

**STATEMENT OF WORK  
FOR  
DRILLING SERVICES  
REPLACEMENT WELL #2  
GROVE STREET WELLFIELD  
Norwell, Massachusetts**

**November 2016**

## **1.0 INTRODUCTION**

This Statement of Work (SOW) describes the advancement of soil borings, and the construction and development of a permanent replacement public water supply (Well #2) located at the Grove Street Wellfield in Norwell, Massachusetts. The current Well #2 installed in 1956 is an 8-inch naturally developed well 47 foot deep with a 15 foot 6-inch screen inside the original 8-inch screen which collapsed.

The replacement production well shall be a 30" X 24" with either a 10 or 5-foot long screen. An appropriately sized SiLibead pack shall be placed around the well screen. The final depth of the well will be 47 feet.

The work described in this Statement of Work requires that the selected contractor can demonstrate at least three production well installations of this type using the SiLibead technology.

Sealed Bids for the drilling services replacement Well #2 Grove Street Wellfield project will be received by the Town of Norwell, MA at the office of the Water Department, 345 Main Street, Norwell, MA 02061 until 4:30 PM prevailing time, on December 15, 2016, and at that time and place will be publicly opened and read aloud.

### **1.1 Site Geology/Hydrogeology**

The overburden geology/hydrogeology of the well site has been determined based on the advancement of soil borings, conductance of prolonged pumping tests, as well as long term operation of Well #2. Boring logs indicate that Well #2 is screened within a buried stream channel from a depth of approximately 34 to 48 feet below the ground surface overlain by fine sand, silt, topsoil and fill.

Based on the geology, depths to water and estimated potential well yields, a conceptual design for the construction of the permanent production wells has been completed. It is assumed that a single SiLibead packed well (30" X 24") designed to intercept water in the buried stream channel and optimize the limited saturated thickness with a shorter screen length packed with SiLibeads to increase specific capacity. It is also assumed that each well will be designed to include a ten-foot long screen. However, the permanent screen length will be determined after evaluation of the formation in the lower 20 feet of the boring.

Figure 1 shows the location of Well #2. Boring logs from a recent drilling program are presented in Appendix A.

### **1.2 Health & Safety**

The Contractor shall be prepared to comply with all applicable OSHA and state requirements regarding health and safety related to drilling. All personnel at the site shall attend the mandatory daily health and safety briefings.

### 1.3 Project Schedule

The Contractor should propose a mobilization and demobilization date. These date will be evaluated along with the Contractors qualifications and bid price during the selection process.

Activity	Scheduled Date
Mobilization	ASAP proposed by Contractor
Demobilization	ASAP proposed by Contractor
Submit Well Completion Report	Within two weeks after well installation is complete

### 2.0 MEASUREMENT AND PAYMENT

Pricing Forms are included in Appendix B. Pricing Forms are to be completed by each Contractor during the proposal stage. They will be attached to and incorporated into the Contract Agreement. These price forms shall be the basis for the Contractor's invoices, as well as pricing for potential changes to the conceptual design. All line items for each pricing form shall be completed. All pricing shall be firm, unit rate prices.

The Contractor shall identify, in their proposal, any *Subcontractor* they plan to use to perform the activities in the SOW. *Subcontractors* used must be approved and accepted by The Town's Representative prior to their mobilization to the site. At the end of each day on-site, the Contractor's representative and the Town's Representative will complete Daily Quantity Forms summarizing the day's activities. In the event of disagreement, both parties will forward a copy of their log with a written discussion explaining the differences to The Contract Administrator for resolution.

The Contractor will be paid on a monthly basis following submission and acceptance of a proper invoice noting quantities delivered, with the exception of mobilization and demobilization. Ten percent of the mobilization and demobilization monies will be retained. The Town will pay the retainage at the end of installation upon satisfactory review.

### 3.0 PRODUCTION WELL CONSTRUCTION

The Contractor shall be responsible for all drilling (well abandonment), sampling, constructing, well development and testing of the permanent production well, which includes the performing of all associated activities as described below and/or in the Technical Specifications (Section 5).

#### 3.1 Mobilization/Demobilization (Items 1 and 2)

Item 1 (mobilization) includes submittal of all required paperwork; an initial health and safety orientation, equipment setup and transport of all equipment and materials necessary to provide the tasks described herein.

Item 2 (demobilization) includes removal of all unused materials, tools and equipment off-site and performing all cleanup and restoration of all work areas disturbed by the Contractor's operations to the condition that existed prior to the Contractor's mobilization.

#### 3.2 Current Well #2 Abandonment (Item 3)

The Contractor will be paid a lump sum to abandon the current Well #2 as described in Section 5.

#### 3.2 Production Well Soil Boring (Item 4)

The Contractor will be paid a per-foot rate for advancing soil borings for groundwater production wells to depths of approximately 47 feet. The conceptual well designs are based on data gathered during previous boring programs. The final well designs will be based on the results of geotechnical testing, screen limitations and the size of the borehole advanced to the bottom of each well. Section 5 provides a technical description and limitations of allowable drilling procedures.

The drilling location is generally accessible to a truck-mounted rig; however, the Contractor shall be responsible for determining the appropriate type of drill rig.

### **3.3 Geotechnical Testing (Item 5)**

Payment will be made on a per-sample basis for completion of grain-size analysis testing (ASTM D-422) as specified. Technical specifications are provided in Section 5. The Contractor may perform this task in-house or through the use of a certified Geotechnical Laboratory, and identify the laboratory as a *Subcontractor* in their proposal.

### **3.4 Well Screen (Item 6)**

The Contractor will be paid on a per-foot-basis for furnishing and installing well screen. Well screen prices shall be based on Type 304 stainless steel wire wound construction for 600-foot well depths and a 0.100-inch screen slot size. The final screen designs will be based on the results of geotechnical testing, screen limitations and the size of the borehole. Specific technical requirements are described in Section 5.

### **3.5 Permanent Well Casing (Item 7)**

The Contractor will be paid on a per-foot-basis for furnishing and installing permanent well casing material. Specific technical requirements are described in Section 5.

### **3.6 Annular Pack Material (Item 8)**

The Contractor will be paid on a per-foot-basis for furnishing and installing acceptable SiLi beads material within the annular space of the well. Specific technical requirements are described in Section 5.

### **3.7 Concrete Seal (Item 9)**

The Contractor will be paid on a per-foot-basis for furnishing and installing an acceptable concrete seal. Specific technical requirements are described in Section 5.

### **3.8 Standby Time for Drilling and Well Development Crews (Item 10)**

The Contractor will be paid for standby time at an hourly rate, rounded to the nearest quarter of an hour. A single standby rate will apply to all levels of personal protection and shall only be paid if the standby was directed by The Town's Representative. Any standby time resulting from the Contractor's actions shall not be paid.

Standby time shall not include the Contractor's inability to proceed with the work arising from delays as a result of mobilization/demobilization of equipment, personnel, and/or materials or the breakdown of the Contractor's equipment; untimely arrival of materials, equipment, labor, or tools; or inclement weather.

Only time delays resulting from The Town's Representative's direction to stop work will be considered standby time, unless that direction was due to health and safety reasons.

### **3.9 Well Development (Item 11)**

The Contractor will be paid on a per hour basis for production well development. This rate will include furnishing equipment and labor necessary to develop wells by pumping and/or surging and/or bailing. Well development criteria are specified in Section 5.0.

### **3.10 Performance Testing (Item 12)**

The Contractor will be paid per each 24-hour test period, which includes all labor, equipment, tools and materials required to conduct each performance test in accordance with Massachusetts Department of Environmental Protection guidelines and the following:

The Contractor shall provide pumps capable of producing 700 gallons per minute (gpm) from the permanent production well. The Contractor shall provide a minimum of 500 feet of discharge line for each test capable of discharging at least 700 gpm, and a flow-measuring device for each test accurate to +/- 3%.

The Contractor shall provide data logger(s) and transducers capable of electronically recording drawdown in the production well. The Town will monitor surrounding wells.

### **3.13 Bonds (Item 13 a and b)**

The Contractor will provide performance and payment bonds as specified in the original Statement of Work.

## **4.0 DELIVERABLES**

This section provides a schedule for deliverables to be provided to the Town by the Contractor.

### **4.1 Pre-Construction Submittals (To be provided a minimum of 5 business days prior to mobilization):**

- All required technical data, instructions, schedules, statements, reports and certificates as required for submittal in the attached Specification Sections.
- All required licenses, drilling permits, and certificates of registration, which are required in performance of the project, including but not limited to Massachusetts driller registration and Massachusetts hoist license.
- MSDS sheets for all dangerous and/or hazardous materials the Contractor plans to bring on site, including but not limited to chemicals, gasoline, fire extinguishers, cement, bentonite, etc.

### **4.2 Construction Submittals (prior to construction):**

- Manufacturer's specifications for all well construction materials shall be submitted to the Town for written approval. The Contractor shall not order or have delivered to the site(s) any well construction materials without written approval of the Town or Town representative.

### **4.3 Post-Construction Submittals (To be provided to the Town within two weeks of the completion of the well performance test and prior to final invoice):**

- Record drawing of each permanent production well.
- Drawdown and recovery water levels for Production Well performance test.

## **5.0 TECHNICAL SPECIFICATIONS**

It is the intent of this SOW to construct a permanent public water supply well. The Town makes no representations as to the character of the subsoil through which the borings are to be advanced, or that any boring location given will be found free from obstructions. The drilling locations are generally accessible to a truck-mounted drilling rig; however, the Contractor shall be responsible for determining the method of drilling. The permanent public water supply well shall be constructed in accordance with AWWA A100 and as specified herein.

### **5.1 Abandonment of Well #2**

The well will be initially cleared of all pumping equipment, valves, pipelines, grease, oil, scum, debris, and other foreign material. The well shall be disinfected prior to abandonment by bringing the water in the well to a free chlorine concentration of 50 ppm or greater. The water will be agitated by surging to ensure complete mixing and allowed to sit in the well for 12 hours to assure complete disinfection. An attempt will be made to remove the inside 6-inch/8-inch screen and casing if possible, from the well borehole by pulling. If the casing can be removed and the formation is collapsing the borehole will be grouted concurrently with removal, so that the bottom of the casing remains submerged in the grout. Casing that cannot be removed will be cut off 10 feet below the ground surface.

If the 10-inch screen/casing cannot be removed by pulling, it will be abandoned in place. The screen zone and five feet above it will be filled with silica sand to avoid grout contamination to the replacement well. Above this elevation either the open borehole or casing will be grouted in place using a pressurized grouting procedure that will completely fill and seal any open space around the casing.

All materials placed in the casing/borehole will be placed carefully to avoid 'bridging'. Grout will be of cement, sand, bentonite, or an approved combination of these constituents by the Town Representative. Once the well has been grouted to ten feet below the ground, the interval between the ground surface and the top of the cut-off casing will be sealed with standard concrete. A metal "target" will be added to the top 3 inches of well-head concrete seal so that the decommissioned well may be easily located with a metal detector. The ground surface at the sealed well-head shall be mounded and graded in a manner that prevents ponding of surface runoff.

### **5.2 Construction of Production Well**

The conceptual design for the construction of permanent production is based on the data gathered during pumping tests. The conceptual design pumping rate is 1 million gallons per day.

