



INVITATION TO BID

CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT
1305 HANCOCK STREET, QUINCY, MA 02169

The City of Quincy acting on behalf of the Quincy Park Department invites "4 separate" sealed bids for the;
"RECONSTRUCTION FOR OLD QUINCY HIGH SCHOOL GREEN SPACE PROPERTY"

Park Dept. Extended Stonework Seating Wall August 21, 2014 @ 11:00 a.m.

Stone Specific - The Old Quincy High School Green Space Project involves extending an existing curved stone wall for 71 FT also adding a historical reference seating space with approximately 130 LF of flush granite curb, 86 LF of granite seat wall, and 145 SQ FT of granite paving. The stone specific section of the project also requires skateboard deterrents be attached to the extended curved wall.

Park Dept. Electrical Work August 21, 2014 @ 11:15 a.m.

Electrical Specific - The Old Quincy High School Green Space Project incorporates adding new vehicular light poles, new pedestrian light poles and reusing existing light poles.

Park Dept. Concrete Work August 21, 2014 @ 11:30 a.m.

Concrete Specific - The Old Quincy High School Green Space Project incorporates roughly 525 SQ FT of exposed aggregate concrete paving, 3,300 SQ FT of Portland cement concrete paving, and 2,500 SQ FT of integrally colored concrete paving.

Park Dept. Bituminous Concrete-Asphalt Driveway August 21, 2014 @ 11:45 a.m.

Bituminous Concrete Specific - The Old Quincy High School Green Space Project incorporates roughly 7,000 SQ FT of bituminous concrete.

Detailed specifications are on file at the office of the Purchasing Agent, Quincy City Hall, 1305 Hancock Street, Quincy, Massachusetts, 02169, between the hours of 8:30^{AM} and 4:30^{PM}.

Bids must state exceptions, if any, the delivery date and any allowable discounts. Bids/Proposals must be in a sealed envelope. The outside of the sealed envelope is to be clearly marked "**BID ENCLOSED**" with time/date of bid call.

Firm bid prices will be given first consideration. Bids/Proposals will be received at the office of the Purchasing Agent until the time and date stated above, at which time and date they will be publicly opened and read. Late Bids/Proposals, delivered by mail or in person, will be rejected.

Bidding procedures are subject to the provisions of the General Laws of the Commonwealth of Massachusetts (MGL) Chapter 30, Section 39M and applicable sections of MGL Chapter 149, sections 44A-44.

The successful bidder will be required to conform to the payment of Prevailing Wage Rates, as determined by the Commissioner of Labor & Industries under the provision of M.G.L. Chapter 149, Section 26 to 27D as amended

The right is reserved to reject any or all bids or to accept any part of a bid or the one deemed best for the City and waive any informality in the bidding if it is in the best interest of the City to do so.

Thomas P. Koch, MAYOR

Kathryn R. Hobin, Purchasing AGENT

LEGAL: AUGUST 6, 2014
LEGAL: AUGUST 7, 2014

CENTRAL REGISTER
REQ#: S082114

DEPT. CHARGED: PARK DEPT.



CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT
1305 HANCOCK STREET, QUINCY, MA 02169

DETAILED SPECIFICATIONS AND REQUIREMENTS
“RECONSTRUCTION FOR OLD QUINCY HIGH SCHOOL GREEN SPACE PROPERTY”

Issue Date: AUGUST 6, 2014
Bid Call: AUGUST 21, 2014 @ 11:30 A.M.
Department: PARK DEPARTMENT
Subject: CONCRETE WORK

1. Certified check or 5% bid bond is required..... (Paragraph 1, line 09-17)
2. A Performance is not required & 50% Payment Bond is required (Paragraph 1, line 24-29)
3. Quantities..... (Paragraph 4, line 51-52)
4. Samples must be supplied when requested. (Paragraph 6, line 10-15)
5. **DO NOT SEPARATE ANY SHEET FROM THIS BID CALL.**
6. All prices are to include delivery F.O.B. destination unless noted otherwise.
7. Wherever a manufacturer's name or model number is specified, it is to be clearly understood that the words "**OR APPROVED EQUAL**" follow.
8. All vendors must acknowledge in writing receipt of any addenda.
9. **Every bid delivered must contain one original and one copy.**

* TO THE EXTENT APPLICABLE THE FOLLOWING SECTIONS OF MASSACHUSETTS GENERAL LAWS ARE INCORPORATED HEREIN BY REFERENCE:

**M.G.L. CHAPTERS 30B, CHAPTER 149, CHAPTER 30, SECTIONS 39A, 39B AND 39F-R.
M.G.L. AND CHAPTER 149, AS AMENDED**

In the event of any inconsistency between the bid, Information for Bidders, Bid Forms, Conditions or any other Contract Document or potential Contract Document and these statutes; or any other applicable statutes, by-laws or regulations existing on the date on which the bid is submitted, then the statute, by-laws or regulations shall govern. Such inconsistency shall not be grounds for invalidating this invitation to bid.

NOTICE TO BIDDERS

The successful bidder will be required to conform to the payment of Prevailing Wage Rates, as determined by the Commissioner of Labor & Industries under the provision of M.G.L., Chap. 149, Sect. 26 to 27D as amended.

LIABILITY, PROPERTY DAMAGE and WORKERS' COMPENSATION coverage is required of the successful bidder before any work can be started.

SPECS: **RECONSTRUCTION FOR OLD QUINCY HIGH SCHOOL GREEN SPACE PROPERTY”**
“CONCRETE WORK”

DATE: _____

BIDDER: _____

ADDRESS: _____

PHONE/FAX/EMAIL: _____



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: 376-1060

Fax: 376-1074

TAX COMPLIANCE CERTIFICATE
MASS. GENERAL LAWS, CH. 62C, S: 49A(b)

I hereby certify that pursuant to MGL Chapter 62c, section 49a, I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding of child support. This is being signed under the pains and penalties of perjury.

(1) Individual Contractor

(Contractor's Name and Signature)

Social Security Number

(2) Corporation, Association
or Partnership

(Contractor's Name)

Federal Tax ID Number, or
Social Security Number

By:

(Authorized Signature)

CERTIFICATE OF NON – COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union committee, club, or other organization, entity, or group of individuals.

(Name of person signing bid or proposal)
(Please print)

(Signature required)

(Name of business)



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: (617) 376-1060

Fax: (617) 376-1074

SIGNATURE AUTHORIZATION

At a duly authorized meeting of the Board of Directors of the

(NAME OF CORPORATION)

held on _____, at which all the Directors were present or waived notice, it was
(DATE)

VOTED, that:

(NAME)

(OFFICER)

of this company, be and he/she hereby is authorized to execute Contracts and Bonds in the name and behalf of said Company, and affix its Corporate Seal thereto, and such execution of any Contract or obligation in this Company's name on its behalf by such _____ under seal of the Company, shall be valid
(OFFICER)

and binding upon this Company. It was further voted that the City of Quincy may rely on such authorization of future Contracts until notified to the contrary.

A true copy,

ATTEST: _____
(CLERK'S SIGNATURE)

PLACE OF BUSINESS: _____

DATE OF THIS CONTRACT: _____

I hereby certify that I am the Clerk of the:

_____ that _____ is the
(COMPANY) (NAME)

duly elected _____ of said Company, and that the above VOTE has not been
(TITLE)

amended or rescinded and remains in full force and effect as of the date of this Contract.

_____ CORPORATE SEAL

CERTIFICATION RELATING TO DEBARMENT AND SUSPENSION

The undersigned contractor certifies to the City of Quincy that neither it nor its principals, officers or any affiliated entities has been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction in accordance with the requirements of OMB Circular A-87 and with Executive Order 12549, "Debarment and Suspension."

Furthermore, the contractor certifies that it shall not make any subcontract or permit any subcontract to be made with any party which is debarred or suspended or is otherwise excluded in accordance with said OMB Circular and with Executive Order 12549.

This certification shall be for the benefit of the City of Quincy and its successors and/or assigns and is binding upon the contractor, its successors and assigned.

Executed under seal this _____ day of _____, _____.

Contractor Name
By its duly authorized agent,

Contract Number _____

(Authorized Signature)

CERTIFICATION OF GENERAL BIDDERS ON PUBLIC CONSTRUCTION
PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

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

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

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

Date: _____

Name of General Bidder

By _____
Signature

Print name and title

Business Address

Street Address City and State

INDEMNITY AGREEMENT

In consideration of the award of Contract No. _____

by the City of Quincy, hereinafter referred to as INDEMNITEE, to the CONTRACTOR/BIDDER:

hereinafter referred to as INDEMNITOR, and for other good and valuable consideration, said INDEMNITOR agrees to hold INDEMNITEE, City of Quincy, and its various department and employees harmless from any and all liability, loss or damage that INDEMNITEE may suffer as the result of claims, demands, costs, including attorneys fees, or judgement or other actions against it by reason of any and all work done by or on behalf of the INDEMNITOR in connection with the above-referenced contract.

INDEMNITOR,

By Duly Authorized Agent

Date: _____

REFERENCE LIST

All vendors are to fill out the following reference form, and submit it with the bid package, with similar work over the last 3-5 years.

Reference #1 Name: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

Reference #2 Name: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

Reference #3 Name: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

Reference #4 Name: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

SECTION 03300

SITE CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SCOPE OF WORK

- A. Provide labor, materials, equipment, services and transportation required to complete work as shown on Drawings and/or as specified herein and includes, but is not limited to the following:

- 1. Foundations, footings, piers, frost walls, grade beams, slabs-on-grade, equipment pads, concrete encasement, and thrust blocks, and other concrete work, as shown on Drawings.
- 2. Embedded items required to support or attach to work of other Sections.
- 3. Reinforcing dowels required for the attachment to work of other Sections.
- 4. Sleeves for work of other Sections.

- B. Related Sections:

- 1. Section 31 00 00 – Earthwork
- 2. Section 32 13 14 – Portland Cement Concrete Paving
- 3. Section 32 13 15 – Integrally Colored Concrete Paving
- 4. Section 32 13 16 – Exposed Aggregate Concrete Paving

1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirement shall govern.

- 1. American Concrete Institute (ACI):

SITE CAST-IN-PLACE CONCRETE

- a. 212 Guide for Use of Admixtures in Concrete
 - b. 301 Specifications for Structural Concrete for Buildings.
 - c. 304.2 Placing Concrete by Pumping Methods
 - d. 305 Hot Weather Concreting
 - e. 306 Cold Weather Concreting
 - f. 316 Recommended Practice for Construction of Concrete Pavements and Concrete Bases.
 - g. 318 Building Code Requirements for Reinforced Concrete
2. American Plywood Association (APA):
- a. Ref. 1 APA Design/Construction Guide, Residential and Commercial
3. American Society for Testing and Materials (ASTM):
- a. A 185 Welded Steel Wire Fabric for Concrete Reinforcement
 - b. A 307 Carbon Steel Externally Threaded Standard Fasteners
 - c. A 563 Carbon and Alloy Steel Nuts
 - d. A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
 - e. C 33 Concrete Aggregates
 - f. C 42 Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
 - g. C 94 Ready-Mixed Concrete
 - h. C 143 Slump of Portland Cement Concrete
 - i. C 150 Portland Cement
 - j. C 171 Sheet Materials for Cured Concrete
 - k. 231 Air Content of Freshly Mixed Concrete by the Pressure Method
 - l. C 309 Liquid Membrane-Forming Compounds for Curing Concrete
 - m. C 494 Chemical Admixtures for Concrete
 - n. C 618 Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete
 - o. D 1557 Moisture - Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.5-kg) Rammer and 18-in. (457-mm) Drop
 - p. D 1752 Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
 - q. F 436 Hardened Steel Washers
4. Corps of Engineers (COE):
- a. CRD-C 621 Specification for Non shrink Grout: Hardened State Volume Change

1.4 SUBMITTALS

- A. Submittals: in accordance with Section 01 30 00 –.Submittals
- B. Samples of the following shall be submitted:
 - 1. Preformed joint filler: Two pieces, full depth and width, 4 in. length
- C. Manufacturers' product data shall be submitted for the following items:
 - 1. Admixtures, each type
 - 2. Curing compounds
 - 3. Non-shrink grout
 - 4. Pipe sleeves
 - 5. Preformed joint filler
 - 6. Sieve analysis of aggregates
 - 7. Waterproof curing paper
- D. Prior to start of concrete work, submit to the Owner's Representative for review a schedule for execution of Work of this Section.
- E. Shop drawings indicating the complete layout of architectural formwork including material specifications, layout details of formwork panels, joint locations, reveal locations, form tie locations, and other items which will be exposed to view or will create a visible delineation or mark on the face of exposed concrete.
- F. Shop drawings indicating fabrication, bending diagrams, bar schedules, cutting lists and other information to completely define and establish shape, size, location, and spacing of reinforcing bars. Include details of splicing and keying at construction joints. Indicate grades of reinforcing. Opposite hand reinforcing shall be detailed separately. Wall reinforcing shall be detailed on wall elevations.

