTER.

TOTAL 9hrs.

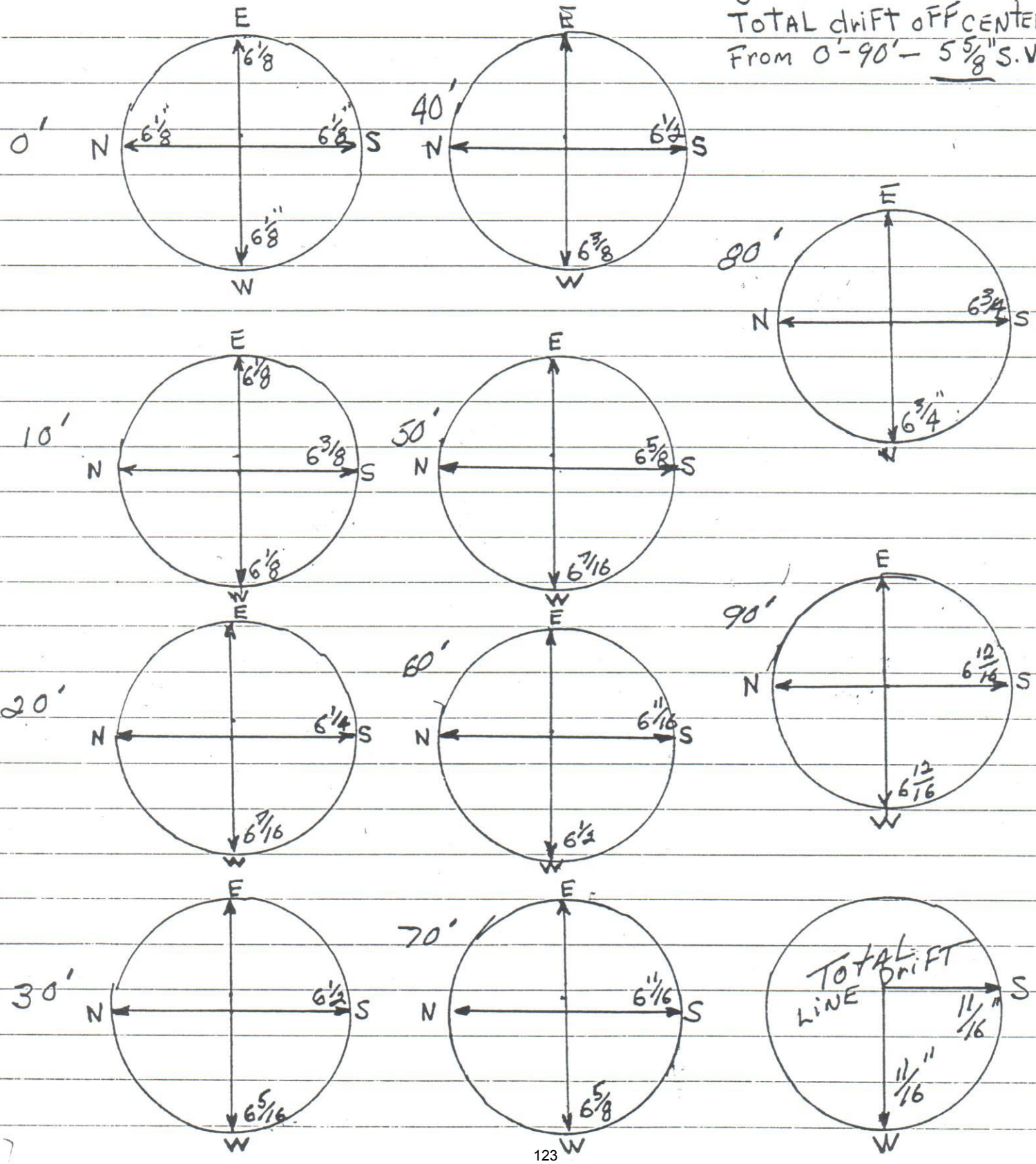
developing time 20hrs total

WELL WAS CASED TO CHECK PLUMBNESS OF hole. WELL WAS 5 5/8" OFF CENTER FROM Top to bottom.

TOTAL JOB hrs. 37hr

Sandwich Fish Hatchery Sandwich MA.

12"X24" G.P. WELL

Cage Size 11 3/4"

Total drift off center
From 0'-90' – 5 5/8" S.W.