The pumping test data indicates that the conceptual design well yields are available from the aquifer but the limitations in borehole diameter, screen slot size and soil gradation are not totally understood at this time. It is assumed that 30" X 24" single packed wells with 10-foot long screens will be constructed. The final design for the construction of permanent production well will be determined by the Town after the borehole has been drilled to the bottom of each well location and after all geotechnical testing has been completed by the Contractor and analyzed by Town Representatives. The Town will determine the slot size for the well screens and the packing to be utilized in each well based on the geotechnical information and recommendation provided by the Contractor. The Contractor will develop the production wells until directed to stop by the Town Representative. A 48-hour acceptance test shall be performed on the well by the Contractor at a pumping rate of 700 gpm.

The Contractor is not limited in his method of drilling the boreholes except that the chosen method shall meet all applicable AWWA Standards and drilling mud may **not** be utilized in any portion of the boreholes. The Contractor shall submit with his proposal a written work plan, which provides a detailed description of the procedure that he proposes to utilize for soil boring advancement.

### **5.3 Production Well Screens and Casing**

Production well screens shall be Type 304 stainless steel, wire wound, continuous slot with a slot opening approved by the Town Engineering Representative which will be based on the grain size analyses performed on the formation material. The screen shall be constructed of cold drawn screen wire, approximately triangular in cross section and wound spirally around a circular array of longitudinal bars by welding. Standby time will not be paid while the Town determines the screen slot size and length the Contractor shall assume that the Town will require 5 working days, after receipt of all geotechnical data, to select the permanent screen and packing material.

A steel riser pipe consisting of plain pipe end sections will be welded or coupled to the screen or attended by flush joint threads and will reach five (5) feet above the proposed finish grade at each site. The riser pipe will meet AWWA C200 standards except that the minimum thickness for the steel pipe shall be 1/2 inch. The Town Representative will inspect all well materials prior to installation, and require that they be decontaminated by steam cleaning. The casing shall be seal coated in the factory inside and out in accordance with AWWA Standard D102 (Inside Paint System). Seal coat shall be a product acceptable to the National Sanitation Foundation (NSF) for use in potable water and shall be so listed in the most current NSF summary of approved products under ANSI/NSF Standards 61.

### **5.4 Gravel Pack**

After the borehole is accepted as complete by the Town Representative, which includes successful plumbness and alignment testing, centralizers shall be placed near the bottom and top of the screen. The well screen and riser pipe shall be centered and maintained in the borehole to ensure that it is not displaced when the pack is placed and to ensure that the gravel envelope is of uniform thickness. The annular space surrounding the well screen shall be filled with approved gravel pack material to a minimum of 5 feet above the top of the screen, or as approved by the Town Representative.

Test samples of all pack material shall be provided to Town prior to delivery to the site. Any pack material contaminated with organic material will be rejected. All filter material will be segregated by size and kept separate during transit.

### **5.5 Production Well Seal**

During all backfilling operations, the casing shall be withdrawn in short increments to avoid exposing the sides of the borehole above the backfill material at any time. After the gravel pack material is placed to the approved depth, bentonite chips shall be placed to seal the annular space above the gravel pack to two feet and then progressively finer sands shall be added to the annular space to below the concrete seal. A minimum hydration time of four hours is required prior to placing the remaining backfill and the cement concrete seal. The remainder of the annulus to the surface shall be filled with 3,000 pounds per square inch (psi), 3/4-inch aggregate cement concrete.

The well casing shall extend two feet above the proposed finish grade, or as directed by The Town's Representative, and fitted with a welded steel cap.

## **5.6 Geotechnical Testing**

The Contractor shall be responsible for contracting with a certified geotechnical testing laboratory for grain-size distribution analysis in accordance with ASTM D-422, which shall include sieve analysis curves on soil samples selected by The Town's Representative. Results will be provided to The Town's Representative within 72 hours after obtaining each sample. The Contractor shall be responsible for packing and transportation of samples to the geotechnical testing laboratory and for archiving one sample for potential later use. The Contractor shall provide approved sample containers and shall obtain two representative samples, approximately 100 cubic inches each, at five-foot intervals or at such intervals as directed by The Town's Representative. When obtaining samples the Contractor shall ensure that the soil sample is representative of the formation and that the fines are not lost while obtaining each sample. Analysis of soil formations from the ground surface to 30 feet will not be required.

The Contractor shall identify in their bid any outside geotechnical testing laboratory they plan to use.

## **5.7 Well Development**

All wells shall be developed by mechanical pumping and/or surging or by bailing in accordance with AWWA A100. The Contractor shall be responsible for providing a pump capable of both pumping and surging actions to develop each well. The Contractor shall provide in their proposal a list of development equipment to be used and provide an approximate time for the development of each foot of screen.

The Town's Representative will monitor development including pH, turbidity and specific conductance and determine when development has been satisfactorily completed.

**APPENDIX A**

**Figures and  
Borehole Log Summaries from Previous Investigation**



# POLARIS

Consultants  LLC

1495 Hancock Street, Suite 206  
Quincy, MA 02169

Client: NORWELL WATER

Project: BORING / WELL LOCATIONS

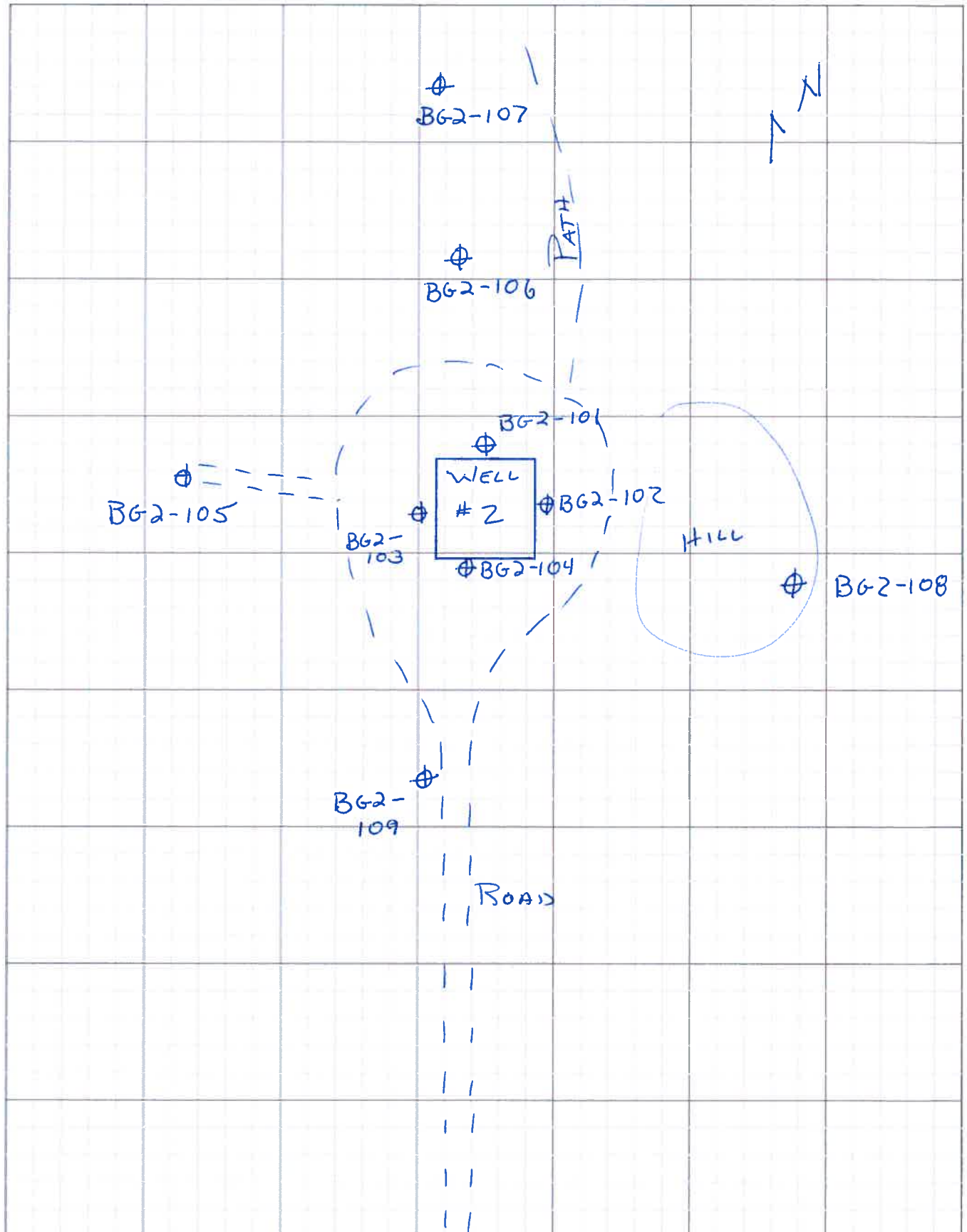
Comp. By:

Checked By:

Page 1 of 1

Date:

Date:



## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/28/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-101W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 11.2' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		5'/3'	Top 2 ' Brown, Fine SAND, FILL	4'	FILL	
2				Bottom 1' Black Topsoil			
3							
4							
5	S-2		5'/4'-2"	Top 2" Topsoil	5.1"	TOPSOIL	
6				2'-10" Brown, Fine SAND, Trace Silt. Wet		Fine SAND	
7							
8							
9	S-3		5'/4'-5"	Bot 1'-2" Grey, SILT, Some Fine to Coarse Sand, wet.	8.5'		
10				Grey, Fine SAND and Silt, wet		SILT	
11							
12				S-5		5'/5'	
13	Grey, Fine SAND, wet		Fine SAND				
14							
15							
16							
17							
18							
19							
20							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **10/28/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



Boring No: **BG2-101W**

Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **11.2' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **BGS**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		5'5'	Grey Fine, SAND, wet.		FINE SAND	
22							
23							
24							
25	S-6		5'4'	Grey, Fine SAND, wet		FINE SAND	
26							
27							
28							
29	S-7		5'3'	Bot 2", Grey Medium SAND		GLACIAL OUTWASH	
30				Top 2' Grey, Fine SAND			
31							
32							
33	S-8		5'2'	Bot 1' Orange Coarse SAND & GRAVEL		GLACIAL OUTWASH	
34				Trace Med to Fine Sand, Trace Silt			
35							
36							
37				Orange to Tan		GLACIAL OUTWASH	
38				3" to 6" Layers			
39				Coarse SAND and GRAVEL			
40				Medium SAND, Fine SAND Bot 6" Medium to Coarse SAND			

### NOTES:

### LEGEND

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Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

# BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **10/28/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



**Boring No: BG2-101W**  
 Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **11.2' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **BGS**  
 Project No. \_\_\_\_\_

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		5'2'-4"	Gret - Brown Top 2" Fine SAND 6" - Medium SAND 15" Medium to Coarse SAND 5" - Fine SAND		GLACIAL OUTWASH	2
42							
43							
44							
45	S-10		5'4"	Fine to Coarse SAND, Little Silt	48		
46							
47							
48							
49	S-11		2"/0	Pieces of Pink, white, black Granite in tip.		Unknown	
50							
51					Refusal at 50.2 Feet		
52							
53							
54							
55							
56							
57							
58							
59							
60							

## NOTES:

## LEGEND

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0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

# BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **10/28/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



**Boring No: BG2-102W**  
 Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **12.5' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **NA**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/48"	Top 6" Brown, SAND w/ organics	0.5'	SAND	
2				Bot 42" Brown to Grey SILT, dry.			
3							
4							
5	S-2		60"/48"	Top 42" Grey SILT, grading to Fine SAND		SILT	
6							
7							
8							
9	S-3		60"/42"	Bot 6" Fine to Medium SAND, Moist.	9.5'		
10				Top 24" Brown, Fine SAND, Moist.		Fine SAND	
11							
12							
13	S-4		60"/36"	Bot 18" Grey, Fine to Coarse SAND, Moist.	13.5'		
14				Top 12" Brown, Fine to SAND, Moist.		Fine to Coarse SAND	
15							
16							
17					17.5'		
18						FINE SAND	
19							
20				Bottom 24", Brown, Fine SAND.			