1.5 DESIGN OF CONCRETE MIX(ES)

- A. Mix design shall be certified by independent testing laboratory. Statement of materials constituting design of mixes (as required by referenced standards) shall be submitted for Owner's Representative's approval within one week following award of Contract.
- B. Concrete mix design shall include the following information:
 - 1. Proportions of cement, fine and coarse aggregate, and water.
 - 2. Water-cement ratio, design strength, slump, and air content.

3. Type of cement and aggregates.
 4. Type and dosage of admixtures.
 5. Special requirements for pumping.
 6. Range of ambient temperature and humidity for which the design is valid.
 7. Special characteristics of mix which require precautions in mixing, placing, finishing, or curing methods to achieve finished product specified.
- C. No concrete shall be delivered to job site until Owner's Representative has approved design mixes.

1.6 QUALITY ASSURANCE

- A. Unless otherwise specified, cast-in-place concrete work shall conform to ACI 301 and ACI 318. Copies of these referenced standards shall be kept available in field office.
- B. Dimensions, locations, and details of equipment pads, anchors, supports, and similar features indicated on Drawings are approximate. Manufacturer's approved shop drawings of equipment to be supported, anchored, or contained thereby shall be consulted for exact location, size, and details.

1.7 TESTING

- A. Owner's Independent Testing Laboratory in accordance with Section 01 41 00 – Testing Laboratory Services, will perform inspection and testing of concrete mix. Testing equipment shall be supplied by laboratory, and laboratory personnel shall perform preparation of samples and testing.
- B. Concrete materials and operations will be tested and inspected by Owner as work progresses. Failure to detect defective work or material shall not prevent later rejection when such defect is discovered, nor shall it obligate Owner's Representative to final acceptance.
- C. The following testing services shall be performed by Owner:
 1. Review and test of proposed materials for compliance with specifications.
 2. Review of proposed mix design.
 3. Sampling and testing of materials at plants or stockpiles during course of work for compliance with specifications.
 4. Strength tests of concrete specimens.

5. Inspection of concrete batching, mixing, and delivery.
- D. The following testing services shall be provided, at Contractor's expense.
1. Additional testing and inspection required because of changes in materials or proportions requested by Contractor.
 2. Additional testing of materials or concrete occasioned by their failure by testing or inspection to meet specification requirements.
- E. At least six standard compression test cylinders shall be made and tested from each day's placement of each type and design strength of concrete. Six concrete test cylinders will be taken for every 50 cubic yards of each type and design strength of concrete placed. Two cylinders shall be tested at seven days, and two at 28 days. Remaining two cylinders will be held in reserve. If results of 28 day tests indicate low strength concrete, Owner's Representative will direct Testing Laboratory to test remaining two cylinders at a time indicated by Owner's Representative.
1. One additional test cylinder will be taken during cold weather concreting, and will be cured at job site under same conditions as the concrete it represents.
 2. If job experience indicates additional cylinder tests or other tests are required for proper control or determination of concrete quality, such tests shall be made.
 3. Where high-early strength (Type III) concrete is specified or permitted by Owner's Representative, concrete cylinders shall be tested as follows: two at one day and two at seven days.
- F. One slump test and one air content test will be taken for each set of test cylinders taken.
- G. Provide free access to work and provide full assistance and cooperation, concrete for samples, and such auxilliary personnel and equipment for testing agency to take samples for required tests. Notify testing agency and Owner's Representative of his intent to place concrete at least two working days prior to scheduled time of placement.
- 1.8 EVALUATION AND ACCEPTANCE
- A. Strength level of concrete will be considered satisfactory if averages of all sets of three consecutive strength test results equal or exceed specified strength and no individual test result (average of two cylinders) is below specified strength by more than 500 psi.

- B. Completed concrete work will be accepted when requirements of ACI 301 Chapter 18 have been complied with.
- C. Where the average strength of laboratory control cylinders, as shown by tests for any portion of structure, falls below minimum ultimate compressive strength hereinbefore specified, Owner's Representative shall have the right to require Contractor to provide improved curing conditions of temperature and moisture to secure required strength. Also, if average strength of laboratory control cylinders should fall so low as to cause portions of structure to which respective unsatisfactory test reports apply to be in question by Owner's Representative, Contractor shall, at his expense, follow core procedure set forth in current edition of ASTM C 42. If results of the core tests indicate, in opinion of Owner's Representative, that strength of structure is inadequate, such replacement, load testing, or strengthening as may be ordered by Owner's Representative shall be provided by Contractor without cost to Owner.
- D. Owner's Representative shall have the right to reject concrete represented by low strength tests. Rejected concrete shall be promptly removed and replaced with concrete conforming to specification. Decision of Owner's Representative as to whether substandard concrete is to be accepted or rejected shall be final.

PART 2 MATERIALS

2.1 FORMS

- A. Cylindrical Forms: Sonotube Fibre Forms, wax-impregnated strippable forms manufactured by Sonoco Products Company, General Products Division or approved equal, or ABS or PVC plastic reusable forms.
- B. Forms for Exposed Finish: Plywood, metal, metal-framed plywood faced, or other acceptable panel materials. Plywood shall be APA Ref. 1 B-B (Concrete Form), Class I Exterior Grade plywood or B-B or A-C Class I high density overlay concrete form plywood. Formwork materials shall produce smooth, continuous, straight and level surfaces.
- C. Forms for Unexposed Finish: Plywood, lumber or metal, with lumber dressed on at least two edges and one side.
- D. Form Ties: Provide prefabricated, adjustable length galvanized steel snap-off ties, with brackets, cones, come docks and other accessories.
- E. Form Coatings: Commercial formulation compounds that will not bond with, stain or adversely affect concrete.

- F. Forms shall be true to line and free from warp, and shall be of sufficient strength, when staked, to resist the pressure of the concrete without springing. Formwork shall be designed so that sections may be fastened together to prevent vertical or horizontal movement of ends.

2.2 CONCRETE MIX

- A. Concrete: air-entrained type, conforming to ASTM C 94. One copy of Certificate of Delivery required by ASTM C 94 shall be delivered to Owner's Representative immediately upon arrival of each load of concrete at site.
- B. Unless otherwise indicated on Drawings, minimum 28-day compressive strength shall be 4,000 psi.
- C. Concrete slump shall be no less than 2 in. nor greater than 4 in., determined in accordance with ASTM C 143.
- D. Air content by volume shall be 3 to 6%, and shall be tested in accordance with ASTM C 231. "Relative durability factor" of concrete containing air-entrainment admixture shall be at least 90.
- E. Concrete shall contain a water reducing agent to minimize water-cement ratio of mix, at specified slump.
- F. No calcium chloride or admixtures containing calcium chloride shall be added to Concrete. No admixtures other than those specified shall be used in concrete without specific written permission of Owner's Representative.
- G. No additional water, except for amount indicated by design mix shall be added to concrete without prior permission of Owner's Representative.
- H. No concrete shall be placed by pumping methods without prior written approval of Owner's Representative. Should Contractor be allowed to place concrete by pumping methods, pumping procedures, mix design of concrete, and other precautions shall be in accordance with ACI 304 and subject to review by Owner's Representative.

2.3 CONCRETE REINFORCING

- A. Steel reinforcing bars shall conform to ASTM A 615.
 - 1. Bars employed as reinforcement shall be deformed type.

2. Bars employed as dowels where indicated on the Drawings shall be hot-rolled plain rounds.
3. Unless otherwise indicated on the Drawings, reinforcing bars shall be Grade 60.

B. Fiber mesh reinforcing per manufacturer's recommendations.

2.4 CEMENT

- A. Cement: approved brand of American manufactured Portland cement, conforming to ASTM C 150, Type I or II. "Submit manufacturer's name and type of cement for Landscape Architect's approval.
- B. Only one color of cement, all from same manufacturer, shall be used for work.
- C. Do not use Type III cement without Owner's Representative's approval.

2.5 ADMIXTURES

- A. Except as otherwise specified, use of concrete admixtures shall conform to ACI 212.
- B. Admixtures employed shall be produced and serviced by established, reputable manufacturer and used in compliance with manufacturer's recommendations.
- C. Air entraining agent shall conform to ASTM C 260 and shall be "Daravair" or "Darex AEA", manufactured by W.R. Grace & Company; "Airmix" or "Perma-Air", manufactured by The Euclid Chemical Co.; "MB-WR", manufactured by Master Builder's Co., or an approved equal product.
 1. When a high range water reducing (HRWR) admixture is used, air-entraining admixture shall be a neutralized vinsol resin solution.
 2. When requested by the Owner's Representative, furnish certification attesting to compliance with these specifications.
- D. Water reducing agent: conform to ASTM C 494, Type A and shall contain no more than 0.05% chloride ions. Water reducing agent: "WRDA with Hycol", manufactured by W.R. Grace & Company;, "Eucon WR-75" manufactured by The Euclid Chemical Co.; "Pozzolith 200N", manufactured by Master Builders's Co., or approved equal product.
 1. Water reducing agent: manufactured by same manufacturer as air-entraining agent.

- E. Water reducing agent-retarder: conform to ASTM C 494, Type D and be "Daratard-40", manufactured by W.R. Grace & Company, or an approved equal product.
- F. Fly ash: conform to ASTM C 618, equal to TPA, manufactured by the Trinity Division of General Portland Inc., may be used in non-architecturally exposed concrete. Carbon content shall not exceed 3% by volume.
 - 1. Submit certification attesting to the carbon content and compliance with ASTM C 618.
 - 2. Maximum replacement of cement with fly ash shall be 15% by weight.
- G. Superplasticizers: Where permitted by Owner's Representative and where indicated in approved concrete design mix, a high-range water-reducing (HRWR) admixture (superplasticizers) complying with ASTM C 494, Type F or Type G, and containing more than 0.05% chloride ions, may be used subject to the following requirements:
 - 1. When a high range water-reducing admixture is used, the air-entraining admixture shall be a neutralized vinsol resin solution.
 - 2. Concrete shall arrive at the jobsite having a slump conforming to the requirements specified in Paragraph 2.01. HRWR shall be added after the concrete has been thoroughly mixed and the desired initial slump has been achieved.
 - 3. Water to cement ratio shall not exceed 5.0 gal/cwt (0.42 weight basis).
 - 4. Pretesting of the concrete shall be performed under guidance of admixture manufacturer's representative to determine dosage, addition times, and compatibility with other admixtures and mixture constituents.
 - 5. HRWR shall be added at job site and shall be dispensed to truck mixer using automatic dispensing equipment which accurately measured dosage.
 - 6. Slump after addition of HRWR to concrete shall be no greater than is necessary for proper placement and compaction and shall in no case exceed 7 in.
 - 7. Air tests shall be run on admixed concrete as placed, and air content shall be within specified limits.
 - 8. HRWR admixture: "Melment", manufactured by American Admixtures Corp., Chicago, IL; "WRDA-19", manufactured by W. R. Grace & Co.; "Daracem 100", manufactured by W.R. Grace & Co.; "Eucon 37", manufactured by The Euclid

Chemical Co.; "Sikament", manufactured by Sika Chemical Co., or approved equal.

9. Dosage as determined by mix design.

2.6 AGGREGATE

- A. Except as otherwise noted, aggregate shall conform to ASTM C 33.
- B. Maximum size aggregate for sections 16 in. or greater in thickness shall be 1-1/2 in. Maximum size aggregate for sections less than 16 in. thick shall be 3/4-in.
- C. Maximum size of aggregate shall in no case exceed that permitted by ACI 318.

2.7 WATER

- A. Water shall conform to ASTM C 94, Section 4.1.3.

2.8 GROUT

- A. Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be ASTM C 33 Fine Aggregate.
- B. Nonshrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength in 28 days shall be 5,000 psi minimum, but in no case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the COE CRD-C 621 (558). Grout permanently exposed to view shall be nonoxidizing; metallic grout may be used in other locations.

1. Nonshrink grout shall be one of the following, or approved equal:

| | |
|------------------------|-----------------|
| Manufacturer | Product |
| Gifford-Hill CO | Supreme |
| Master Builders Co. | Embeco |
| U.S. Grout Corporation | Five Star Grout |

2.9 CURING MATERIALS

- A. Curing shall be by moist curing.