## NOTES:

## LEGEND

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Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **10/28/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



Boring No: **BG2-102W**

Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **12.5' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **NA**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/54"	Brown, Fine SAND, wet.		FINE SAND	
22							
23							
24							
25	S-6		60"/54"	Brown, Fine SAND, wet			
26							
27							
28							
29	S-7		60"/58"	Grey, Fine SAND, wet.			
30							
31							
32							
33	S-8		5'/2'	Grey, Fine SAND, wet.			
34							
35							
36							
37							
38							
39							
40							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
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	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/28/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-101W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 12.5' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		30"/30"	Top 18" Grey, Fine SAND, wet.	41.5	FINE SAND	2
42				Bot 12" Grey, SILT. Meium Plasticity.		SILT	
43						Refusal @ 42.5'	
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/29/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-103W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 11.9' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/2"	Wood/ Root in Tip		FILL	
2							
3							
4							
5	S-2		60"/48"	Top 12" Topsoil	5'	TOPSOIL	
6				30" Fine SAND, Trace Silt.	6"		
7							
8							
9	S-3		60"/47"	Bot 6" Fine to Medium SAND, Moist.		FINE SAND	
10				Top 12" Grey Fine SAND, Little Silt.			
11							
12				Bot 35" Grey Fine SAND.			
13	S-4		60"/36"				
14							
15				Grey, Fine SAND			
16				Moist.			
17							
18							
19							
20				Bottom 24", Brown, Fine SAND.			

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff



## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/29/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-103W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 11.9' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/42"	Olive to Grey, Fine SAND, wet.			
22							
23							
24							
25	S-6		60"/45"	Grey, Fine SAND, wet.		FINE SAND	
26							
27							
28							
29	S-7		60"/48"	Grey, Fine SAND, wet. grading to Fine to Medium SAND, trace Silt.			
30							
31							
32							
33	S-8		60"/24"	Top 18" Grey, Fine SAND, wet.			
34							
35							
36							
37					39'		
38							
39							
40				Bot 6" Brown, Fine to Coarse SAND, Trace Silt.		F - C SAND	

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/29/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-103W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 11.9' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/0"	Fine to Coarse SAND in second push of this interval		FINE SAND	(1)(2)
42							
43							
44							
45	S-10		60"/18"	Top 12" Fine SAND.			(2)
46							
47							
48							
49	S-11		12"/8"	Bot 6" Medium to Coarse SAND, w/ rounded gravel.		TILL	
50							
51							
52							
53					51'	Refusal at 51'	
54							
55							
56							
57							
58							
59							
60							

### NOTES:

- 1 - Sampler and casing with drawn and repushed twice in this interval.
- 2 - Gravel in tip.

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

# BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **10/29/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



**Boring No: BG2-104W**  
 Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **13.5' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **NA**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1	60"/36"	60"/36"	6" Tan, Fine to Medium SAND. Fill. 18" Grey, Fine SAND.	2'	FILL	
2				6" Topsoil and Subsoil	3'	Topsoil	
3				6" Tan, SILT, Dry.			
4	S-2	60"/55"	60"/55"	Grey, Fine SAND.		FINE SAND	
5				w/ 3" SILT @ 8'			
6							
7	S-3	60"/42"	60"/42"	Top 24" Grey, Fine SAND.			
8				6" Black, Medium SAND.			
9				6" Grey Fine SAND			
10	S-4	60"/36"	60"/36"	6" Grey, Medium to Coarse SAND	14.5'	SAND	
11				Grey, Fine to Coarse SAND, Wet, Well-Graded.			
12							
13							
14							
15							
16							
17							
18							
19							
20							

## NOTES:

## LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: <b>Well 2 GeoHydro</b> Location: <b>Grove St. Well Field</b> Client: <b>Norwell Water</b> Driller: <b>Maher Services</b> Drilling Methods: <b>Direct Push</b> Weather: <b>Clear 40s</b> Performed By: <b>MFC</b> Date: <b>10/29/2014</b> Checked By:      Date:		<div style="text-align: right;"><b>Boring No: BG2-104W</b></div> Location: <b>See Plan</b> Approx. Ground Elevation: <b>NA</b> Approx. Groundwater Elevation: <b>13.5' BGS</b> Date/Time of Groundwater Elevation: <b>11/7/2014</b> Datum: <b>NA</b> Project No. <b>111-1401</b>
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/48"	Olive to Grey, Fine SAND, wet.		FINE SAND	
22							
23							
24							
25	S-6		60"/54"	Grey, Fine SAND, wet.			
26							
27							
28							
29	S-7	60"/48"	Grey, Fine SAND, wet.				
30							
31							
32							
33	S-8	42"/42"	Grey, Fine SAND, wet.				
34							
35							
36							
37							
38							
39						Refusal @ 38.5'	
40							

### NOTES:

1 -

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/3/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-105W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 10.5' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/48"	Top 6" Brown, Fine SAND, Trace Med. to Coarse Sand, Trace Silt, Trace Organics.			
2				Middle 36" Brown, Fine SAND.			
3							
4				Bottom 6" Grey, Fine SAND, Trace Med to Coarse Sand.			
5	S-2		60"/42"	Top 36", Grey, Fine SAND, Trace Med to Coarse Sand, Occasional 1/2 to 1" Lense Silty Fine Sand.		SAND	
6							
7							
8							
9	S-3		60"/39"	Bottom 6" Brown, Fine to Coarse Sand, Moist.			
10				Grey, Fine SAND, piece of gravel.			
11							
12							
13	S-4		60"/42"	Top 18" Grey, Fine to Coarse SAND. Trace Silt.			
14							
15							
16							
17				Middle 12" Grey Fine SAND.			
18							
19							
20				Bottom 12" Brown Medium SAND.			

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/3/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-105W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 10.5' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/48"	Top 12" Medium SAND.			
22				Bottom 36" Grey Fine SAND, Trace Silt.			
23							
24							
25	S-6		60"/54"	Olive, Fine SAND, finer with depth.		FINE SAND	
26							
27							
28							
29	S-7		60"/57"	Grey, Fine SAND.			
30							
31							
32							
33	S-8		60"/47"	Top 36" Brown Fine SAND.			
34				Middle 5", Medium to Coarse SAND.			
35							
36				Bottom 4", Fine SAND.			
37							
38							
39							
40							

### NOTES:

1 -

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 10/28/2014 <b>Checked By:</b> <b>Date:</b>		<p style="text-align: right;"><b>Boring No:</b> BG2-105W</p> <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 10.5' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> NA <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/42"	Top 12" Fine SAND.	42.5'	FINE SAND	
42				Middle 3" Fine SAND, and Silt			
43							
44				Bottom 27" medium SAND.			
45	S-10		48/14"	Brown, Medium SAND.		MEDIUM SAND	
46							
47							
48							
49						Refusal at 49'.  Well Screened 41' to 46' feet with 30 slot stainless screen.	
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC**      Date: **11/4/2014**  
 Checked By:      Date:



Boring No: **BG2-106W**

Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **15.5' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **NA**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/42"				
2							
3							
4							
5	S-2		60"/48"			SAND	
6							
7							
8							
9	S-3		60"/54"			SAND	
10							
11							
12							
13	S-4		60"/48"			SAND	
14							
15							
16							
17							
18							
19							
20							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff



## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/4/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-106W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 15.5'BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		48"/24"	Orange, Medium to Coarse SAND 4" Layer Fine Sand.			(2)
22				After moving 60"/24"			
23				4" Medium to Coarse SAND, and GRAVEL			
24				12" Fine to Coarse SAND, Trace Silt.			
25	S-6		60"/24"	4" Coarse SAND and GRAVEL			
26				4" Fine to Medium SAND			
27				Brown, Medium to Coarse SAND, w/ Gravel.			
28				Silt.			
29	S-7		60"/8"	2" Layer Coarse SAND and GRAVEL			
30							
31				Medium to Coarse SAND with Fine Gravel.			
32							
33	S-8		60"/0"				
34				No recovery			
35				Pulled casing back to 35' and resampled collapsed material.			
36				Fine to Medium SAND, with Gravel.			
37							
38							
39							
40							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/4/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-106W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 15.5' <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/33"	Top 3" Fine to Coarse SAND, Trace Gravel		SAND	(3)
42				12" Fine to Medium SAND			
43							
44				18" Fine to Coarse SAND			
45	S-10		60"/36"	Top 30" Fine to Medium SAND.	49.5'	GLACIAL TILL	
46							
47							
48							
49	S-11		6"/6"	Bot 6" and S-11, Fine to Coarse SAND, Little Silt, Little Gravel.			
50							
51						Refusal at 50.5	
52							
53							
54						Well Screened 43' to 48' feet with 50 slot stainless screen.	
55							
56						Observation Well Screed 42' to 47' with 50 slot stainless screen.	
57							
58							
59							
60							

### NOTES:

(3) Gravel in tip.

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/4/2014 <b>Checked By:</b> <b>Date:</b>		<p style="text-align: right;"><b>Boring No:</b> BG2-106W</p> <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 15.5' <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/42"	Top 3" Topsoil and Forest litter			(1)
2				Middle 13" Subsoil			
3							
4				Bottom 26" Grey Fine SAND, Dry.			
5	S-2		60"/48"	Top 24" Grey, Fine SAND, Dry.		FINE SAND	
6							
7							
8				Bottom 24" Fine SAND, Trace Silt.			
9	S-3		60"/54"				
10							
11							
12							
13	S-4		60"/48"				
14							
15							
16							
17							
18							
19							
20							

**NOTES:**

(1) - @8' : 2" Layer Black Fine Sand. Next 8" contained orange mottles.  
 (2) Refusal @ 24.5' Moved Boring 7' North.

**LEGEND**

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

# BORING LOG

Project: <b>Well 2 GeoHydro</b> Location: <b>Grove St. Well Field</b> Client: <b>Norwell Water</b> Driller: <b>Maher Services</b> Drilling Methods: <b>Direct Push</b> Weather: <b>Clear 40s</b> Performed By: <b>MFC</b> Date: <b>11/5/2014</b> Checked By:                      Date:		<div style="text-align: right;"><b>Boring No: BG2-107W</b></div> Location: <b>See Plan</b> Approx. Ground Elevation: <b>NA</b> Approx. Groundwater Elevation: <b>12'BGS</b> Date/Time of Groundwater Elevation: <b>11/7/2014</b> Datum: <b>BGS</b> Project No. <b>111-1401</b>
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/60"	Olive, Fine SAND, Trace Silt.		FINE SAND	
22							
23							
24							
25	S-6		60"/60"	48" Olive Fine SAND, Trace Silt.			
26							
27							
28							
29			60"/48"	12" Olive Fine SAND, Wet.	32'		
30							
31							
32							
33	S-7		60"/48"	3" Fine SAND 4" Medium to Coarse SAND, w/ Gravel. 24" Fine SAND. 6" Medium to Coarse SAND. 6" Fine SAND. 5" Fine to Coarse SAND, Fine Gravel Trace Silt.			
34							
35							
36							
37	S-8		60"/42"	6" Fine SAND. 24" SILT 12" Fine to Coarse Sand w/ Gravel, Coarser with depth.		SAND (Stratified)	
38							
39							
40							

**NOTES:**

**LEGEND**

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/5/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-107W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 12'BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/36"	6" Fine to Coarse SAND, Trace Silt, Trace Gravel.		SAND (Stratified)	
42				30" Fine to Medium SAND, and GRAVEL			
43							
44							
45	S-10		60"/18"	14" Fine to Coarse SAND, Trace Gravel.			
46				4" Fine to Coarse SAND, Little Silt.			
47							
48							
49	S-11		12"/0"				
50							
51							
52							
53						Refusal at 52' BGS	
54						Well Screened 43' to 48' feet with 50 slot stainless screen.	
55						Observation Well Screed 42' to 47' with 50 slot stainlees screen.	
56							
57							
58							
59							
60							

### NOTES:

(3) Gravel in tip.

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/6/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-108W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 27.7' <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/36"	Top 3" Topsoil and Forest litter			
2				6" Subsoil			
3							
4				Bottom 15" Fine to Coarse SAND, w/ Gravel.			
5	S-2		60"/45"	Grey, Fine to Coarse SAND, w/ Gravel, Moist.		SAND (Stratified)	
6							
7							
8							
9	S-3		60"/42"				
10				Top 12" Fine to Coarse SAND.			
11				8" SILT, Little Fine to Coarse Sand, w/ Gravel.			
12							
13	S-4		60"/51"				
14				22" Fine SAND, Trace Medium to Coarse Sand, Dry.			
15				Fine SAND, finer w/ Depth			
16				5" Layer Medium to Coarse SAND, w/ Gravel.			
17							
18							
19							
20							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC** Date: **11/5/2014**  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_



**Boring No: BG2-108W**  
 Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **27.7' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **BGS**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/42"	Olive, Fine SAND.			
22							
23							
24							
25	S-6		60"/36"	Fine to Coarse SAND, Little Gravel.		SAND (Stratified)	
26							
27							
28							
29	S-7		60"/42"	Fine SAND		SAND (Stratified)	
30							
31							
32							
33	S-8		60"/30"	Fine to Medium Sand		SAND (Stratified)	
34							
35							
36							
37				Grading too Medium to Coarse SAND			
38							
39							
40				Grading to Fine SAND			

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/5/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-107W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 27.7' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/36"	6" Fine to Coarse SAND, Trace Silt, Trace Gravel.		SAND (Stratified)	
42				30" Fine to Medium SAND, and GRAVEL			
43							
44							
45	S-10		60"/18"	Fine SAND.			
46							
47							
48							
49	S-11		60"/51"	Fine SAND			
50							
51				6" Layer medium SAND			
52							
53	S-12		36"/12'				
54							
55				Top 6" Fine SAND			
56				Bottom 6" Broken Rock	56.5'		
57						WEATHERED ROCK	
58						Refusal at 58' BGS	
59							
60							

### NOTES:

Well  
Screened 30' to 35' feet with  
50 slot stainless screen.

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff



## BORING LOG

<b>Project:</b> Well 2 GeoHydro <b>Location:</b> Grove St. Well Field <b>Client:</b> Norwell Water <b>Driller:</b> Maher Services <b>Drilling Methods:</b> Direct Push <b>Weather:</b> Clear 40s <b>Performed By:</b> MFC <b>Date:</b> 11/6/2014 <b>Checked By:</b> <b>Date:</b>		<b>Boring No:</b> BG2-109W  <b>Location:</b> See Plan <b>Approx. Ground Elevation:</b> NA <b>Approx. Groundwater Elevation:</b> 19.5' BGS <b>Date/Time of Groundwater Elevation:</b> 11/7/2014 <b>Datum:</b> BGS <b>Project No.</b> 111-1401
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
1	S-1		60"/48"	Top 18" Topsoil and Forest litter, and Subsoil			
2				12" Olive Fine SAND			
3							
4				Bottom 18" Fine to Coarse SAND, w/ Gravel.			
5	S-2		60"/47"	Grey, Medium SAND.		FINE SAND	
6							
7							
8							
9	S-3		60"/50"				
10				Fine SAND, Dry.			
11							
12							
13	S-4		60"/54"				
14							
15				Fine SAND, Dry.			
16							
17							
18							
19							
20							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

## BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: **Clear 40s**  
 Performed By: **MFC**      Date: **11/6/2014**  
 Checked By:                      Date:



Boring No: **BG2-109W**

Location: **See Plan**  
 Approx. Ground Elevation: **NA**  
 Approx. Groundwater Elevation: **19.5' BGS**  
 Date/Time of Groundwater Elevation: **11/7/2014**  
 Datum: **BGS**  
 Project No. **111-1401**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
21	S-5		60"/54"	Fine SAND, Dry.			
22							
23							
24							
25	S-6		60"/48"	Fine SAND, Moist.		FINE SAND	
26							
27							
28							
29	S-7		60"/52"	Fine SAND, Moist.			
30							
31							
32							
33	S-8		60"/48"	Fine SAND, Moist.			
34							
35							
36							
37							
38							
39							
40							

### NOTES:

### LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff      >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

# BORING LOG

Project: **Well 2 GeoHydro**  
 Location: **Grove St. Well Field**  
 Client: **Norwell Water**  
 Driller: **Maher Services**  
 Drilling Methods: **Direct Push**  
 Weather: Clear 40s  
 Performed By: MFC Date: 11/6/2014  
 Checked By: Date:



Boring No: **BG2-109W**  
 Location: **See Plan**  
 Approx. Ground Elevation: NA  
 Approx. Groundwater Elevation: 19.5' BGS  
 Date/Time of Groundwater Elevation: 11/7/2014  
 Datum: BGS  
 Project No. 111-1401

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	SOIL STRATUM	Note No.
41	S-9		60"/54"	Brown Fine SAND			
42							
43							
44							
45	S-10		60"/56"	Fine SAND.		FINE SAND	
46							
47							
48							
49	S-11		60"/12"	Fine SAND			
50				Gravel in Tip			
51							
52							
53	S-12		18"/0"				
54							
55							
56							
57					56.5'	Refusal at 58' BGS	
58						Refusal at 58' BGS	
59							
60							

## NOTES:

Well  
 Screened 30' to 35' feet with  
 50 slot stainless screen.

## LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

71 Concord Street  
North Reading, MA 01864

Tel: (978) 664-9355

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**Well #**       10       **Job #:** \_\_\_\_\_

Project Gravel St

Location Newell, MA

LAT: \_\_\_\_\_" LON: \_\_\_\_\_"

Driller: Steven D. Jones

Installation Dates 10-28-14

Static Water Level 11.2 ft. B.G.S

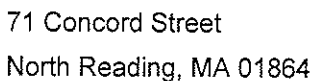
Drilling Method Direct push SPT

[illegible]

Well Details		2' OBS.
Diameter	2"	
Total Depth	55'	
Comp. Depth	44'	
Casing Left	<del>40'</del> 42'	
Casing Mat.	PVC	
Screen		
Diameter	2"	
Length	5'	
Material	SS	
Slot Size	1030	
Development/Pumping		
Method	Centrifugal	
Hours	1	
GPM	12	
VAC	24"	
Spec. Cap.		
Quantities of Materials		
Sand	1	Bags
Chips		Bags
Cement		Bags
Volclay		Bags
Lock Plug	1	each
Pro. Cvr.	1	each
Gate Box		each
Sakrete		bags
Drums		each

Centrifugal pumps max val is 2-4"

3<sup>rd</sup> Stickup



[www.maherserv.com](http://www.maherserv.com)

Project Grove St

Location Norwell, MA

LAT: \_\_\_\_\_ " LON: \_\_\_\_\_ "

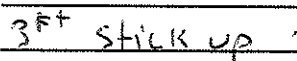
Driller: Steven Obois

Installation Dates 10-29-14

Static Water Level 12.5 ft. B.G.S

**Drilling Method** Direct push 3.5

Well Details		2' OBS.
Diameter	2"	
Total Depth	42.5	
Comp. Depth	40	
Casing Left	38' 38"	
Casing Mat.	PVC	
Screen		
Diameter	2"	
Length	5'	
Material	1/2" PVC	
Slot Size	1020	
Development/Pumping		
Method	Centrifugal	
Hours	1	
GPM	5	
VAC	24"	
Spec. Cap.		
Quantities of Materials		
Sand	1	Bags
Chips		Bags
Cement		Bags
Volclay		Bags
Lock Plug	1	each
Pro. Cvr.	1	each
Gate Box		each
Sakrete		bags
Drums		each



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Well # 1043 Job #: \_\_\_\_\_

Project Grove, St

Location Northwell MD

LAT: " LON: "

Driller: Steve Woods

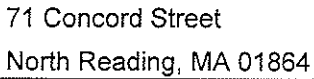
Installation Dates 10-29-14

Static Water Level 13.5 ft. 8.6.5

Drilling Method Direct push 3,5

[illegible]

Well Details		2' OBS.
Diameter	2"	2"
Total Depth	38.5	20'
Comp. Depth	38.5	20'
Casing Left	35'	18'
Casing Mat.	PVC	PVC
Screen		
Diameter	2"	2"
Length	5'	5'
Material	PVC	PVC
Slot Size	.020	.020
Development/Pumping		
Method	Centrifugal	Centrifugal
Hours	1	1
GPM	5	50
VAC	24"	24"
Spec. Cap.		
Quantities of Materials		
Sand	1	1
Chips		
Cement		
Volclay		
Lock Plug	1	1
Pro. Cvr.	1	1
Gate Box		
Sakrete		
Drums		