- B. Curing paper shall be a non-staining, fiber reinforced laminated kraft bituminous product conforming to ASTM C 171. Four mil polyethylene sheeting may be substituted for curing paper.
- C. Curing, Sealing, and Hardening of Interior Concrete Floors/Slabs not Scheduled to receive Finish Floor Material: All Portland cement concrete floors/slabs and aprons in buildings not scheduled to receive applied finishes such as vinyl composition floor tile, shall be cured, sealed and hardened by two applications of "Ashford Formula", manufactured by Curecrete Chemical Company, Inc., Springville, UT 84663-0551; or approved equal. Apply after wet cure is completed.

2.10 BONDING AGENT

- A. Bonding agent for adhering fresh concrete to old shall be Sika Armatec 110, three component, water-based epoxy resin/ portland cement bonding agent, manufactured by Sika Corporation, Lyndhurst, NJ 07071, or approved equal.

2.11 SLEEVES

- A. Sleeves shall be galvanized steel pipe, Schedule 40.

2.12 MISCELLANEOUS ITEMS

- A. Bolts: Conform to ASTM A 307 or ASTM A 36 (as indicated on the Drawings), carbon steel with regular hexagon nuts conforming to ASTM A 563, and carbon steel washers conforming to ASTM F 436.
- B. Expansion bolts for anchoring into existing concrete shall conform to ASTM A 307, and shall have a self-drilling shell similar to Phillips Red Head Self-Drilling Shells, manufactured by Phillips Red Head Anchor Division of ITT, Michigan City, IN., or approved equal.

PART 3 EXECUTION

3.1 SUITABILITY OF SUBGRADE

- A. Aggregate sub-base to receive concrete slab-on-grade shall be inspected to ensure material is suitable to receive concrete, including compaction. Subgrade unacceptable shall be brought to the attention of Owner's Representative.

3.2 PREPARATION OF SUBGRADE

- A. Subgrade shall be compacted as required to bring top 6 inches of subgrade material immediately below the concrete to a density of not less than 95% at optimum moisture content as determined by ASTM D 1557. Subgrade compaction shall extend for a distance of at least one foot beyond edge of concrete.
 - 1. Existing subgrade material which will not readily compact shall be removed and replaced with satisfactory materials. Additional materials needed to bring subgrade to line and grade and to replace unsuitable material removed shall conform to Section 31 23 00 - Earthwork.

3.3 ACCEPTABILITY OF CONCRETE SURFACES

- A. Concrete structures to receive concrete topping slab shall be inspected to ensure that surface is suitable to receive concrete. Waterproofed surfaces shall be thoroughly cured and suitably protected with protection board prior to start of concrete work of this section.

3.4 REINFORCING

- A. Before being placed in position, thoroughly clean reinforcing of loose mill and rust scale, dirt, ice, and other foreign material which may reduce bond between concrete and reinforcing. Where there is delay in placing concrete after reinforcement is in place, bars shall be re-inspected and cleaned.
- B. Bars showing cracks after bending shall be discarded.
- C. Unless otherwise indicated on Drawings, extend reinforcing within 2 in. of formwork and expansion joints. Reinforcing shall continue through control joints. Adjacent sheets of fabric reinforcing shall lap 6 in.
- D. After forms have been coated with form release agent, but before concrete is placed, reinforcing steel and anchors shall be securely wired in the exact position called for, and shall be maintained in that position until concrete is placed and compacted. Chair bars and supports shall be provided in a number and arrangement satisfactory to Owner's Representative.

3.5 CONCRETE PLACEMENT

- A. Before placing concrete, forms and space to be occupied by concrete shall be thoroughly cleaned, and reinforcing steel and embedded metal shall be free from dirt, oil, mill scale, loose rust, paint, and other material which might tend to reduce bond.

- B. Existing concrete, earth, and other water-permeable material against which new concrete is to be placed shall be thoroughly damp when concrete is placed. There shall be no free water on surface.
 - C. Concrete which has set or partially set before placing shall not be employed. Re-tempering of concrete will not be permitted.
 - D. Segregation of concrete shall be prevented during handling; should segregation occur, concrete shall be remixed before it is placed. Concrete shall be placed in the forms in horizontal layers not over one to two feet thick. Concrete shall not be allowed to drop freely more than 4 ft. If free drop to point of placement must exceed 4 ft., obtain approval of Owner's Representative for proposed method of depositing concrete. Concrete shall not be required to flow over distances greater than 3 ft. in any direction in forms or ground, unless otherwise permitted by Owner's Representative.
 - E. Concrete shall be thoroughly spaded, and tamped, and vibrated to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.
 - 1. Apply vibration at point of deposit and in area of freshly placed concrete. Vibrate enough to accomplish thorough compaction and complete embedment of reinforcement and fixtures. Supplement vibration by hand spading in corners and angles of forms to prevent honeycombing.
 - F. When joining fresh concrete to concrete which has attained full set, latter shall be cleaned of foreign matter, and mortar scum and laitance shall be removed by chipping and washing. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 in. thick, shall be well scrubbed into thoroughly dampened concrete base. New concrete shall be placed immediately, before grout has dried or set.
 - G. Concrete surfaces which act as a seat for structural members (other than those resting on grout) shall be troweled to an extremely flat and level surface. If necessary, such surfaces shall be ground off to achieve the required flatness and level.
- 3.6 EMBEDDED METALS
- A. Anchor bolts, anchor slots, reglets, sleeves, edge angles, and similar embedded items will be provided, delivered to the site, under other sections of the specification, for installation under this section.

- B. Where edge angles, etc., have nuts welded on to receive machine screws, the threads of the nuts shall be protected from concrete, and the concrete shall be excluded from the space to be occupied by the screw, by use of wood plugs or other effective means.

3.7 FINISHING VERTICAL CONCRETE

- A. Exposed vertical surfaces shall be formed to produce a "smooth form finish", as defined in ACI 301. Concrete which is exposed to view on exterior of finished structures shall receive smooth rubbed finish, in accordance with ACI 301 and as follows:
 - 1. To permit satisfactory finishing, forms shall be removed from vertical faces of concrete as early as is possible without damaging surface. Immediately after stripping forms, fins or projections left by forms shall be chipped off, and surfaces rubbed smooth.
 - 2. Voids and faults shall be patched. Voids, etc., shall be cleaned out, roughened, thoroughly wetted, coated with neat cement paste, and filled with mortar of cement and sand in same proportions, materials, and color as used in concrete. Surface of the patch shall be flush with the surrounding surface after finishing operations are complete. Surface shall be kept continuously damp until patches are firm enough to be rubbed without damage.
 - 3. Rubbing shall be performed while the surface is wet using carborundum or cement sand brick, to achieve a smooth, uniform, even textured finish. Blend patched and chipped areas to match appearance of rest of surface. No cement wash or plastering will be permitted, and no mortar shall be used except as required above.
- B. Rubbed Finish: After removal of forms, patching and repairing, and while concrete is still green, spread slurry consisting of 1 part portland cement concrete and 1-1/2 part damp, loose sand by volume, over pre-dampened surface. Apply using burlap pads or sponge rubber floats. Remove surplus materials, and then rub with clean burlap. Water fog completed surfaces for 7 days min.
- C. As-Formed Finish: Remove fins by stoning, otherwise leave texture imparted by forms.
- D. Vertical surfaces of concrete which will be concealed in finished structure shall be formed to produce a "rough form finish", as defined in ACI 301.

3.8 FINISHING HORIZONTAL CONCRETE

- A. Screed off and wood-float concrete slabs and pads to smooth surface, true to line and grade, and free of hollows and bumps. Surface shall be dense, smooth, and at exact level and slope required.
- B. Horizontal surfaces of concrete which will be exposed shall be given a light broomed finish, with direction of grooves in concrete surface perpendicular to length of concrete slab or pad. After concrete has set sufficiently to prevent coarse aggregate from being tom from surface, but before it has completely set, brooms shall be drawn across it to produce a patten of small parallel grooves. Broomed surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Coarse aggregate shall not be dislodged by brooming operation.
- C. Floated Finish: Provide at slab surfaces to precede other finishes. Begin floating after concrete has been struck off, consolidated, and leveled, surface water has disappeared and surface is sufficiently hardened to support power driven float. Finish surface with impact type power driven float or hand float. Test surface with 10 ft. - 0 in. straightedge placed at minimum two different angles; correct irregularities exceeding 1/4 in. Refloat repaired areas.
- D. Trowel Finish: Provide at interior slab surfaces. Screed and float slabs to true and level surface, then trowel to dense, impervious surface, free from trowel marks, uniform in texture and appearance. Machine troweling is acceptable for surfaces to receive additional floor coverings and as preliminary finish on exposed surfaces. Hand trowel areas to be exposed in finished structure. Test surface with 10 ft. - 0 in. straightedge placed at minimum two different angles; correct irregularities exceeding 1/4 inch. Refloat repaired areas.
- E. Curing, Sealing, and Hardening of Interior Concrete Floors/Slabs and Aprons not Scheduled to receive Finish Floor Material: Apply two applications of Ashford Formula to concrete aprons and concrete floors/slabs (and equipment pads) not scheduled to receive other finishes in strict accordance with manufacturer's instructions and recommendations, including "working" material into concrete surfaces, as approved by Owner's Representative. Provide services of a technical representative of sealer material to be on-site during application of sealer material.
- F. Control joints in floor as indicated on Drawings shall be sawn by using a diamond blade concrete power saw. Joints shall be made as soon as possible after concrete is finished and when the surface is stiff enough to support the weight of workmen without damage to the slab. Saw shall cut into slab at least 1 in., but in no case less than 25% of slab depth. Cuts shall be clean, straight and uniform.

- G. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and kept continuously moist from time of placing until end of curing period, or until curing membrane is applied.

3.9 FILLING HOLES

- A. Holes resulting from removal of bolts or tie rods that are not a part of decorative layout of set back cones at wall face shall be solidly filled with cement grout. Holes passing entirely through concrete members shall be filled from inside face, with a plunger-type grease gun or other device that will force mortar through to outside face, holding a canvas sack at exterior surface to assure complete filling. Holes, which do not pass entirely through, shall be filled, using tools, which will permit the opening to be packed thoroughly full. Excess mortar at faces of filled holes shall be struck off flush, with a canvas sack.

3.10 CURING

- A. It is essential concrete be kept continuously damp from time of placement until end of specified curing period. It is equally essential water not be added to surface during floating and troweling operations, and not earlier than 24 hours after concrete placement. Between finishing operations surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when covering is placed over it, and shall be kept damp by means of fog spray of water, applied to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- B. Concrete surfaces, not otherwise specified, shall be cured by being kept wet with clean water for a period of not less than seven days after placing. Each day the forms are left in place, and kept wet enough to prevent the opening of joints in the forms and the drying out of the concrete, will be counted as one day of curing.
- C. Concrete surfaces shall be cured by completely covering with curing paper.
 - 1. Concrete shall be completely covered with paper with seams lapped at least 2 in. and sealed with tape. Concrete surface shall not be moistened within 24 hours of placing concrete. During curing period surface shall be checked frequently, and sprayed with water or curing compound to prevent drying, but not earlier than 24 hours after placing concrete.
 - 2. Concrete surfaces to receive paint, waterproofing, damproofing, thin-set adhesives and coatings, and similar applied materials, which require bond and adhesion to concrete surfaces, shall be cured using curing paper. The use of curing compounds on these surfaces will not be permitted.

3. Unless otherwise directed by Owner's Representative, curing period shall be seven days, minimum.

3.11 COLD WEATHER CONCRETING

- A. Materials for concrete shall be heated when concrete is mixed, placed, or cured when the mean daily temperature is below 40 degrees F, or is expected to fall to below 40 degrees F, within 72 hours, and concrete after placing shall be protected by covering, heat, or both.
- B. Details of handling and protecting of concrete during freezing weather shall be subject to approval and direction of Owner's Representative. Procedures shall be in accordance with provisions of ACI 306.
- C. Protect concrete from damage and reduced strength or performance due to weather extremes during mixing, placing and curing. Unless adequate protection is provided, concrete shall not be placed during rain, sleet or snow.
- D. Carefully review phasing requirements and determine scope of cold-weather concreting required.

3.12 HOT WEATHER CONCRETING

- A. Concrete just placed shall be protected from direct rays of the sun and forms and reinforcement just prior to placing shall be sprinkled with cold water. Every effort shall be made to minimize delays resulting in excessive mixing of concrete after arrival on job.
- B. During periods of excessively hot weather (95 degree F, or above) ingredients in concrete shall be cooled and cold mixing water shall be used to maintain temperature of concrete at permissible levels in accordance with provisions of ACI 305. Concrete with a temperature above 95 degrees F, when ready for placement will not be acceptable, and will be rejected.
- C. Temperature records shall be maintained throughout the period of hot weather giving air temperature, general weather conditions (calm, windy, clear, cloudy, etc.) and relative humidity. Records shall include checks on temperature of concrete as delivered and after placing in forms. Data should be correlated with progress of work so that conditions surrounding construction of structure can be ascertained.

3.13 BRACING AND SUPPORTS

- A. Concrete members shall be adequately and safely supported and braced until permanent supports and braces (by whomever supplied) are installed.

3.14 REMOVING FORMS AND SUPPORTS

- A. Except as otherwise specifically authorized by Owner's Representative, forms shall not be removed until concrete has aged for at least three days or following number of day-degrees, whichever is greater.

| Location | Day-Degrees* |
|-----------------------------|--------------|
| Beams and Slabs | 500 |
| Walls and Vertical Surfaces | 100 |

* The term day-degrees represents the product of number of days elapsed since time of concrete placement and average daily air temperature at surface of concrete. For example, five days at a daily average temperature of 60 deg. F. equals 300 day-degrees.

1. Form removal by methods other than day-degree method will not be permitted.

3.15 BONDING AGENT

- A. Surface: clean, sound, and saturated surface dry but free of standing water. Remove dust, laitance, grease, curing compounds impregnations, waxes, and other foreign matter.
- B. Sandblast existing concrete, or use other mechanical means to achieve surface preparation required by bonding agent manufacturer prior to application of bonding agent.
- C. Apply bonding agent in strict accordance with manufacturer's printed instructions.

3.16 PROTECTION OF CONCRETE SURFACES

- A. Concrete surfaces shall be protected from traffic or damage until surfaces have hardened sufficiently. Use 1/2 inch thick plywood sheets to protect the exposed surfaces.

END OF SECTION

SECTION 32 13 14

PORTLAND CEMENT CONCRETE PAVING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section contains the following:
 - 1. Portland Cement Concrete Paving in Pedestrian Areas.
- B. Related Sections include the following:
 - 1. Section 31 23 00 – Earthwork
 - 2. Section 03 30 00 – Site Cast-in-Place Concrete
 - 3. Section 32 13 15 – Integrally Colored Concrete Paving
 - 4. Section 32 13 16 – Exposed Aggregate Concrete Paving

1.3 REFERENCES

- A. Comply with applicable requirements of:
 - 1. Standard Specification: Commonwealth of Massachusetts Department of Public Works, Standard Specification for Highways and Bridges, latest edition.
 - 2. ASTM: American Society of Testing Materials.
 - 3. AASHTO: American Association of State Highway and Transportation Officials.
 - 4. NBGQA: National Building Granite Quarries Association

1.4 SUBMITTALS

- A. Submittals: in accordance with Section 01 33 00 –SUBMITTALS.
- B. Product Data: submit manufacturer's specifications and installation instructions for:
 - 1. Sealant
 - 2. Backer Rod

- C. Design Mix for concrete
- D. Sample panel:
 - 1. Cement Concrete paving: Provide one 10' square sample panel of cement concrete showing full range of surfaces finishes and joint types to be expected in the finished work. The quality of workmanship, joint treatment and surface finish to be approved by Landscape Architect before proceeding with permanent concrete paving. If original sample is not approved, provide additional samples at no cost to the Owner until an approved sample is achieved. The approved sample will become the standard for the entire project.
 - 2. Sample Panels are not to be constructed in locations becoming part of the final paving. Sample panels are to remain undisturbed until paving is complete and then removed as approved by Landscape Architect.
- E. Certificates: submit materials certificates signed by material producer and Contractor. Provide certifications stating materials comply with requirements. Certification shall be based on independent testing laboratory tests made within last year.

1.5 QUALITY ASSURANCE

- A. Work under this Section shall be performed by workmen experienced and familiar with required construction procedures and under full time supervision of a qualified foreman.

1.6 DELIVERY AND STORAGE

- A. Store materials on raised platforms. Locate storage piles or stacks to avoid and be protected from traffic. Store materials under an approved roof or covered with waterproof tarpaulins, except when men are working and using materials.
- B. Handle, store, mix and apply setting materials in strict compliance with manufacturer's recommendations and instructions.

1.7 PROTECTION

- A. Protect paving surfaces from damage or defacement.
- B. Protect adjacent surfaces from staining, soiling and other damage.

PART 2 PRODUCTS

2.1 PORTLAND CEMENT CONCRETE MATERIALS AND PRODUCTS

- A. Portland cement concrete materials and products: as specified in Section 03 00 00 – Site Cast-in-Place Concrete.

PORTLAND CEMENT CONCRETE PAVING

2.2 PORTLAND CEMENT MIXES

- A. Portland cement paving mixes: Design mix to provide normal weight concrete complying with requirements of Section 701 and M4 of Standard Specifications. 4,000 psi compressive strength at 28 days, 3/4 aggregate, 610 pounds per cubic yard cement content and 5% to 7% air-entrained with 2" to 4" maximum slump.
- B. Lamp Black: Portland Cement Paving Mix to be modified to be darkened by adding 1-1/2 to 2 lbs of lamp black per cubic yard at the plant.

2.3 JOINT FILLER

- A. Sponge rubber in conformance to AASHTO M-153-65, Type I, Fed. Spec. HH-F- 341F, Type II, Class A and ASTM D-1752-67, Type I and be one of the following:
 - 1. Sealtight Sponge Rubber Expansion Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL.
 - 2. Vulkem 116 manufactured by Mameko International.
 - 3. Sikaflex-1A manufactured by Sika Chemical Corp.
 - 4. Sonalastic NP-1 manufactured by Sonnenborn Building Products.
 - 5. Or Equal

2.0 BACKER ROD

- A. Continuous round rod of 100% closed cell polyethylene foam, complying with requirements of ASTM C-272.

2.5 JOINT SEALANT

- A. Two or more part, self-leveling, polyurethane based elastomeric sealant, complying with ASTM C920, Fed. Spec. TT-S-00227E Type 1 Class A, having Shore A hardness of not less than 40 + 5 when tested according to ASTM D2240, cured modulus of elasticity at 100% elongation of not more than 150 psi when tested according to ASTM D412, and tear resistance of not less than 50 lbs./inch when tested according to ASTM D624.
 - 1. Provide one of the following:
 - a. Pecora Urexpan NR-200
 - b. Tremco THC 900
 - c. Sika 1A, SL
 - d. Or Equal
 - 2. Where joint surfaces contain bituminous materials, provide modified sealant compatible with bituminous materials encountered.

2.6 EXPANSION DOWELS AND SLEEVES

- A. Stainless steel bars, complying with ASTM A276, Type 304, with smooth end cuts. Provide bar in dimensions and size indicated on Drawings. Provide expansion caps with compatible waxed tube sleeve which permit at least 1 inch movement.

2.7 GRAVEL FILL

- A. Gravel Fill: as specified in Section 31 00 00 – Earthwork

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation with layout and installation of adjacent paving, curbing, walls and other site improvements to ensure proper alignments.
- B. Make corrections as required to granular fill provided under Section 31 00 00 – Earthwork to bring gravel to the proper sections and elevations

3.2 PREPARATION OF GRAVEL FILL BASE

- A. Compact subgrade to achieve a 95% minimum compaction rate consistent throughout subgrade.
- B. Place gravel fill base in 2" to 3" lifts and as specified in Section 31 00 00 – Earthwork
- C. Compact to achieve a 95% minimum compaction rate consistent throughout gravel base.
- D. Final surface of gravel base to be left 1/8" higher than adjacent surfaces to allow for settlement.

3.3 INSTALLATION OF PORTLAND CEMENT CONCRETE PAVING

- A. Formwork: Set forms accurately to maintain specified tolerances. Remove loose material and clean forms immediately before concrete placement.
- B. Reinforcing: Place reinforcing as detailed and as specified in Section 03 30 00 – Site Cast-in-Place Concrete. Provide reinforcing in longest practical lengths. Unroll wire mesh for reinforcement flat before placing in concrete. Minimum concrete covering of 2" over wire mesh and reinforcing bars. Secure reinforcing against displacement during concrete placement.

- C. Concrete: as specified in Section 03 00 00 – Site Cast-in-Place Concrete for mixing, placing and curing concrete. Use vibrators to consolidate concrete and to prevent honeycombs.
- D. After consolidating and screeding concrete, float and trowel to smooth hard surface and even plane. Check tolerances and make necessary adjustments. Tool edges and form joints to create 1/4 inch radius. Eliminate tool marks on concrete surfaces.
- E. Broom Finish: Slightly roughen concrete surface by brooming with fine bristle broom perpendicular to main traffic directions to achieve uniform medium broom finish. Obtain Landscape Architect's approval.
- G. Expansion Joints: Provide expansion joints using galvanized metal keyway sections where concrete placement is interrupted for more than 1/2 hour and at end of placement and in grid pattern not more than 30 feet on center at locations approved by Landscape Architect. Provide shear dowels and expansion caps at not more than 16 inches on center to transfer vertical loads but permit horizontal movement. Extend joint filler full depth of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of forms
- H. Caulked Construction Joints: Provide caulked construction joints wherever concrete abuts dissimilar material at locations approved by Architect. Extend joint filler full depth of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of joint.
- I. Saw Cut Joints: Provide saw cut joints straight, true and plumb to paving surface, parallel to one another and perpendicular to paving edge. Use new saw blades to result in smooth and crisp cuts.

3.4 PORTLAND CEMENT CONCRETE PAVING TOLERANCES

- A. The following installed tolerances are allowable variations from locations and dimensions on Drawings and shall not be added to allowable tolerances for other work:
 - 1. Allowable Variation from True Level: +/- 1/8 inch in 20 feet
 - 2. Allowable Variation from True Line: +/- 1/8 inch in 20 feet

3.5 ADJUSTING UTILITY STRUCTURES

- A. Existing-to-remain water, sewer, drainage, and communications structures that are located in proposed sidewalk areas shall be made to conform to the newly proposed final grade. Work shall be performed in accordance with the requirements of Sections 220 and 301 of MHD Standard Specifications.

- B. KeySpan and Nstar will adjust existing-to-remain gas and electric structures to final grade, respectively. Contractor shall be responsible for coordinating this work.

END OF SECTION

SECTION 32 13 15
INTEGRALLY COLORED CONCRETE PAVEMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The work of this Section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.

1.2 SCOPE OF WORK

- A. The scope of this work consists of the following:
1. Integrally colored concrete pavement on grade.
- B. Related Sections include the following:
1. Section 03 30 00 – Site Cast-in-Place Concrete
 2. Section 31 00 00 – Earthwork
 3. Section 32 13 14 – Portland Cement Concrete Paving
 4. Section 32 13 16 – Exposed Aggregate Concrete Paving

1.3 REFERENCES

- A. Comply with applicable requirements of:
1. Commonwealth of Massachusetts, Standard Specifications for Highways and Bridges, Department of Public Works, latest edition.
- B. American Concrete Institute (ACI):
1. ACI 301 "Specification for Structural Concrete for Buildings."
 2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
 3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete."
 4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
 5. ACI 305R "Recommended Practice for Hot Weather Concreting."

6. ACI 306R "Recommended Practice for Cold Weather Concreting.
- C. American Society of Testing and Materials (ASTM):
1. ASTM C309 "Standard Specifications for Liquid Membrane-Forming Compounds for Curing Concrete."
 2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
 3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."
- D. American Association of State Highway and Transportation Officials (AASHTO):
1. AASHTO M194 "Chemical Admixtures."
- 1.4 SUBMITTALS
- A. Submittals: in accordance with Section 01 30 00 – General Requirements, Paragraph 1.08, SUBMITTALS.
- B. Product Data: submit manufacturer's specifications and installation instructions for:
1. Colored Admixture
 2. Curing Compound
 3. Fiber Reinforcing
 4. Preformed Joint Filler
 5. Joint Sealant
 6. Backer Rod
- C. Design Mixes: *For each type of integrally colored concrete*
- D. Qualifications: submit written project list and references for other Integrally Colored Concrete project work.
- E. Sample panel:
1. Integrally Colored Concrete paving: Provide one 10' square sample panel of cement concrete showing full range of colors, surface finishes and joint types to be expected in the finished work for each color. The quality of workmanship, joint treatment and surface finish to be approved by Landscape Architect before proceeding with permanent concrete paving. If original sample is not approved, provide additional samples at no cost to the Owner until an approved sample is achieved. The approved sample will become the standard for the entire project.