Well # 105 Job #: \_\_\_\_\_  
Project Grave, SK

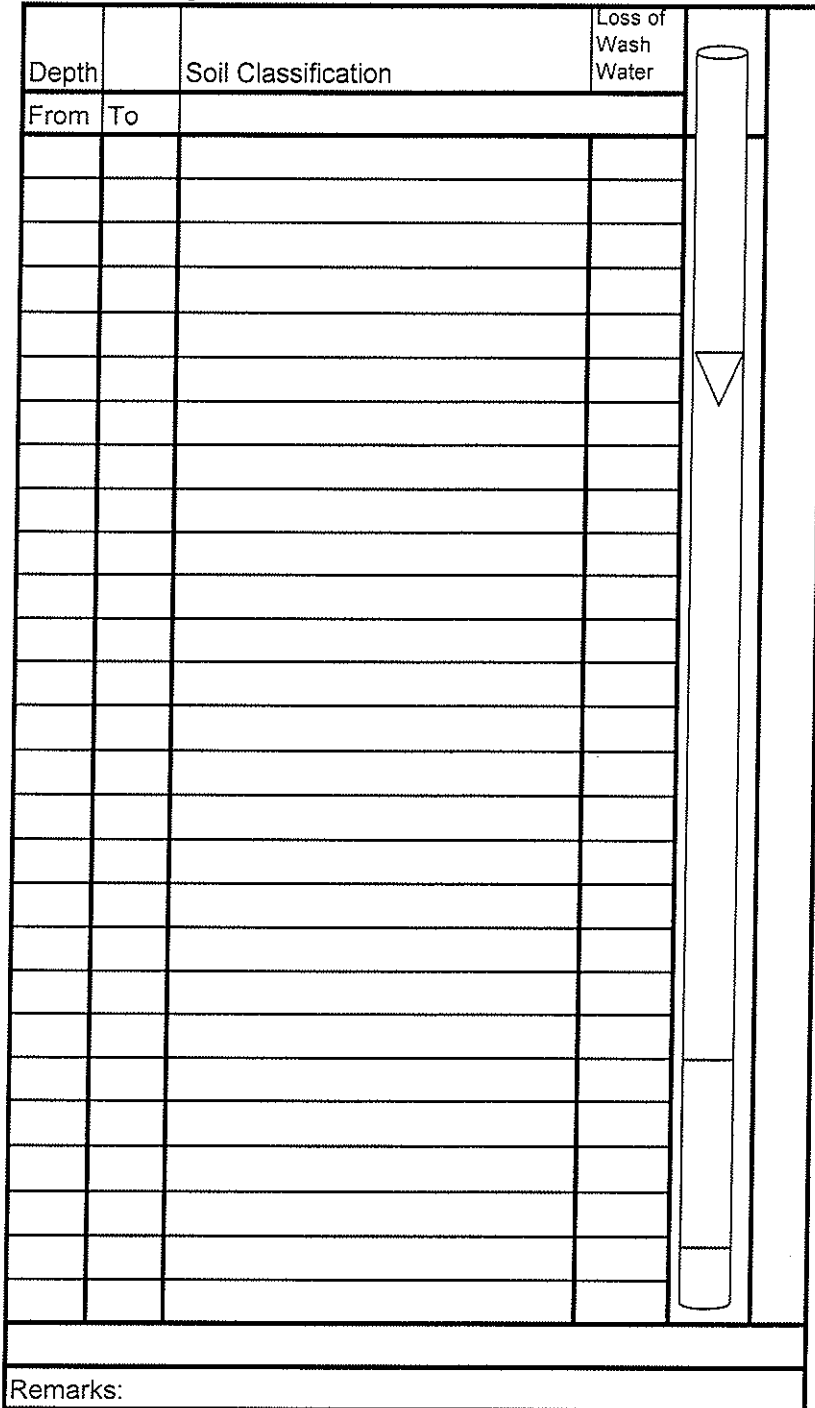
Drilling Method Direct push 3.5

Remarks:

Well Details		2' OBS.
Diameter	2"	
Total Depth	56	
Comp. Depth	56	
Casing Left	82 54'	
Casing Mat.	PVC	
Screen		
Diameter	2"	
Length	5'	
Material	PVC	
Slot Size	1020	
Development/Pumping		
Method	centrifugal	
Hours	1	
GPM	5	
VAC	24"	
Spec. Cap.		
Quantities of Materials		
Sand	1	Bags
Chips		Bags
Cement		Bags
Volclay		Bags
Lck Plug	1	each
Pro. Cvr.	1	each
Gate Box		each
Sakrete		bags
Drums		each

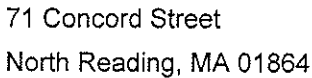
3Ft strikeup on all wells





Well Details		2' OBS.	
Diameter	2"	2"	
Total Depth	52	47	
Comp. Depth	48	47	
Casing Left	45'	45'	
Casing Mat.	PVC	PVC	
Screen			
Diameter	2"	2"	
Length	5'	5'	
Material	SS	SS	
Slot Size	.050	.050	
Development/Pumping			
Method	centrifugal	centrifugal	
Hours	1	1	
GPM	60	60	
VAC	24"	24"	
Spec. Cap.			
Quantities of Materials			
Sand	1	1	Bags
Chips			Bags
Cement			Bags
Volclay			Bags
Lck Plug	1	1	each
Pro. Cvr.	1	1	each
Gate Box			each
Sakrete			bags
Drums			each

Well Details		2' OBS.
Diameter	2"	
Total Depth	58	
Comp. Depth	35'	
Casing Left	<del>30</del> 33'	
Casing Mat.	PVC	
Screen		
Diameter	2"	
Length	5'	
Material	PVC	
Slot Size	.020	
Development/Pumping		
Method	Centrifugal	
Hours	1	
GPM	10	
VAC	24"	
Spec. Cap.		
Quantities of Materials		
Sand	1	Bags
Chips		Bags
Cement		Bags
Volclay		Bags
Lck Plug	1	each
Pro. Cvr.	1	each
Gate Box		each
Sakrete		bags
Drums		each



Well # 109 Job #: \_\_\_\_\_  
Project Grove St

**Drilling Method** Direct push 3.5"

Remarks:

Well Details		2' OBS.
Diameter	2"	
Total Depth	56'	
Comp. Depth	40'	
Casing Left	35'	
Casing Mat.	PVC	
Screen		
Diameter	2"	
Length	5'	
Material	PVC	
Slot Size	.020	
Development/Pumping		
Method	Centrifugal	
Hours	1	
GPM	5	
VAC	24"	
Spec. Cap.		
Quantities of Materials		
Sand	2	Bags
Chips	2	Bags
Cement		Bags
Volclay		Bags
Lck Plug	1	each
Pro. Cvr.	1	each
Gate Box		each
Sakrete		bags
Drums		each

## **APPENDIX B**

### **Pricing Form**

**Exhibit B**

**GROVE STREET WELLFIELD  
WELL #2 REPLACEMENT WELL  
PRICE FORM**

<b>Item No.</b>	<b>Activity</b>	<b>Unit</b>	<b>Est. Quantity</b>	<b>Unit Cost</b>	<b>Extension</b>
1.	Mobilization				
	30" x 24" SiLibead Pack Well	Lump sum	1		
2.	Demobilization	Lump Sum	1		
	30" x 24" Gravel Pack Well	Lump sum	1		
3.	Abandonment of Current Well #2	Lump sum	1		
4.	Soil Borings Advancement				
.	30" x 24" Gravel Pack Well	foot	47		
5.	Geotechnical Testing (ASTM D-422)	each	8		
6.	Well Screen (24-inch)	foot	10		
7.	Riser Casing (24-inch)	foot	37		
8.	SiLibead Pack	foot	50		
9.	Concrete Seal	foot	20		
10.	Drill Rig Standby Time	hour	1		
11.	Well Development	hour	50		
12.	48- hour Performance Testing	each 24 Hr Period	2		
13.	Bonds				
a.	Performance	per \$1,000	1		
b.	Payment	per \$1,000	1		
	<b>Total</b>				

Notes: 1. Assumes casing will stick up two feet above grade.

Compiled by: \_\_\_\_\_  
 Print Name and Company                      Signature                      Date

## **APPENDIX C**

### **Wage Rates**



CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

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

Prevailing Wage Rates

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

RONALD L. WALKER, II  
Secretary

WILLIAM D MCKINNEY  
Director

**Awarding Authority:** Town of Norwell Water Department

**Contract Number:**

**City/Town:** NORWELL

**Description of Work:** This Statement of Work (SOW) describes the advancement of soil borings, and the construction and development of a permanent replacement public water supply (Well #2) located at the Grove Street.

**Job Location:** Grove Street, Norwell, MA, 02061

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Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	06/01/2016	\$32.90	\$11.50	\$7.10	\$0.00	\$51.50
	12/01/2016	\$33.90	\$11.50	\$7.10	\$0.00	\$52.50
	06/01/2017	\$34.90	\$11.50	\$7.10	\$0.00	\$53.50
	12/01/2017	\$35.90	\$11.50	\$7.10	\$0.00	\$54.50
	06/01/2018	\$36.90	\$11.50	\$7.10	\$0.00	\$55.50
	12/01/2018	\$37.90	\$11.50	\$7.10	\$0.00	\$56.50
	06/01/2019	\$38.90	\$11.50	\$7.10	\$0.00	\$57.50
	12/01/2019	\$39.90	\$11.50	\$7.10	\$0.00	\$58.50
	06/01/2020	\$40.90	\$11.50	\$7.10	\$0.00	\$59.50
	12/01/2020	\$41.90	\$11.50	\$7.10	\$0.00	\$60.50
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

**Apprentice - BOILERMAKER - Local 29****Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

**Notes:****Apprentice to Journeyworker Ratio:1:5**

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2016	\$50.76	\$10.18	\$19.22	\$0.00	\$80.16
BRICKLAYERS LOCAL 3 (QUINCY)	02/01/2017	\$51.33	\$10.18	\$19.22	\$0.00	\$80.73

**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Quincy**

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.38	\$10.18	\$19.22	\$0.00	\$54.78
2	60	\$30.46	\$10.18	\$19.22	\$0.00	\$59.86
3	70	\$35.53	\$10.18	\$19.22	\$0.00	\$64.93
4	80	\$40.61	\$10.18	\$19.22	\$0.00	\$70.01
5	90	\$45.68	\$10.18	\$19.22	\$0.00	\$75.08

**Effective Date - 02/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.67	\$10.18	\$19.22	\$0.00	\$55.07
2	60	\$30.80	\$10.18	\$19.22	\$0.00	\$60.20
3	70	\$35.93	\$10.18	\$19.22	\$0.00	\$65.33
4	80	\$41.06	\$10.18	\$19.22	\$0.00	\$70.46
5	90	\$46.20	\$10.18	\$19.22	\$0.00	\$75.60

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BULLDOZER/GRADER/SCRAPER	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2016	\$36.95	\$7.45	\$14.00	\$0.00	\$58.40
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$37.95	\$7.45	\$14.00	\$0.00	\$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$36.80	\$7.45	\$14.00	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$36.80	\$7.45	\$14.00	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CARPENTER	09/01/2016	\$38.08	\$9.80	\$16.82	\$0.00	\$64.70
CARPENTERS -ZONE 2 (Eastern Massachusetts)	03/01/2017	\$39.05	\$9.80	\$16.82	\$0.00	\$65.67
	09/01/2017	\$40.06	\$9.80	\$16.82	\$0.00	\$66.68
	03/01/2018	\$41.06	\$9.80	\$16.82	\$0.00	\$67.68
	09/01/2018	\$42.10	\$9.80	\$16.82	\$0.00	\$68.72
	03/01/2019	\$43.13	\$9.80	\$16.82	\$0.00	\$69.75

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - CARPENTER - Zone 2 Eastern MA**
**Effective Date - 09/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$9.80	\$1.63	\$0.00	\$30.47
2	60	\$22.85	\$9.80	\$1.63	\$0.00	\$34.28
3	70	\$26.66	\$9.80	\$11.93	\$0.00	\$48.39
4	75	\$28.56	\$9.80	\$11.93	\$0.00	\$50.29
5	80	\$30.46	\$9.80	\$13.56	\$0.00	\$53.82
6	80	\$30.46	\$9.80	\$13.56	\$0.00	\$53.82
7	90	\$34.27	\$9.80	\$15.19	\$0.00	\$59.26
8	90	\$34.27	\$9.80	\$15.19	\$0.00	\$59.26

**Effective Date - 03/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.53	\$9.80	\$1.63	\$0.00	\$30.96
2	60	\$23.43	\$9.80	\$1.63	\$0.00	\$34.86
3	70	\$27.34	\$9.80	\$11.93	\$0.00	\$49.07
4	75	\$29.29	\$9.80	\$11.93	\$0.00	\$51.02
5	80	\$31.24	\$9.80	\$13.56	\$0.00	\$54.60
6	80	\$31.24	\$9.80	\$13.56	\$0.00	\$54.60
7	90	\$35.15	\$9.80	\$15.19	\$0.00	\$60.14
8	90	\$35.15	\$9.80	\$15.19	\$0.00	\$60.14

**Notes:**
**Apprentice to Journeyworker Ratio:1:5**
**CEMENT MASONRY/PLASTERING**  
**BRICKLAYERS LOCAL 3 (QUINCY)**

07/01/2016	\$44.69	\$12.20	\$19.33	\$1.30	\$77.52
01/01/2017	\$45.67	\$12.20	\$19.41	\$1.30	\$78.58
07/01/2017	\$46.30	\$12.20	\$19.41	\$1.30	\$79.21
01/01/2018	\$46.54	\$12.20	\$19.41	\$1.30	\$79.45
07/01/2018	\$46.79	\$12.20	\$19.41	\$1.30	\$79.70
01/01/2019	\$47.03	\$12.20	\$19.41	\$1.30	\$79.94
07/01/2019	\$47.27	\$12.20	\$19.41	\$1.30	\$80.18
01/01/2020	\$47.52	\$12.20	\$19.41	\$1.30	\$80.43

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Quincy)**
**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.35	\$12.20	\$12.33	\$0.00	\$46.88
2	60	\$26.81	\$12.20	\$14.33	\$1.30	\$54.64
3	65	\$29.05	\$12.20	\$15.33	\$1.30	\$57.88
4	70	\$31.28	\$12.20	\$16.33	\$1.30	\$61.11
5	75	\$33.52	\$12.20	\$17.33	\$1.30	\$64.35
6	80	\$35.75	\$12.20	\$18.33	\$1.30	\$67.58
7	90	\$40.22	\$12.20	\$19.33	\$1.30	\$73.05

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.84	\$12.20	\$12.41	\$0.00	\$47.45
2	60	\$27.40	\$12.20	\$14.41	\$1.30	\$55.31
3	65	\$29.69	\$12.20	\$15.41	\$1.30	\$58.60
4	70	\$31.97	\$12.20	\$16.41	\$1.30	\$61.88
5	75	\$34.25	\$12.20	\$17.41	\$1.30	\$65.16
6	80	\$36.54	\$12.20	\$18.41	\$1.30	\$68.45
7	90	\$41.10	\$12.20	\$19.41	\$1.30	\$74.01

**Notes:**

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

**Apprentice to Journeyworker Ratio:1:3**

CHAIN SAW OPERATOR	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	06/01/2016	\$45.23	\$10.00	\$15.15	\$0.00	\$70.38
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	06/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
	12/01/2017	\$48.38	\$10.00	\$15.25	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE)	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
PAINTERS LOCAL 35 - ZONE 2	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.71	\$7.85	\$0.00	\$0.00	\$33.56
2	55	\$28.28	\$7.85	\$3.66	\$0.00	\$39.79
3	60	\$30.85	\$7.85	\$3.99	\$0.00	\$42.69
4	65	\$33.42	\$7.85	\$4.32	\$0.00	\$45.59
5	70	\$35.99	\$7.85	\$14.11	\$0.00	\$57.95
6	75	\$38.56	\$7.85	\$14.44	\$0.00	\$60.85
7	80	\$41.13	\$7.85	\$14.77	\$0.00	\$63.75
8	90	\$46.27	\$7.85	\$15.44	\$0.00	\$69.56

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

DEMO: ADZEMAN LABORERS - ZONE 2	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER LABORERS - ZONE 2	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
For apprentice rates see "Apprentice- PILE DRIVER"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2016	\$39.21	\$8.90	\$11.51	\$0.00	\$59.62

**Apprentice -** *ELECTRICIAN - Local 223*

**Effective Date -** 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.68	\$0.00	\$0.47	\$0.00	\$16.15
2	42	\$16.47	\$0.00	\$0.49	\$0.00	\$16.96
3	45	\$17.64	\$8.90	\$0.53	\$0.00	\$27.07
4	48	\$18.82	\$8.90	\$3.42	\$0.00	\$31.14
5	50	\$19.61	\$8.90	\$3.55	\$0.00	\$32.06
6	55	\$21.57	\$8.90	\$3.83	\$0.00	\$34.30
7	60	\$23.53	\$8.90	\$4.12	\$0.00	\$36.55
8	65	\$25.49	\$8.90	\$4.39	\$0.00	\$38.78
9	70	\$27.45	\$8.90	\$4.68	\$0.00	\$41.03
10	75	\$29.41	\$8.90	\$4.96	\$0.00	\$43.27

**Notes:**

Steps are 750 hours

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

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**

**Effective Date -** 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

**Effective Date -** 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

**Notes:**

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

**Apprentice to Journeyworker Ratio:1:1**

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2016	\$41.37	\$10.00	\$15.15	\$0.00	\$66.52
	05/01/2017	\$42.25	\$10.00	\$15.15	\$0.00	\$67.40
	11/01/2017	\$42.98	\$10.00	\$15.15	\$0.00	\$68.13
	05/01/2018	\$43.69	\$10.00	\$15.15	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2016	\$42.82	\$10.00	\$15.15	\$0.00	\$67.97
	05/01/2017	\$43.71	\$10.00	\$15.15	\$0.00	\$68.86
	11/01/2017	\$44.44	\$10.00	\$15.15	\$0.00	\$69.59
	05/01/2018	\$45.16	\$10.00	\$15.15	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2016	\$21.98	\$10.00	\$15.15	\$0.00	\$47.13
	05/01/2017	\$22.51	\$10.00	\$15.15	\$0.00	\$47.66
	11/01/2017	\$22.93	\$10.00	\$15.15	\$0.00	\$48.08
	05/01/2018	\$23.36	\$10.00	\$15.15	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 223</i>	09/01/2016	\$39.21	\$8.90	\$11.51	\$0.00	\$59.62
For apprentice rates see "Apprentice- ELECTRICIAN"						



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	09/01/2016	\$33.33	\$8.90	\$9.78	\$0.00	\$52.01
<i>LOCAL 223</i> For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$36.71	\$10.00	\$15.15	\$0.00	\$61.86
	12/01/2016	\$37.65	\$10.00	\$15.25	\$0.00	\$62.90
	06/01/2017	\$38.49	\$10.00	\$15.25	\$0.00	\$63.74
	12/01/2017	\$39.32	\$10.00	\$15.25	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
	12/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55

**Apprentice - FLOORCOVERER - Local 2168 Zone 1**

**Effective Date -** 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - GLAZIER - Local 35 Zone 2**
**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.46	\$7.85	\$0.00	\$0.00	\$28.31
2	55	\$22.50	\$7.85	\$3.66	\$0.00	\$34.01
3	60	\$24.55	\$7.85	\$3.99	\$0.00	\$36.39
4	65	\$26.59	\$7.85	\$4.32	\$0.00	\$38.76
5	70	\$28.64	\$7.85	\$14.11	\$0.00	\$50.60
6	75	\$30.68	\$7.85	\$14.44	\$0.00	\$52.97
7	80	\$32.73	\$7.85	\$14.77	\$0.00	\$55.35
8	90	\$36.82	\$7.85	\$15.44	\$0.00	\$60.11

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**
**HOISTING ENGINEER/CRANES/GRADALLS**
*OPERATING ENGINEERS LOCAL 4*

06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date - 06/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.33	\$10.00	\$0.00	\$0.00	\$34.33
2	60	\$26.54	\$10.00	\$15.15	\$0.00	\$51.69
3	65	\$28.75	\$10.00	\$15.15	\$0.00	\$53.90
4	70	\$30.96	\$10.00	\$15.15	\$0.00	\$56.11
5	75	\$33.17	\$10.00	\$15.15	\$0.00	\$58.32
6	80	\$35.38	\$10.00	\$15.15	\$0.00	\$60.53
7	85	\$37.60	\$10.00	\$15.15	\$0.00	\$62.75
8	90	\$39.81	\$10.00	\$15.15	\$0.00	\$64.96

**Effective Date - 12/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.96	\$10.00	\$0.00	\$0.00	\$34.96
2	60	\$27.23	\$10.00	\$15.25	\$0.00	\$52.48
3	65	\$29.50	\$10.00	\$15.25	\$0.00	\$54.75
4	70	\$31.77	\$10.00	\$15.25	\$0.00	\$57.02
5	75	\$34.04	\$10.00	\$15.25	\$0.00	\$59.29
6	80	\$36.30	\$10.00	\$15.25	\$0.00	\$61.55
7	85	\$38.57	\$10.00	\$15.25	\$0.00	\$63.82
8	90	\$40.84	\$10.00	\$15.25	\$0.00	\$66.09

**Notes:**

**Apprentice to Journeyworker Ratio:1:6**

HVAC (DUCTWORK)	11/01/2016	\$43.40	\$10.70	\$23.07	\$2.32	\$79.49
<i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2017	\$44.50	\$10.70	\$23.07	\$2.32	\$80.59
	08/01/2017	\$45.60	\$10.70	\$23.07	\$2.32	\$81.69
	02/01/2018	\$46.75	\$10.70	\$23.07	\$2.32	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS)	09/01/2016	\$39.21	\$8.90	\$11.51	\$0.00	\$59.62
<i>ELECTRICIANS LOCAL 223</i>						
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR)	11/01/2016	\$43.40	\$10.70	\$23.07	\$2.32	\$79.49
<i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2017	\$44.50	\$10.70	\$23.07	\$2.32	\$80.59
	08/01/2017	\$45.60	\$10.70	\$23.07	\$2.32	\$81.69
	02/01/2018	\$46.75	\$10.70	\$23.07	\$2.32	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER)	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
<i>PLUMBERS &amp; PIPEFITTERS LOCAL 51</i>						
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
<i>PLUMBERS &amp; PIPEFITTERS LOCAL 51</i>						
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
LABORERS - ZONE 2	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS)	09/01/2016	\$45.09	\$11.75	\$14.20	\$0.00	\$71.04
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	09/01/2017	\$47.09	\$11.75	\$14.20	\$0.00	\$73.04
	09/01/2018	\$49.34	\$11.75	\$14.20	\$0.00	\$75.29
	09/01/2019	\$51.84	\$11.75	\$14.20	\$0.00	\$77.79

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

**Effective Date -** 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.55	\$11.75	\$10.45	\$0.00	\$44.75
2	60	\$27.05	\$11.75	\$11.20	\$0.00	\$50.00
3	70	\$31.56	\$11.75	\$11.95	\$0.00	\$55.26
4	80	\$36.07	\$11.75	\$12.70	\$0.00	\$60.52

**Effective Date -** 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.55	\$11.75	\$10.45	\$0.00	\$45.75
2	60	\$28.25	\$11.75	\$11.20	\$0.00	\$51.20
3	70	\$32.96	\$11.75	\$11.95	\$0.00	\$56.66
4	80	\$37.67	\$11.75	\$12.70	\$0.00	\$62.12

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

IRONWORKER/WELDER	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
IRONWORKERS LOCAL 7 (BOSTON AREA)	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

**Classification**

Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate

**Apprentice - IRONWORKER - Local 7 Boston**
**Effective Date - 09/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.43	\$7.80	\$20.85	\$0.00	\$55.08
2	70	\$30.84	\$7.80	\$20.85	\$0.00	\$59.49
3	75	\$33.04	\$7.80	\$20.85	\$0.00	\$61.69
4	80	\$35.24	\$7.80	\$20.85	\$0.00	\$63.89
5	85	\$37.44	\$7.80	\$20.85	\$0.00	\$66.09
6	90	\$39.65	\$7.80	\$20.85	\$0.00	\$68.30