2. Sample Panels are not to be constructed in locations becoming part of the final paving. Sample panels are to remain undisturbed until paving is complete and then removed as approved by Landscape Architect.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with 10-years experience in production of specified products.
- B. Installer Qualifications: An installer with 5 years experience with work of similar scope and quality.
- C. Comply with the requirements of ACI 301.
- D. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.
- E. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work.

1.6 DELIVERY AND STORAGE

- A. Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

1.7 PROJECT CONDITIONS

- A. Integrally Colored Concrete Environmental Requirements:
 1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
 2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
 3. Comply with professional practices described in ACI 305R and ACI 306R.
- B. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

PART2 MATERIALS

2.1 MANUFACTURER

- A. L.M. Scofield Company, Douglasville, Georgia (800) 800.9900. Local contact: North/East Division Office (201) 672.9051.

2.2 MATERIALS

A. Colored Admixture for Integrally Colored Concrete:

1. Chromix P® Admixture and Chromix L®; L.M. Scofield Company.
 - a. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are lime proof and UV resistant.
 - b. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494, and AASHTO M194.
2. Colors:
 - a. Cement: Color shall be gray and of a consistent color throughout the project.
 - b. Concrete Colors:
 1. Type A: Color to match existing on-site colored concrete panel. To be selected by Landscape Architect.
 2. Type B: Color to match existing on-site colored concrete panel. To be selected by Landscape Architect.
 3. Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup

B. Curing Compound for Integrally Colored Concrete:

1. Curing Compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.
 - a. Exterior Integrally Colored Concrete: LITHOCHROME® COLORWAX; L.M. Scofield Company. Use to cure exterior flatwork that will be allowed to cure.

C. Curing and Sealing Compound:

1. Cureseal™ semi-gloss; L.M. Scofield Company:
 - a. Curing and sealing compound shall comply with ASTM C309 and be the same manufacturer as colored admixture, for use with integrally colored concrete.

2.3 CONCRETE MIX DESIGN

- A. Concrete: 4000 psi with 4" maximum slump.
- B. Portland cement: conform to ASTM C 150 Type I, II, or V, depending on soil conditions.
- C. Aggregates: conform to ASTM C 33.
- D. Mixing water: fresh, clean and potable.
 - 1. Do not add water to the mix in the field
- E. Admixtures: In freeze-thaw areas only, an air-entraining admixture complying to ASTM C 260 shall be used to achieve an entrained air content for the particular mix used in accordance with the published recommendations of the Portland Cement Association and the American Concrete Institute. No admixtures containing calcium chloride shall be permitted.
 - 1. Supplemental admixtures shall not be used unless approved by manufacturer.
- F. Add colored admixture to the mix according to manufacturer's written instructions in premeasured bags, not by weight of cement content.

2.4 FIBER REINFORCING

- A. Synthetic Fiber Reinforcement: Fibermesh 150 as manufactured by Propex Concrete Systems, 6025 Lee Highway, Suite 425, Chattanooga, TN 37422, phone # 800.621.1273 or NyCon Incorporated, 101 Cross Street, Westerly, RI 02891-240, phone # 800 456 9266 or approved equal.
 - 1. Material: 100 percent virgin homopolymer polypropylene multifilament fibers, containing no reprocessed olefin materials.
 - 2. Conformance: ASTM C 1116, Type III.
 - 3. Fire Classifications:
 - a. UL Report File No. R8534-11.
 - b. Southwest Certification Services (SWCS), Omega Point Laboratories No. 8662-1.
 - 4. Fiber Length: Graded
 - 5. Alkali Resistance: Alkali proof.
 - 6. Absorption: Nil.
 - 7. Specific Gravity: 0.91.
 - 8. Melt Point: 324 degrees F (162 degrees C).

- B. Mix fibrous reinforcement in accordance with manufacturer's instructions including product data and technical brochures.

- 1. Add fibrous reinforcement to concrete mix at the concrete batch facility.
 - 2. Adding and mixing fibrous reinforcement at the job site will not be allowed.

- C. Mix fibrous reinforcement in accordance with manufacturer's instructions including product data.

2.5 JOINT FILLER

- A. Sponge rubber in conformance to AASHTO M-153-65, Type I, Fed. Spec. HH-F- 341F, Type II, Class A and ASTM D-1752-67, Type I and be one of the following:

- 1. Sealtight Sponge Rubber Expansion Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL, or approved equal.

2.6 BACKER ROD

- A. Continuous round rod of 100% closed cell polyethylene foam, complying with requirements of ASTM C-272.

2.7 JOINT SEALANT

- A. Two or more part, self-leveling, polyurethane based elastomeric sealant, complying with ASTM C920, Fed. Spec. TT-S-00227E Type 1 Class A, having Shore A hardness of not less than 40 + 5 when tested according to ASTM D2240, cured modulus of elasticity at 100% elongation of not more than 150 psi when tested according to ASTM D412, and tear resistance of not less than 50 lbs./inch when tested according to ASTM D624.

- 1. Provide one of the following:
 - a. Pecora Urexpan NR-200
 - b. Tremco THC 900
 - c. Sika 1A, SL
 - 2. Where joint surfaces contain bituminous materials, provide modified sealant compatible with bituminous materials encountered.

2.8 EXPANSION DOWELS AND SLEEVES

- A. Stainless steel bars, complying with ASTM A276, Type 304, with smooth end cuts. Provide bar in dimensions and size indicated on Drawings. Provide expansion caps with compatible waxed tube sleeve which permit at least 1 inch movement.

2.9 GRAVEL

- A. Gravel: as specified in Section 31 00 00 – Earthwork.

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation of paving with layout and installation of adjacent paving, curbing, walls and other site improvements to ensure proper alignments.
- B. Make corrections as required to gravel provided under Section 31 00 00 – Earthwork, to bring gravel to the proper sections and elevations.

3.2 PREPARATION OF GRAVEL BASE

- A. Compact subgrade to achieve a 95% minimum compaction rate consistent throughout subgrade.
- B. Place gravel base as specified in Section 31 00 00 – Earthwork.
- C. Compact to achieve a 95% minimum compaction rate consistent throughout gravel base.
- D. Final surface of gravel base to be left 1/8" higher than adjacent surfaces to allow for settlement.

3.3 PREPARATION FOR PAVING

- A. Formwork; Set forms accurately to maintain specified tolerances. Remove loose material and clean forms immediately before concrete placement.
- B. Reinforcing; Place reinforcing as detailed and in compliance with Section 03300 - Cast-in-Place Concrete. Provide reinforcing in longest practical lengths. Unroll wire mesh for reinforcement flat before placing in concrete. Minimum concrete covering of 2" over wire mesh and reinforcing bars. Secure reinforcing against displacement during concrete placement.
- C. Concrete: Comply with requirements of Section 03 30 00 – Site Cast-in-Place Concrete for mixing, placing and curing concrete. Use vibrators to consolidate concrete and to prevent honeycombs.

3.4 MIXING

- A. Add synthetic fiber reinforcement to concrete mixture in accordance with manufacturer's instructions.
- B. Add synthetic fiber reinforcement into concrete mixer before, during, or after batching other concrete materials.
- C. Application Rate: Add synthetic fiber reinforcement at standard application rate of 1.5 pounds per cubic yard (0.90 kg/m³) of concrete.
- D. Mix synthetic fiber reinforcement in concrete mixer in accordance with mixing time and speed of ASTM C 94 to ensure uniform distribution and random orientation of fibers throughout concrete.

3.5 INSTALLATION PROCEDURES

- A. Install concrete according to requirements of Section 03300 – Site Cast-in-Place Concrete
- B. Fiber Reinforcing in Pedestrian Paving Applications: Fibrous reinforcement to be incorporated in accordance with manufacturer's instructions.
- C. Do not add water to the mix in the field.
- D. Surfaces shall be finished uniformly with the following finish:
 - 1. Broomed: Pull broom across freshly floated concrete to produce a medium texture in lines perpendicular to the main line of traffic. Do not dampen brooms.
- E. Control joints: Provide control joints as approved by Architect to determine the best location for these joints to minimize the visibility of the joints and to minimize unsightly cracking. Cut with a power saw fitted with an abrasive diamond blade within 4 to 12 hours after walk was been placed and finished
- F. Expansion Joints: Provide expansion joints where concrete placement is interrupted for more than 1/2 hour and at end of placement and in grid pattern not more than 30 feet on center at locations approved by Architect. Provide shear dowels and expansion caps at not more than 16 inches on center to transfer vertical loads but permit horizontal movement. Extend joint filler full depth of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of
- G. Caulked Construction Joints: Provide caulked construction joints wherever concrete abuts dissimilar material at locations approved by Architect. Extend joint filler full depth

of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of joint.

3.6 CURING

- A. Integrally Colored Concrete: Apply curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply curing and sealing compound at consistent time for each pour to maintain close color consistency.
- B. Curing compound shall be same color as the colored concrete and supplied by same manufacturer of the colored admixture.
- C. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 Plastic Shrinkage Cracking published by the National Ready Mixed Concrete Association.
- D. Do not cover concrete with plastic sheeting.

END OF SECTION

SECTION 32 13 16

EXPOSED AGGREGATE CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The work of this Section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.

1.2 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment, services and transportation to complete work.
 - 1. Exposed Aggregate Concrete Pavement.

1.3 RELATED SECTIONS

- A. Section 01 00 00 – General Requirements
- B. Section 31 22 00 – Grading
- C. Section 31 23 00 – Earthwork
- D. Section 32 05 23 – Site Cast-in-Place Concrete
- E. Section 32 10 00 – Bases, Ballasts, and Paving
- F. Section 32 13 13 – Portland Cement Concrete Pavement
- G. Section 32 30 00 – Site Improvements

1.4 REFERENCES

- A. Comply with applicable requirements of:
 - 1. Commonwealth of Massachusetts, Standard Specifications for Highways and Bridges, Department of Public Works, latest edition, Boston, Massachusetts.
 - 2. ASTM: American Society of Testing and Materials
 - 3. AASHTO: American Association of State Highway and Transportation Officials.
 - 4. ACI Standards: American Concrete Institute.
 - 5. CRSI Standards: Concrete Reinforcing Steel Institute.

1.4 QUALITY ASSURANCE

- A. Work under this Section shall be performed by experienced installer who has completed pavement work similar in material, design, and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance.

1.5 SUBMITTALS

- A. Submittals: in accordance with Section 01 00 00 – General Requirements.
- B. Design Data: submit:
 - 1. laboratory test reports for concrete materials and design mix tests if trial batch method is used for proportioning concrete mixes.
 - 2. records of strength tests if field experience method is used for proportioning concrete mixes.
 - 3. statement of composition of concrete mix and evidence that mix meets specified quality in compliance ASTM C94-90.
- C. Product Data: submit manufacturer's specifications and installation instructions for:
 - 1. Portland Cement Concrete Design Mix colors
 - 2. Exposed Aggregate
 - 3. Preformed Joint Filler
 - 4. Joint sealer
 - 5. Backer rod.
 - 6. Surface Retardant
 - 7. Sealer.
- D. Shop Drawings: submit:
 - 1. Layout and detailing of exposed aggregate paving with joints.
- E. Samples: submit samples of the following. Samples shall be sufficient to show full range of color, edge finish and texture variation to be expected in finished work.
 - 1. Exposed Aggregate – 10-lb sample.
 - 2. Portland Cement Concrete Design Mix colors – four samples.
- F. Composite sample panel: After receipt of Landscape Architect's approval of material samples, construct one six foot by six foot sample panel including joints and finishes to establish quality of workmanship. Sample panel to include all pavement and joint types. If the original sample is not approved, provide additional samples as required at no cost to the Owner until an approved sample is obtained. The approved sample will become the standard for joint work for the entire job. DO NOT construct sample panel at a location becoming part of the final pavement and will remain undisturbed until all paving is completed and accepted. Remove panel upon completion and acceptance of the Work.

1.6 QUALITY ASSURANCE

- A. Work under this Section shall be performed by workmen experienced and familiar with required construction procedures and under full time supervision of a qualified foreman.

1.7 DELIVERY AND STORAGE

- A. Store materials on raised platforms. Locate storage piles or stacks to avoid and be protected from traffic. Store materials under an approved roof or covered with waterproof tarpaulins, except when men are working and using materials.
- B. Handle, store, mix and apply setting materials in strict compliance with manufacturer's recommendations and instructions.