**Effective Date - 03/16/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.79	\$7.80	\$20.85	\$0.00	\$55.44
2	70	\$31.26	\$7.80	\$20.85	\$0.00	\$59.91
3	75	\$33.49	\$7.80	\$20.85	\$0.00	\$62.14
4	80	\$35.72	\$7.80	\$20.85	\$0.00	\$64.37
5	85	\$37.95	\$7.80	\$20.85	\$0.00	\$66.60
6	90	\$40.19	\$7.80	\$20.85	\$0.00	\$68.84

**Notes:**

\*\* Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:\*\***

JACKHAMMER & PAVING BREAKER OPERATOR	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
LABORER	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - LABORER - Zone 2</b>						
<b>Effective Date - 06/01/2016</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.45	\$12.65	\$0.00	\$39.09
2	70	\$22.16	\$7.45	\$12.65	\$0.00	\$42.26
3	80	\$25.32	\$7.45	\$12.65	\$0.00	\$45.42
4	90	\$28.49	\$7.45	\$12.65	\$0.00	\$48.59
<b>Effective Date - 12/01/2016</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.44	\$7.45	\$12.65	\$0.00	\$39.54
2	70	\$22.68	\$7.45	\$12.65	\$0.00	\$42.78
3	80	\$25.92	\$7.45	\$12.65	\$0.00	\$46.02
4	90	\$29.16	\$7.45	\$12.65	\$0.00	\$49.26
<b>Notes:</b>						
<b>Apprentice to Journeyworker Ratio:1:5</b>						
LABORER: CARPENTER TENDER	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/01/2015	\$31.35	\$7.45	\$12.60	\$0.00	\$51.40
LABORERS - ZONE 2						
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
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	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS	08/01/2016	\$38.78	\$10.18	\$17.78	\$0.00	\$66.74
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2017	\$39.24	\$10.18	\$17.78	\$0.00	\$67.20

**Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile****Effective Date -** 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.18	\$17.78	\$0.00	\$47.35
2	60	\$23.27	\$10.18	\$17.78	\$0.00	\$51.23
3	70	\$27.15	\$10.18	\$17.78	\$0.00	\$55.11
4	80	\$31.02	\$10.18	\$17.78	\$0.00	\$58.98
5	90	\$34.90	\$10.18	\$17.78	\$0.00	\$62.86

**Effective Date -** 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.62	\$10.18	\$17.78	\$0.00	\$47.58
2	60	\$23.54	\$10.18	\$17.78	\$0.00	\$51.50
3	70	\$27.47	\$10.18	\$17.78	\$0.00	\$55.43
4	80	\$31.39	\$10.18	\$17.78	\$0.00	\$59.35
5	90	\$35.32	\$10.18	\$17.78	\$0.00	\$63.28

**Notes:****Apprentice to Journeyworker Ratio:1:3**

MARBLE MASONS,TILELAYERS & TERRAZZO MECH	08/01/2016	\$50.80	\$10.18	\$19.22	\$0.00	\$80.20
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2017	\$51.37	\$10.18	\$19.22	\$0.00	\$80.77

**Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile****Effective Date -** 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.18	\$19.22	\$0.00	\$54.80
2	60	\$30.48	\$10.18	\$19.22	\$0.00	\$59.88
3	70	\$35.56	\$10.18	\$19.22	\$0.00	\$64.96
4	80	\$40.64	\$10.18	\$19.22	\$0.00	\$70.04
5	90	\$45.72	\$10.18	\$19.22	\$0.00	\$75.12

**Effective Date -** 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.69	\$10.18	\$19.22	\$0.00	\$55.09
2	60	\$30.82	\$10.18	\$19.22	\$0.00	\$60.22
3	70	\$35.96	\$10.18	\$19.22	\$0.00	\$65.36
4	80	\$41.10	\$10.18	\$19.22	\$0.00	\$70.50
5	90	\$46.23	\$10.18	\$19.22	\$0.00	\$75.63

**Notes:****Apprentice to Journeyworker Ratio:1:5**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2015	\$34.69	\$9.80	\$16.21	\$0.00	\$60.70
<b>Apprentice - <i>MILLWRIGHT - Local 1121 Zone 2</i></b> <b>Effective Date - 04/01/2015</b>						
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
<b>Notes:</b> Steps are 2,000 hours <b>Apprentice to Journeyworker Ratio:1:5</b>						
MORTAR MIXER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$22.41	\$10.00	\$15.15	\$0.00	\$47.56
	12/01/2016	\$22.96	\$10.00	\$15.25	\$0.00	\$48.21
	06/01/2017	\$23.47	\$10.00	\$15.25	\$0.00	\$48.72
	12/01/2017	\$23.99	\$10.00	\$15.25	\$0.00	\$49.24
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$26.29	\$10.00	\$15.15	\$0.00	\$51.44
	12/01/2016	\$26.94	\$10.00	\$15.25	\$0.00	\$52.19
	06/01/2017	\$27.54	\$10.00	\$15.25	\$0.00	\$52.79
	12/01/2017	\$28.15	\$10.00	\$15.25	\$0.00	\$53.40
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36



**Apprentice - PAINTER Local 35 - BRIDGES/TANKS****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.71	\$7.85	\$0.00	\$0.00	\$33.56
2	55	\$28.28	\$7.85	\$3.66	\$0.00	\$39.79
3	60	\$30.85	\$7.85	\$3.99	\$0.00	\$42.69
4	65	\$33.42	\$7.85	\$4.32	\$0.00	\$45.59
5	70	\$35.99	\$7.85	\$14.11	\$0.00	\$57.95
6	75	\$38.56	\$7.85	\$14.44	\$0.00	\$60.85
7	80	\$41.13	\$7.85	\$14.77	\$0.00	\$63.75
8	90	\$46.27	\$7.85	\$15.44	\$0.00	\$69.56

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, NEW) \*

07/01/2016

\$41.36

\$7.85

\$16.10

\$0.00

\$65.31

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

01/01/2017

\$42.31

\$7.85

\$16.10

\$0.00

\$66.26

NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.68	\$7.85	\$0.00	\$0.00	\$28.53
2	55	\$22.75	\$7.85	\$3.66	\$0.00	\$34.26
3	60	\$24.82	\$7.85	\$3.99	\$0.00	\$36.66
4	65	\$26.88	\$7.85	\$4.32	\$0.00	\$39.05
5	70	\$28.95	\$7.85	\$14.11	\$0.00	\$50.91
6	75	\$31.02	\$7.85	\$14.44	\$0.00	\$53.31
7	80	\$33.09	\$7.85	\$14.77	\$0.00	\$55.71
8	90	\$37.22	\$7.85	\$15.44	\$0.00	\$60.51

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.16	\$7.85	\$0.00	\$0.00	\$29.01
2	55	\$23.27	\$7.85	\$3.66	\$0.00	\$34.78
3	60	\$25.39	\$7.85	\$3.99	\$0.00	\$37.23
4	65	\$27.50	\$7.85	\$4.32	\$0.00	\$39.67
5	70	\$29.62	\$7.85	\$14.11	\$0.00	\$51.58
6	75	\$31.73	\$7.85	\$14.44	\$0.00	\$54.02
7	80	\$33.85	\$7.85	\$14.77	\$0.00	\$56.47
8	90	\$38.08	\$7.85	\$15.44	\$0.00	\$61.37

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, REPAINT)

07/01/2016

\$39.42

\$7.85

\$16.10

\$0.00

\$63.37

PAINTERS LOCAL 35 - ZONE 2

01/01/2017

\$40.37

\$7.85

\$16.10

\$0.00

\$64.32

**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.71	\$7.85	\$0.00	\$0.00	\$27.56
2	55	\$21.68	\$7.85	\$3.66	\$0.00	\$33.19
3	60	\$23.65	\$7.85	\$3.99	\$0.00	\$35.49
4	65	\$25.62	\$7.85	\$4.32	\$0.00	\$37.79
5	70	\$27.59	\$7.85	\$14.11	\$0.00	\$49.55
6	75	\$29.57	\$7.85	\$14.44	\$0.00	\$51.86
7	80	\$31.54	\$7.85	\$14.77	\$0.00	\$54.16
8	90	\$35.48	\$7.85	\$15.44	\$0.00	\$58.77

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.19	\$7.85	\$0.00	\$0.00	\$28.04
2	55	\$22.20	\$7.85	\$3.66	\$0.00	\$33.71
3	60	\$24.22	\$7.85	\$3.99	\$0.00	\$36.06
4	65	\$26.24	\$7.85	\$4.32	\$0.00	\$38.41
5	70	\$28.26	\$7.85	\$14.11	\$0.00	\$50.22
6	75	\$30.28	\$7.85	\$14.44	\$0.00	\$52.57
7	80	\$32.30	\$7.85	\$14.77	\$0.00	\$54.92
8	90	\$36.33	\$7.85	\$15.44	\$0.00	\$59.62

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (TRAFFIC MARKINGS)

LABORERS - ZONE 2

06/01/2016

\$31.65

\$7.45

\$12.65

\$0.00

\$51.75

12/01/2016

\$32.40

\$7.45

\$12.65

\$0.00

\$52.50

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) \*

07/01/2016

\$39.96

\$7.85

\$16.10

\$0.00

\$63.91

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

01/01/2017

\$40.91

\$7.85

\$16.10

\$0.00

\$64.86

NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

**Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.46	\$7.85	\$0.00	\$0.00	\$28.31
2	55	\$22.50	\$7.85	\$3.66	\$0.00	\$34.01
3	60	\$24.55	\$7.85	\$3.99	\$0.00	\$36.39
4	65	\$26.59	\$7.85	\$4.32	\$0.00	\$38.76
5	70	\$28.64	\$7.85	\$14.11	\$0.00	\$50.60
6	75	\$30.68	\$7.85	\$14.44	\$0.00	\$52.97
7	80	\$32.73	\$7.85	\$14.77	\$0.00	\$55.35
8	90	\$36.82	\$7.85	\$15.44	\$0.00	\$60.11

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
PAINTERS LOCAL 35 - ZONE 2	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

**Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.01	\$7.85	\$0.00	\$0.00	\$26.86
2	55	\$20.91	\$7.85	\$3.66	\$0.00	\$32.42
3	60	\$22.81	\$7.85	\$3.99	\$0.00	\$34.65
4	65	\$24.71	\$7.85	\$4.32	\$0.00	\$36.88
5	70	\$26.61	\$7.85	\$14.11	\$0.00	\$48.57
6	75	\$28.52	\$7.85	\$14.44	\$0.00	\$50.81
7	80	\$30.42	\$7.85	\$14.77	\$0.00	\$53.04
8	90	\$34.22	\$7.85	\$15.44	\$0.00	\$57.51

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.49	\$7.85	\$0.00	\$0.00	\$27.34
2	55	\$21.43	\$7.85	\$3.66	\$0.00	\$32.94
3	60	\$23.38	\$7.85	\$3.99	\$0.00	\$35.22
4	65	\$25.33	\$7.85	\$4.32	\$0.00	\$37.50
5	70	\$27.28	\$7.85	\$14.11	\$0.00	\$49.24
6	75	\$29.23	\$7.85	\$14.44	\$0.00	\$51.52
7	80	\$31.18	\$7.85	\$14.77	\$0.00	\$53.80
8	90	\$35.07	\$7.85	\$15.44	\$0.00	\$58.36

**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 1) For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

**Apprentice - PILE DRIVER - Local 56 Zone 1**

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

PIPELAYER	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
PLUMBER & PIPEFITTER	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
PLUMBERS & PIPEFITTERS LOCAL 51						