1.8 PROTECTION

- A. Protect paving surfaces from damage or defacement.
- B. Protect adjacent surfaces from staining, soiling and other damage.

PART 2 - PRODUCTS

2.1 FORMS

- A. Formwork: As specified in Section 32 05 23 – Site Cast-in-Place Concrete.

2.2 EXPOSED AGGREGATE PORTLAND CEMENT CONCRETE PAVEMENT

- A. Portland cement paving mix: 4,000 psi compressive strength at 28 days and 5% to 7% air-entrained with 3" maximum slump and as specified in Section 32 05 23 – Site Cast-in-Place Concrete.
- B. Integral Color Pigment: Portland cement paving with aggregate surface to have integral color pigment manufactured by Davis Colors, ph # 800.356.4848.
- C. Fiber reinforcing to be added per manufacturer's recommendations.
- D. Exposed Aggregate: Aggregate to be hard, sound, durable, and free of deleterious materials and staining qualities. Provide aggregates from a single source. Color(s) to match Cedar supplied by Triad Associates, 10 Avco Road, Haverhill, Massachusetts 01835, ph #978.373.4223.
- E. Water: Clean and potable.
- F. Surface Retardant:

1. Expose Tech retarder provided by Triad Associates.
2. or other sealer recommended by manufacturer for exposed aggregate.

G. Sealer and Bonding Agent:

1. Granite Matte sealer and Acrylic Bonding Agent provided by Triad Associates.
2. or other sealer recommended by manufacturer for exposed aggregate.

H. Control joints: Saw cut to the dimensions shown on the drawings.

2.3 JOINT FILLER

A. Sponge rubber in conformance to AASHTO M-153-65, Type I, Fed. Spec. HH-F- 341F, Type II, Class A and ASTM D-1752-67, Type I and be one of the following:

1. Sealtight Sponge Rubber Expansion Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL.
2. Or approved equal

2.4 BACKER ROD

A. Continuous round rod of 100% closed cell polyethylene foam, complying with requirements of ASTM C-272.

2.5 JOINT SEALANT

A. Two or more part, self-leveling, polyurethane based elastomeric sealant, complying with ASTM C920, Fed. Spec. TT-S-00227E Type 1 Class A, having Shore A hardness of not less than 40 + 5 when tested according to ASTM D2240, cured modulus of elasticity at 100% elongation of not more than 150 psi when tested according to ASTM D412, and tear resistance of not less than 50 lbs./inch when tested according to ASTM D624.

1. Provide one of the following:
 - a. Pecora Urexpan NR-200
 - b. Tremco THC 900
 - c. Sika 1A, SL
 - d. Or Equal
2. Where joint surfaces contain bituminous materials, provide modified sealant compatible with bituminous materials encountered.

2.6 EXPANSION DOWELS AND SLEEVES

- A. Stainless steel bars, complying with ASTM A276, Type 304, with smooth end cuts. Provide bar in dimensions and size indicated on Drawings. Provide expansion caps with compatible waxed tube sleeve which permit at least 1 inch movement.

2.9 GRAVEL

- A. Gravel: same as Gravel Borrow as specified in 32 10 00 - EARTHWORK

2.10 ORDINARY FILL

- A. Ordinary Fill: same as Ordinary Borrow or Common Fill as specified in Section 32 10 00 – EARTHWORK.

PART 3 - EXECUTION

3.1 PREPARATION OF SITE

- A. Coordinate layout and installation of paving with layout and installation of adjacent paving, curbing, walls and other site improvements to ensure proper alignments.
- B. Make corrections as required to gravel provided to bring gravel to the proper sections and elevations.
- C. Compact subgrade to achieve a 95% minimum compaction rate consistent throughout subgrade.
- D. Place gravel base in 2" to 3" lifts and as specified in 32 10 00 - EARTHWORK.
- E. Compact to achieve a 95% minimum compaction rate consistent throughout gravel base.
- F. Final surface of gravel base to be left 1/8" higher than adjacent surfaces to allow for settlement.

3.2 PREPARATION FOR PAVING

- A. Formwork: Set forms accurately to maintain specified tolerances. Remove loose material and clean forms immediately before concrete placement.
- B. Fiber Reinforcing: Incorporate into mix in accordance with manufacturer's recommendations.
- C. Concrete: Comply with requirements of Section 32 13 13 – Portland Cement Concrete Paving for mixing, placing and curing concrete. Use vibrators to consolidate concrete and to prevent honeycombs.

3.3 EXPOSED AGGREGATE PORTLAND CEMENT CONCRETE PAVING

- A. Seeded Exposed Aggregate Finish: Immediately after floating, broadcast a layer of aggregate uniformly onto the pavement surface. Tamp seeded aggregate into plastic concrete, and float to entirely embed aggregate with mortar cover of 1/16 inch.
- B. Prior to the concrete placement operation, all select seeding aggregate shall be thoroughly washed so that it is free of all dust, dirt and clay particles. The aggregate shall be in a damp condition but without free surface water at the time of seeding application. There shall be sufficient select aggregate on hand to complete the seeding once it has commenced.
- C. The seeding operation shall start immediately after the placement of concrete as described above. The select aggregate shall be carefully and uniformly seeded by suitable means so that the entire surface is completely covered with one layer of stone. Stacked stones and flat and silvery particles shall be removed at this time. The aggregate shall be embedded by suitable means. Care shall be taken to not over embed and deform the surface. Under no circumstances shall areas lacking sufficient mortar be filled with small quantities of the base concrete mixture.
- D. Without dislodging aggregate, remove excess mortar by lightly brushing the surface with a stiff nylon bristle broom.
- E. Fine-spray surface with water and brush. Repeat water flushing and brushing cycle until cement film is removed from aggregate surface to depth required.
- F. Work shall be planned so that the concrete placing and aggregate seeding procedures are coordinated with the capabilities of the washing and brushing.
- G. Acid wash surface five to seven days after installation as per manufacturer's recommendations.
- H. Apply sealer per manufacturer's recommendations to protect surface from deicing effects and commercial traffic.
- I. Control joints: Provide saw cut control joints in accordance with patterns. Cut with a power saw fitted with an abrasive diamond blade within 4 to 12 hours after walk was placed and finished
- J. Expansion Joints: Provide expansion joints where concrete placement is interrupted for more than 1/2 hour and at end of placement and in grid pattern not more than 30 feet on center at locations approved by Landscape Architect. Provide shear dowels and expansion caps at not more than 16 inches on center to transfer vertical loads but permit horizontal movement. Extend joint filler full depth of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint

filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of

- K. Caulked Construction Joints: Provide caulked construction joints wherever concrete abuts dissimilar material at locations approved by Landscape Architect. Extend joint filler full depth of joint and allow 1/2 inch minimum space at top for insertion of backer rod and sealant. Protect top edge of joint filler with metal cap or other temporary protection. Remove protection after concrete has been placed on both sides of joint.

END OF SECTION

SECTION 00 41 00
FORM FOR GENERAL BID

To the Awarding Authority:

A. The undersigned proposes to furnish all labor and materials required for the construction of the CONCRETE PAVING for OLD QUINCY HIGH GREEN SPACE, in accordance with the accompanying proposal and specifications prepared by the City of Quincy for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. The proposed contract price is: (Bidder shall insert price in both words and numbers. In cases of conflict between words and numbers, the words shall control.

_____ dollars (\$ _____)

Receipt of Addendum No. _____ acknowledged by: _____

Award will be based on lump sum pricing and acceptance of submittals and bid specifications.

COMPANY: _____

ADDRESS: _____

PHONE: _____

EMAIL: _____

PRIMARY CONTACT: _____

TITLE _____

BIDDERS AUTHORIZED SIGNATURE: _____



DEVAL L. PATRICK
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

RACHEL KAPRIELIAN
Secretary
HEATHER E. ROWE
Director

Awarding Authority: City of Quincy
Contract Number: _____ **City/Town:** QUINCY
Description of Work: Reconstruction of old QHS Open Green space - Includes Asphalt/Driveway work, Concrete and Stone work and Electrical
Job Location: 52 Coddington St. Quincy, MA

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| Construction | | | | | | |
| (2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.40 | \$9.41 | \$8.80 | \$0.00 | \$50.61 |
| | 08/01/2014 | \$32.40 | \$9.91 | \$8.80 | \$0.00 | \$51.11 |
| | 12/01/2014 | \$32.40 | \$9.91 | \$9.33 | \$0.00 | \$51.64 |
| | 06/01/2015 | \$32.75 | \$9.91 | \$9.33 | \$0.00 | \$51.99 |
| | 08/01/2015 | \$32.75 | \$10.41 | \$9.33 | \$0.00 | \$52.49 |
| | 12/01/2015 | \$32.75 | \$10.41 | \$10.08 | \$0.00 | \$53.24 |
| | 06/01/2016 | \$33.25 | \$10.41 | \$10.08 | \$0.00 | \$53.74 |
| | 08/01/2016 | \$33.25 | \$10.91 | \$10.08 | \$0.00 | \$54.24 |
| | 12/01/2016 | \$33.25 | \$10.91 | \$10.89 | \$0.00 | \$55.05 |
| (3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.47 | \$9.41 | \$8.80 | \$0.00 | \$50.68 |
| | 08/01/2014 | \$32.47 | \$9.91 | \$8.80 | \$0.00 | \$51.18 |
| | 12/01/2014 | \$32.47 | \$9.91 | \$9.33 | \$0.00 | \$51.71 |
| | 06/01/2015 | \$32.82 | \$9.91 | \$9.33 | \$0.00 | \$52.06 |
| | 08/01/2015 | \$32.82 | \$10.41 | \$9.33 | \$0.00 | \$52.56 |
| | 12/01/2015 | \$32.82 | \$10.41 | \$10.08 | \$0.00 | \$53.31 |
| | 06/01/2016 | \$33.32 | \$10.41 | \$10.08 | \$0.00 | \$53.81 |
| | 08/01/2016 | \$33.32 | \$10.91 | \$10.08 | \$0.00 | \$54.31 |
| | 12/01/2016 | \$33.32 | \$10.91 | \$10.89 | \$0.00 | \$55.12 |
| (4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.59 | \$9.41 | \$8.80 | \$0.00 | \$50.80 |
| | 08/01/2014 | \$32.59 | \$9.91 | \$8.80 | \$0.00 | \$51.30 |
| | 12/01/2014 | \$32.59 | \$9.91 | \$9.33 | \$0.00 | \$51.83 |
| | 06/01/2015 | \$32.94 | \$9.91 | \$9.33 | \$0.00 | \$52.18 |
| | 08/01/2015 | \$32.94 | \$10.41 | \$9.33 | \$0.00 | \$52.68 |
| | 12/01/2015 | \$32.94 | \$10.41 | \$10.08 | \$0.00 | \$53.43 |
| | 06/01/2016 | \$33.44 | \$10.41 | \$10.08 | \$0.00 | \$53.93 |
| | 08/01/2016 | \$33.44 | \$10.91 | \$10.08 | \$0.00 | \$54.43 |
| | 12/01/2016 | \$33.44 | \$10.91 | \$10.89 | \$0.00 | \$55.24 |
| ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2013 | \$84.21 | \$9.80 | \$18.17 | \$0.00 | \$112.18 |
| | 08/01/2014 | \$87.36 | \$9.80 | \$18.17 | \$0.00 | \$115.33 |
| | 08/01/2015 | \$90.51 | \$9.80 | \$18.17 | \$0.00 | \$118.48 |
| AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 12/01/2014 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 06/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 12/01/2015 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 06/01/2016 | \$37.85 | \$7.30 | \$12.70 | \$0.00 | \$57.85 |
| | 12/01/2016 | \$38.85 | \$7.30 | \$12.70 | \$0.00 | \$58.85 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 06/01/2014 | \$31.58 | \$10.40 | \$5.95 | \$0.00 | \$47.93 |
| | 12/01/2014 | \$32.48 | \$10.40 | \$5.95 | \$0.00 | \$48.83 |
| | 06/01/2015 | \$33.43 | \$10.40 | \$5.95 | \$0.00 | \$49.78 |
| | 12/01/2015 | \$34.38 | \$10.40 | \$5.95 | \$0.00 | \$50.73 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|--|-----------|---------|---------|---------------------------|------------|
| ASPHALT RAKER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
| | For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | |
| BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
| | For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | |
| BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 12/01/2014 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 06/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 12/01/2015 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 06/01/2016 | \$37.85 | \$7.30 | \$12.70 | \$0.00 | \$57.85 |
| | 12/01/2016 | \$38.85 | \$7.30 | \$12.70 | \$0.00 | \$58.85 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BOILER MAKER <i>BOILERMAKERS LOCAL 29</i> | 01/01/2010 | \$37.70 | \$6.97 | \$11.18 | \$0.00 | \$55.85 |

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2010

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

Notes:

Apprentice to Journeyworker Ratio:1:5

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (QUINCY)</i> | 02/01/2014 | \$48.06 | \$10.18 | \$18.15 | \$0.00 | \$76.39 |
| | 08/01/2014 | \$48.96 | \$10.18 | \$18.22 | \$0.00 | \$77.36 |
| | 02/01/2015 | \$49.52 | \$10.18 | \$18.22 | \$0.00 | \$77.92 |
| | 08/01/2015 | \$50.42 | \$10.18 | \$18.29 | \$0.00 | \$78.89 |
| | 02/01/2016 | \$50.99 | \$10.18 | \$18.29 | \$0.00 | \$79.46 |
| | 08/01/2016 | \$51.89 | \$10.18 | \$18.37 | \$0.00 | \$80.44 |
| | 02/01/2017 | \$52.46 | \$10.18 | \$18.37 | \$0.00 | \$81.01 |

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

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$24.03 | \$10.18 | \$18.15 | \$0.00 | \$52.36 |
| 2 | 60 | \$28.84 | \$10.18 | \$18.15 | \$0.00 | \$57.17 |
| 3 | 70 | \$33.64 | \$10.18 | \$18.15 | \$0.00 | \$61.97 |
| 4 | 80 | \$38.45 | \$10.18 | \$18.15 | \$0.00 | \$66.78 |
| 5 | 90 | \$43.25 | \$10.18 | \$18.15 | \$0.00 | \$71.58 |

Effective Date - 08/01/2014

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

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$35.20 | \$7.30 | \$12.90 | \$0.00 | \$55.40 |
| | 12/01/2014 | \$35.95 | \$7.30 | \$12.90 | \$0.00 | \$56.15 |
| | 06/01/2015 | \$36.70 | \$7.30 | \$12.90 | \$0.00 | \$56.90 |
| | 12/01/2015 | \$37.45 | \$7.30 | \$12.90 | \$0.00 | \$57.65 |
| | 06/01/2016 | \$38.20 | \$7.30 | \$12.90 | \$0.00 | \$58.40 |
| | 12/01/2016 | \$39.20 | \$7.30 | \$12.90 | \$0.00 | \$59.40 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$34.05 | \$7.30 | \$12.90 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$34.80 | \$7.30 | \$12.90 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.55 | \$7.30 | \$12.90 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.30 | \$7.30 | \$12.90 | \$0.00 | \$56.50 |
| | 06/01/2016 | \$37.05 | \$7.30 | \$12.90 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$38.05 | \$7.30 | \$12.90 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$34.05 | \$7.30 | \$12.90 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$34.80 | \$7.30 | \$12.90 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.55 | \$7.30 | \$12.90 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.30 | \$7.30 | \$12.90 | \$0.00 | \$56.50 |
| | 06/01/2016 | \$37.05 | \$7.30 | \$12.90 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$38.05 | \$7.30 | \$12.90 | \$0.00 | \$58.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i> | 03/01/2014 | \$34.78 | \$9.80 | \$15.91 | \$0.00 | \$60.49 |
| | 09/01/2014 | \$35.55 | \$9.80 | \$15.91 | \$0.00 | \$61.26 |
| | 03/01/2015 | \$36.32 | \$9.80 | \$15.91 | \$0.00 | \$62.03 |

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$17.39 | \$9.80 | \$1.57 | \$0.00 | \$28.76 |
| 2 | 60 | \$20.87 | \$9.80 | \$1.57 | \$0.00 | \$32.24 |
| 3 | 70 | \$24.35 | \$9.80 | \$11.20 | \$0.00 | \$45.35 |
| 4 | 75 | \$26.09 | \$9.80 | \$11.20 | \$0.00 | \$47.09 |
| 5 | 80 | \$27.82 | \$9.80 | \$12.77 | \$0.00 | \$50.39 |
| 6 | 80 | \$27.82 | \$9.80 | \$12.77 | \$0.00 | \$50.39 |
| 7 | 90 | \$31.30 | \$9.80 | \$14.34 | \$0.00 | \$55.44 |
| 8 | 90 | \$31.30 | \$9.80 | \$14.34 | \$0.00 | \$55.44 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$17.78 | \$9.80 | \$1.57 | \$0.00 | \$29.15 |
| 2 | 60 | \$21.33 | \$9.80 | \$1.57 | \$0.00 | \$32.70 |
| 3 | 70 | \$24.89 | \$9.80 | \$11.20 | \$0.00 | \$45.89 |
| 4 | 75 | \$26.66 | \$9.80 | \$11.20 | \$0.00 | \$47.66 |
| 5 | 80 | \$28.44 | \$9.80 | \$12.77 | \$0.00 | \$51.01 |
| 6 | 80 | \$28.44 | \$9.80 | \$12.77 | \$0.00 | \$51.01 |
| 7 | 90 | \$32.00 | \$9.80 | \$14.34 | \$0.00 | \$56.14 |
| 8 | 90 | \$32.00 | \$9.80 | \$14.34 | \$0.00 | \$56.14 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (QUINCY)</i> | 07/01/2014 | \$43.77 | \$10.90 | \$18.71 | \$1.30 | \$74.68 |
| | 01/01/2015 | \$44.69 | \$10.90 | \$18.71 | \$1.30 | \$75.60 |
| | 07/01/2015 | \$45.29 | \$10.90 | \$18.71 | \$1.30 | \$76.20 |
| | 01/01/2016 | \$46.21 | \$10.90 | \$18.71 | \$1.30 | \$77.12 |

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Quincy)

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:

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

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CHAIN SAW OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$41.49 | \$10.00 | \$14.18 | \$0.00 | \$65.67 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$28.11 | \$10.00 | \$14.18 | \$0.00 | \$52.29 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 2 | 07/01/2014 | \$46.76 | \$7.85 | \$16.10 | \$0.00 | \$70.71 |
| | 01/01/2015 | \$47.66 | \$7.85 | \$16.10 | \$0.00 | \$71.61 |
| | 07/01/2015 | \$48.56 | \$7.85 | \$16.10 | \$0.00 | \$72.51 |
| | 01/01/2016 | \$49.51 | \$7.85 | \$16.10 | \$0.00 | \$73.46 |
| | 07/01/2016 | \$50.46 | \$7.85 | \$16.10 | \$0.00 | \$74.41 |
| | 01/01/2017 | \$51.41 | \$7.85 | \$16.10 | \$0.00 | \$75.36 |

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|------------------------------------|------------|---------|--------|---------|--------|---------|
| DEMO: ADZEMAN LABORERS - ZONE 1 | 06/01/2014 | \$34.25 | \$7.30 | \$12.70 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$35.00 | \$7.30 | \$12.70 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.75 | \$7.30 | \$12.70 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.50 | \$7.30 | \$12.70 | \$0.00 | \$56.50 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 1 | 06/01/2014 | \$35.25 | \$7.30 | \$12.70 | \$0.00 | \$55.25 |
| | 12/01/2014 | \$36.00 | \$7.30 | \$12.70 | \$0.00 | \$56.00 |
| | 06/01/2015 | \$36.75 | \$7.30 | \$12.70 | \$0.00 | \$56.75 |
| | 12/01/2015 | \$37.50 | \$7.30 | \$12.70 | \$0.00 | \$57.50 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| DEMO: BURNERS <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$35.00 | \$7.30 | \$12.70 | \$0.00 | \$55.00 |
| | 12/01/2014 | \$35.75 | \$7.30 | \$12.70 | \$0.00 | \$55.75 |
| | 06/01/2015 | \$36.50 | \$7.30 | \$12.70 | \$0.00 | \$56.50 |
| | 12/01/2015 | \$37.25 | \$7.30 | \$12.70 | \$0.00 | \$57.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$35.25 | \$7.30 | \$12.70 | \$0.00 | \$55.25 |
| | 12/01/2014 | \$36.00 | \$7.30 | \$12.70 | \$0.00 | \$56.00 |
| | 06/01/2015 | \$36.75 | \$7.30 | \$12.70 | \$0.00 | \$56.75 |
| | 12/01/2015 | \$37.50 | \$7.30 | \$12.70 | \$0.00 | \$57.50 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$35.00 | \$7.30 | \$12.70 | \$0.00 | \$55.00 |
| | 12/01/2014 | \$35.75 | \$7.30 | \$12.70 | \$0.00 | \$55.75 |
| | 06/01/2015 | \$36.50 | \$7.30 | \$12.70 | \$0.00 | \$56.50 |
| | 12/01/2015 | \$37.25 | \$7.30 | \$12.70 | \$0.00 | \$57.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.25 | \$7.30 | \$12.70 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$35.00 | \$7.30 | \$12.70 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.75 | \$7.30 | \$12.70 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.50 | \$7.30 | \$12.70 | \$0.00 | \$56.50 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2013 | \$56.14 | \$9.80 | \$18.17 | \$0.00 | \$84.11 |
| | 08/01/2014 | \$58.24 | \$9.80 | \$18.17 | \$0.00 | \$86.21 |
| | 08/01/2015 | \$60.34 | \$9.80 | \$18.17 | \$0.00 | \$88.31 |
| DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2013 | \$40.10 | \$9.80 | \$18.17 | \$0.00 | \$68.07 |
| | 08/01/2014 | \$41.60 | \$9.80 | \$18.17 | \$0.00 | \$69.57 |
| | 08/01/2015 | \$43.10 | \$9.80 | \$18.17 | \$0.00 | \$71.07 |
| DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2013 | \$60.15 | \$9.80 | \$18.17 | \$0.00 | \$88.12 |
| | 08/01/2014 | \$62.40 | \$9.80 | \$18.17 | \$0.00 | \$90.37 |
| | 08/01/2015 | \$64.65 | \$9.80 | \$18.17 | \$0.00 | \$92.62 |
| DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2013 | \$84.21 | \$9.80 | \$18.17 | \$0.00 | \$112.18 |
| | 08/01/2014 | \$87.36 | \$9.80 | \$18.17 | \$0.00 | \$115.33 |
| | 08/01/2015 | \$90.51 | \$9.80 | \$18.17 | \$0.00 | \$118.48 |
| DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i> | 03/01/2014 | \$44.45 | \$13.00 | \$14.68 | \$0.00 | \$72.13 |
| | 09/01/2014 | \$45.12 | \$13.00 | \$14.70 | \$0.00 | \$72.82 |
| | 03/01/2015 | \$45.84 | \$13.00 | \$14.72 | \$0.00 | \$73.56 |
| | 09/01/2015 | \$46.80 | \$13.00 | \$14.75 | \$0.00 | \$74.55 |
| | 03/01/2016 | \$47.75 | \$13.00 | \$14.78 | \$0.00 | \$75.53 |
| For apprentice rates see "Apprentice- ELECTRICIAN" | | | | | | |
| ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2014 | \$44.45 | \$13.00 | \$14.68 | \$0.00 | \$72.13 |
| | 09/01/2014 | \$45.12 | \$13.00 | \$14.70 | \$0.00 | \$72.82 |
| | 03/01/2015 | \$45.84 | \$13.00 | \$14.72 | \$0.00 | \$73.56 |
| | 09/01/2015 | \$46.80 | \$13.00 | \$14.75 | \$0.00 | \$74.55 |
| | 03/01/2016 | \$47.75 | \$13.00 | \$14.78 | \$0.00 | \$75.53 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$17.78 | \$13.00 | \$0.53 | \$0.00 | \$31.31 |
| 2 | 40 | \$17.78 | \$13.00 | \$0.53 | \$0.00 | \$31.31 |
| 3 | 45 | \$20.00 | \$13.00 | \$11.04 | \$0.00 | \$44.04 |
| 4 | 45 | \$20.00 | \$13.00 | \$11.04 | \$0.00 | \$44.04 |
| 5 | 50 | \$22.23 | \$13.00 | \$11.37 | \$0.00 | \$46.60 |
| 6 | 55 | \$24.45 | \$13.00 | \$11.70 | \$0.00 | \$49.15 |
| 7 | 60 | \$26.67 | \$13.00 | \$12.03 | \$0.00 | \$51.70 |
| 8 | 65 | \$28.89 | \$13.00 | \$12.37 | \$0.00 | \$54.26 |
| 9 | 70 | \$31.12 | \$13.00 | \$12.69 | \$0.00 | \$56.81 |
| 10 | 75 | \$33.34 | \$13.00 | \$13.03 | \$0.00 | \$59.37 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$18.05 | \$13.00 | \$0.54 | \$0.00 | \$31.59 |
| 2 | 40 | \$18.05 | \$13.00 | \$0.54 | \$0.00 | \$31.59 |
| 3 | 45 | \$20.30 | \$13.00 | \$11.05 | \$0.00 | \$44.35 |
| 4 | 45 | \$20.30 | \$13.00 | \$11.05 | \$0.00 | \$44.35 |
| 5 | 50 | \$22.56 | \$13.00 | \$11.38 | \$0.00 | \$46.94 |
| 6 | 55 | \$24.82 | \$13.00 | \$11.71 | \$0.00 | \$49.53 |
| 7 | 60 | \$27.07 | \$13.00 | \$12.04 | \$0.00 | \$52.11 |
| 8 | 65 | \$29.33 | \$13.00 | \$12.38 | \$0.00 | \$54.71 |
| 9 | 70 | \$31.58 | \$13.00 | \$12.71 | \$0.00 | \$57.29 |
| 10 | 75 | \$33.84 | \$13.00 | \$13.05 | \$0.00 | \$59.89 |