**Apprentice - PLUMBER/PIPEFITTER - Local 51**

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$14.95	\$11.00	\$1.50	\$0.00	\$27.45
2	50	\$18.69	\$11.00	\$1.50	\$0.00	\$31.19
3	60	\$22.43	\$11.00	\$7.85	\$0.00	\$41.28
4	70	\$26.17	\$11.00	\$11.66	\$0.00	\$48.83
5	80	\$29.90	\$11.00	\$14.20	\$0.00	\$55.10

**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.)	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
PLUMBERS & PIPEFITTERS LOCAL 51						
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
LABORERS - ZONE 2	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER	06/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
LABORERS - ZONE 2	12/01/2016	\$33.40	\$7.45	\$12.65	\$0.00	\$53.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 653</i>	08/01/2008	\$19.76	\$7.16	\$4.21	\$0.00	\$31.13
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2015	\$25.25	\$9.80	\$16.82	\$0.00	\$51.87
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.	04/01/2015	\$25.30	\$7.00	\$6.31	\$0.00	\$38.61

**Apprentice - CARPENTER (Residential Wood Frame) - Zone 2**

**Effective Date -** 04/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.18	\$7.00	\$0.00	\$0.00	\$22.18
2	60	\$15.18	\$7.00	\$0.00	\$0.00	\$22.18
3	65	\$16.45	\$7.00	\$6.31	\$0.00	\$29.76
4	70	\$17.71	\$7.00	\$6.31	\$0.00	\$31.02
5	75	\$18.98	\$7.00	\$6.31	\$0.00	\$32.29
6	80	\$20.24	\$7.00	\$6.31	\$0.00	\$33.55
7	85	\$21.51	\$7.00	\$6.31	\$0.00	\$34.82
8	90	\$22.77	\$7.00	\$6.31	\$0.00	\$36.08

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roof Waterproofng &Roof Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2016	\$41.11	\$11.00	\$13.00	\$0.00	\$65.11
	02/01/2017	\$42.26	\$11.00	\$13.00	\$0.00	\$66.26
	08/01/2017	\$43.36	\$11.00	\$13.00	\$0.00	\$67.36
	02/01/2018	\$44.51	\$11.00	\$13.00	\$0.00	\$68.51
	08/01/2018	\$45.61	\$11.00	\$13.00	\$0.00	\$69.61
	02/01/2019	\$46.76	\$11.00	\$13.00	\$0.00	\$70.76

**Apprentice - ROOFER - Local 33**

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.56	\$11.00	\$3.44	\$0.00	\$35.00
2	60	\$24.67	\$11.00	\$13.00	\$0.00	\$48.67
3	65	\$26.72	\$11.00	\$13.00	\$0.00	\$50.72
4	75	\$30.83	\$11.00	\$13.00	\$0.00	\$54.83
5	85	\$34.94	\$11.00	\$13.00	\$0.00	\$58.94

**Effective Date - 02/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.13	\$11.00	\$3.44	\$0.00	\$35.57
2	60	\$25.36	\$11.00	\$13.00	\$0.00	\$49.36
3	65	\$27.47	\$11.00	\$13.00	\$0.00	\$51.47
4	75	\$31.70	\$11.00	\$13.00	\$0.00	\$55.70
5	85	\$35.92	\$11.00	\$13.00	\$0.00	\$59.92

**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 <i>ROOFERS LOCAL 33</i>	08/01/2016	\$41.36	\$11.00	\$13.00	\$0.00	\$65.36
	02/01/2017	\$42.51	\$11.00	\$13.00	\$0.00	\$66.51
	08/01/2017	\$43.61	\$11.00	\$13.00	\$0.00	\$67.61
	02/01/2018	\$44.76	\$11.00	\$13.00	\$0.00	\$68.76
	08/01/2018	\$45.86	\$11.00	\$13.00	\$0.00	\$69.86
	02/01/2019	\$47.01	\$11.00	\$13.00	\$0.00	\$71.01

For apprentice rates see "Apprentice- ROOFER"



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SHEETMETAL WORKER	11/01/2016	\$43.40	\$10.70	\$23.07	\$2.32	\$79.49
<i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2017	\$44.50	\$10.70	\$23.07	\$2.32	\$80.59
	08/01/2017	\$45.60	\$10.70	\$23.07	\$2.32	\$81.69
	02/01/2018	\$46.75	\$10.70	\$23.07	\$2.32	\$82.84

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

**Effective Date - 11/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.36	\$10.70	\$5.24	\$0.00	\$33.30
2	40	\$17.36	\$10.70	\$5.24	\$0.00	\$33.30
3	45	\$19.53	\$10.70	\$10.31	\$1.22	\$41.76
4	45	\$19.53	\$10.70	\$10.31	\$1.22	\$41.76
5	50	\$21.70	\$10.70	\$11.21	\$1.31	\$44.92
6	50	\$21.70	\$10.70	\$11.46	\$1.32	\$45.18
7	60	\$26.04	\$10.70	\$13.02	\$1.49	\$51.25
8	65	\$28.21	\$10.70	\$13.93	\$1.59	\$54.43
9	75	\$32.55	\$10.70	\$15.74	\$1.77	\$60.76
10	85	\$36.89	\$10.70	\$17.05	\$1.94	\$66.58

**Effective Date - 02/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.80	\$10.70	\$5.24	\$0.00	\$33.74
2	40	\$17.80	\$10.70	\$5.24	\$0.00	\$33.74
3	45	\$20.03	\$10.70	\$10.31	\$1.24	\$42.28
4	45	\$20.03	\$10.70	\$10.31	\$1.24	\$42.28
5	50	\$22.25	\$10.70	\$11.21	\$1.32	\$45.48
6	50	\$22.25	\$10.70	\$11.46	\$1.33	\$45.74
7	60	\$26.70	\$10.70	\$13.02	\$1.51	\$51.93
8	65	\$28.93	\$10.70	\$13.93	\$1.61	\$55.17
9	75	\$33.38	\$10.70	\$15.74	\$1.79	\$61.61
10	85	\$37.83	\$10.70	\$17.05	\$1.97	\$67.55

**Notes:**

Steps are 6 mos.

**Apprentice to Journeyworker Ratio:1:4**

SIGN ERECTOR	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
<i>PAINTERS LOCAL 35 - ZONE 2</i>						

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SIGN ERECTOR - Local 35 Zone 2**
**Effective Date - 06/01/2013**

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

**Notes:**

Steps are 4 mos.

**Apprentice to Journeyworker Ratio:1:1**

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	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	08/01/2016	\$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 A) Zone 1	10/01/2016	\$55.48	\$8.52	\$17.05	\$0.00	\$81.05
	03/01/2017	\$56.48	\$8.52	\$17.05	\$0.00	\$82.05

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1**
**Effective Date - 10/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.42	\$8.52	\$8.55	\$0.00	\$36.49
2	40	\$22.19	\$8.52	\$8.55	\$0.00	\$39.26
3	45	\$24.97	\$8.52	\$8.55	\$0.00	\$42.04
4	50	\$27.74	\$8.52	\$8.55	\$0.00	\$44.81
5	55	\$30.51	\$8.52	\$8.55	\$0.00	\$47.58
6	60	\$33.29	\$8.52	\$10.05	\$0.00	\$51.86
7	65	\$36.06	\$8.52	\$10.05	\$0.00	\$54.63
8	70	\$38.84	\$8.52	\$10.05	\$0.00	\$57.41
9	75	\$41.61	\$8.52	\$10.05	\$0.00	\$60.18
10	80	\$44.38	\$8.52	\$10.05	\$0.00	\$62.95

**Effective Date - 03/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.77	\$8.52	\$8.55	\$0.00	\$36.84
2	40	\$22.59	\$8.52	\$8.55	\$0.00	\$39.66
3	45	\$25.42	\$8.52	\$8.55	\$0.00	\$42.49
4	50	\$28.24	\$8.52	\$8.55	\$0.00	\$45.31
5	55	\$31.06	\$8.52	\$8.55	\$0.00	\$48.13
6	60	\$33.89	\$8.52	\$10.05	\$0.00	\$52.46
7	65	\$36.71	\$8.52	\$10.05	\$0.00	\$55.28
8	70	\$39.54	\$8.52	\$10.05	\$0.00	\$58.11
9	75	\$42.36	\$8.52	\$10.05	\$0.00	\$60.93
10	80	\$45.18	\$8.52	\$10.05	\$0.00	\$63.75

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*

06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN**
*OPERATING ENGINEERS LOCAL 4*

06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**TELECOMMUNICATION TECHNICIAN**
*ELECTRICIANS LOCAL 223*

09/01/2016	\$33.33	\$8.90	\$9.78	\$0.00	\$52.01
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 223**

**Effective Date -** 09/01/2016

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	08/01/2016	\$49.70	\$10.18	\$19.22	\$0.00	\$79.10
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2017	\$50.27	\$10.18	\$19.22	\$0.00	\$79.67

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

**Effective Date -** 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.18	\$19.22	\$0.00	\$54.25
2	60	\$29.82	\$10.18	\$19.22	\$0.00	\$59.22
3	70	\$34.79	\$10.18	\$19.22	\$0.00	\$64.19
4	80	\$39.76	\$10.18	\$19.22	\$0.00	\$69.16
5	90	\$44.73	\$10.18	\$19.22	\$0.00	\$74.13

**Effective Date -** 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.14	\$10.18	\$19.22	\$0.00	\$54.54
2	60	\$30.16	\$10.18	\$19.22	\$0.00	\$59.56
3	70	\$35.19	\$10.18	\$19.22	\$0.00	\$64.59
4	80	\$40.22	\$10.18	\$19.22	\$0.00	\$69.62
5	90	\$45.24	\$10.18	\$19.22	\$0.00	\$74.64

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

TEST BORING DRILLER	06/01/2016	\$37.20	\$7.45	\$14.00	\$0.00	\$58.65
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$38.20	\$7.45	\$14.00	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER	06/01/2016	\$35.92	\$7.45	\$14.00	\$0.00	\$57.37
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$36.92	\$7.45	\$14.00	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
LABORERS - FOUNDATION AND MARINE	12/01/2016	\$36.80	\$7.45	\$14.00	\$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 <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$48.08	\$7.45	\$14.40	\$0.00	\$69.93
	12/01/2016	\$49.08	\$7.45	\$14.40	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$50.08	\$7.45	\$14.40	\$0.00	\$71.93
	12/01/2016	\$51.08	\$7.45	\$14.40	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$40.15	\$7.45	\$14.40	\$0.00	\$62.00
	12/01/2016	\$41.15	\$7.45	\$14.40	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$42.15	\$7.45	\$14.40	\$0.00	\$64.00
	12/01/2016	\$43.15	\$7.45	\$14.40	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS &amp; PIPEFITTERS LOCAL 51</i>	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

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

Effective Date - 08/28/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

Effective Date - 09/03/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.14	\$7.75	\$3.31	\$0.00	\$38.20
2	65	\$29.40	\$7.75	\$3.38	\$0.00	\$40.53
3	70	\$31.66	\$7.75	\$3.45	\$0.00	\$42.86
4	75	\$33.92	\$7.75	\$5.02	\$0.00	\$46.69
5	80	\$36.18	\$7.75	\$5.09	\$0.00	\$49.02
6	85	\$38.45	\$7.75	\$5.15	\$0.00	\$51.35
7	90	\$40.71	\$7.75	\$7.22	\$0.00	\$55.68

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground.  
This classification does not apply to wholesale tree removal.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.						

Additional Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. 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.