Notes: :
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

| | | | | | | |
|---|------------|---------|--------|--------|--------|---------|
| ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4 | 01/01/2012 | \$52.45 | \$8.78 | \$6.96 | \$0.00 | \$68.19 |
|---|------------|---------|--------|--------|--------|---------|

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2012

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

Notes:

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

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|--------|--------|--------|---------|
| ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i> | 01/01/2012 | \$38.59 | \$8.78 | \$6.96 | \$0.00 | \$54.33 |
|---|------------|---------|--------|--------|--------|---------|

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2014 | \$38.87 | \$10.00 | \$14.18 | \$0.00 | \$63.05 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2014 | \$40.29 | \$10.00 | \$14.18 | \$0.00 | \$64.47 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2014 | \$20.92 | \$10.00 | \$14.18 | \$0.00 | \$45.10 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i> | 03/01/2014 | \$44.45 | \$13.00 | \$14.68 | \$0.00 | \$72.13 |
| | 09/01/2014 | \$45.12 | \$13.00 | \$14.70 | \$0.00 | \$72.82 |
| | 03/01/2015 | \$45.84 | \$13.00 | \$14.72 | \$0.00 | \$73.56 |
| | 09/01/2015 | \$46.80 | \$13.00 | \$14.75 | \$0.00 | \$74.55 |
| | 03/01/2016 | \$47.75 | \$13.00 | \$14.78 | \$0.00 | \$75.53 |

For apprentice rates see "Apprentice- ELECTRICIAN"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| FIRE ALARM REPAIR / MAINTENANCE <i>LOCAL 103</i> / COMMISSIONING <i>ELECTRICIANS</i> | 03/01/2014 | \$33.44 | \$13.00 | \$13.03 | \$0.00 | \$59.47 |
| | 09/01/2014 | \$33.84 | \$13.00 | \$13.05 | \$0.00 | \$59.89 |
| | 03/01/2015 | \$34.38 | \$13.00 | \$13.06 | \$0.00 | \$60.44 |
| | 09/01/2015 | \$35.10 | \$13.00 | \$13.08 | \$0.00 | \$61.18 |
| | 03/01/2016 | \$35.81 | \$13.00 | \$13.10 | \$0.00 | \$61.91 |

For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$33.76 | \$10.00 | \$14.18 | \$0.00 | \$57.94 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|--------|---------|---------------------------|------------|
| FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |
| | 12/01/2014 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |
| | 06/01/2015 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |
| | 12/01/2015 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |
| | 06/01/2016 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |
| | 12/01/2016 | \$20.50 | \$7.30 | \$12.70 | \$0.00 | \$40.50 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i> | 03/01/2014 | \$39.87 | \$9.80 | \$16.96 | \$0.00 | \$66.63 |
|--|------------|---------|--------|---------|--------|---------|

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.94 | \$9.80 | \$1.79 | \$0.00 | \$31.53 |
| 2 | 55 | \$21.93 | \$9.80 | \$1.79 | \$0.00 | \$33.52 |
| 3 | 60 | \$23.92 | \$9.80 | \$11.59 | \$0.00 | \$45.31 |
| 4 | 65 | \$25.92 | \$9.80 | \$11.59 | \$0.00 | \$47.31 |
| 5 | 70 | \$27.91 | \$9.80 | \$13.38 | \$0.00 | \$51.09 |
| 6 | 75 | \$29.90 | \$9.80 | \$13.38 | \$0.00 | \$53.08 |
| 7 | 80 | \$31.90 | \$9.80 | \$15.17 | \$0.00 | \$56.87 |
| 8 | 85 | \$33.89 | \$9.80 | \$15.17 | \$0.00 | \$58.86 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$28.11 | \$10.00 | \$14.18 | \$0.00 | \$52.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i> | 07/01/2014 | \$36.26 | \$7.85 | \$16.10 | \$0.00 | \$60.21 |
| | 01/01/2015 | \$37.16 | \$7.85 | \$16.10 | \$0.00 | \$61.11 |
| | 07/01/2015 | \$38.06 | \$7.85 | \$16.10 | \$0.00 | \$62.01 |
| | 01/01/2016 | \$39.01 | \$7.85 | \$16.10 | \$0.00 | \$62.96 |
| | 07/01/2016 | \$39.96 | \$7.85 | \$16.10 | \$0.00 | \$63.91 |
| | 01/01/2017 | \$40.91 | \$7.85 | \$16.10 | \$0.00 | \$64.86 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| HOISTING ENGINEER/CRANES/GRADALLS OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
|--|------------|---------|---------|---------|--------|---------|

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2013

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 55 | \$22.27 | \$10.00 | \$0.00 | \$0.00 | \$32.27 |
| 2 | 60 | \$24.29 | \$10.00 | \$14.18 | \$0.00 | \$48.47 |
| 3 | 65 | \$26.32 | \$10.00 | \$14.18 | \$0.00 | \$50.50 |
| 4 | 70 | \$28.34 | \$10.00 | \$14.18 | \$0.00 | \$52.52 |
| 5 | 75 | \$30.37 | \$10.00 | \$14.18 | \$0.00 | \$54.55 |
| 6 | 80 | \$32.39 | \$10.00 | \$14.18 | \$0.00 | \$56.57 |
| 7 | 85 | \$34.42 | \$10.00 | \$14.18 | \$0.00 | \$58.60 |
| 8 | 90 | \$36.44 | \$10.00 | \$14.18 | \$0.00 | \$60.62 |

Notes:

Apprentice to Journeyworker Ratio:1:6

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i> | 02/01/2014 | \$42.76 | \$9.82 | \$19.74 | \$2.17 | \$74.49 |
| | 08/01/2014 | \$43.61 | \$9.82 | \$19.74 | \$2.17 | \$75.34 |
| | 02/01/2015 | \$44.51 | \$9.82 | \$19.74 | \$2.17 | \$76.24 |
| | 08/01/2015 | \$45.51 | \$9.82 | \$19.74 | \$2.17 | \$77.24 |
| | 02/01/2016 | \$46.51 | \$9.82 | \$19.74 | \$2.17 | \$78.24 |
| | 08/01/2016 | \$47.66 | \$9.82 | \$19.74 | \$2.17 | \$79.39 |
| | 02/01/2017 | \$48.76 | \$9.82 | \$19.74 | \$2.17 | \$80.49 |
| | 08/01/2017 | \$49.86 | \$9.82 | \$19.74 | \$2.17 | \$81.59 |
| | 02/01/2018 | \$51.01 | \$9.82 | \$19.74 | \$2.17 | \$82.74 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i> | 03/01/2014 | \$44.45 | \$13.00 | \$14.68 | \$0.00 | \$72.13 |
| | 09/01/2014 | \$45.12 | \$13.00 | \$14.70 | \$0.00 | \$72.82 |
| | 03/01/2015 | \$45.84 | \$13.00 | \$14.72 | \$0.00 | \$73.56 |
| | 09/01/2015 | \$46.80 | \$13.00 | \$14.75 | \$0.00 | \$74.55 |
| | 03/01/2016 | \$47.75 | \$13.00 | \$14.78 | \$0.00 | \$75.53 |

For apprentice rates see "Apprentice- ELECTRICIAN"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i> | 02/01/2014 | \$42.76 | \$9.82 | \$19.74 | \$2.17 | \$74.49 |
| | 08/01/2014 | \$43.61 | \$9.82 | \$19.74 | \$2.17 | \$75.34 |
| | 02/01/2015 | \$44.51 | \$9.82 | \$19.74 | \$2.17 | \$76.24 |
| | 08/01/2015 | \$45.51 | \$9.82 | \$19.74 | \$2.17 | \$77.24 |
| | 02/01/2016 | \$46.51 | \$9.82 | \$19.74 | \$2.17 | \$78.24 |
| | 08/01/2016 | \$47.66 | \$9.82 | \$19.74 | \$2.17 | \$79.39 |
| | 02/01/2017 | \$48.76 | \$9.82 | \$19.74 | \$2.17 | \$80.49 |
| | 08/01/2017 | \$49.86 | \$9.82 | \$19.74 | \$2.17 | \$81.59 |
| | 02/01/2018 | \$51.01 | \$9.82 | \$19.74 | \$2.17 | \$82.74 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i> | 03/01/2014 | \$48.19 | \$9.20 | \$16.14 | \$0.00 | \$73.53 |
| | 09/01/2014 | \$49.19 | \$9.20 | \$16.14 | \$0.00 | \$74.53 |
| | 03/01/2015 | \$50.19 | \$9.20 | \$16.14 | \$0.00 | \$75.53 |
| | 09/01/2015 | \$51.19 | \$9.20 | \$16.14 | \$0.00 | \$76.53 |
| | 03/01/2016 | \$52.19 | \$9.20 | \$16.14 | \$0.00 | \$77.53 |
| | 09/01/2016 | \$53.19 | \$9.20 | \$16.14 | \$0.00 | \$78.53 |
| | 03/01/2017 | \$54.19 | \$9.20 | \$16.14 | \$0.00 | \$79.53 |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER" | | | | | | |
| HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i> | 03/01/2014 | \$48.19 | \$9.20 | \$16.14 | \$0.00 | \$73.53 |
| | 09/01/2014 | \$49.19 | \$9.20 | \$16.14 | \$0.00 | \$74.53 |
| | 03/01/2015 | \$50.19 | \$9.20 | \$16.14 | \$0.00 | \$75.53 |
| | 09/01/2015 | \$51.19 | \$9.20 | \$16.14 | \$0.00 | \$76.53 |
| | 03/01/2016 | \$52.19 | \$9.20 | \$16.14 | \$0.00 | \$77.53 |
| | 09/01/2016 | \$53.19 | \$9.20 | \$16.14 | \$0.00 | \$78.53 |
| | 03/01/2017 | \$54.19 | \$9.20 | \$16.14 | \$0.00 | \$79.53 |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER" | | | | | | |
| HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 12/01/2014 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 06/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 12/01/2015 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 06/01/2016 | \$37.85 | \$7.30 | \$12.70 | \$0.00 | \$57.85 |
| | 12/01/2016 | \$38.85 | \$7.30 | \$12.70 | \$0.00 | \$58.85 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 09/01/2013 | \$42.11 | \$10.95 | \$12.10 | \$0.00 | \$65.16 |
| | 09/01/2014 | \$44.11 | \$10.95 | \$12.10 | \$0.00 | \$67.16 |

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

Effective Date - 09/01/2013

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$21.06 | \$10.95 | \$9.00 | \$0.00 | \$41.01 |
| 2 | 60 | \$25.27 | \$10.95 | \$9.62 | \$0.00 | \$45.84 |
| 3 | 70 | \$29.48 | \$10.95 | \$10.24 | \$0.00 | \$50.67 |
| 4 | 80 | \$33.69 | \$10.95 | \$10.86 | \$0.00 | \$55.50 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$22.06 | \$10.95 | \$9.00 | \$0.00 | \$42.01 |
| 2 | 60 | \$26.47 | \$10.95 | \$9.62 | \$0.00 | \$47.04 |
| 3 | 70 | \$30.88 | \$10.95 | \$10.24 | \$0.00 | \$52.07 |
| 4 | 80 | \$35.29 | \$10.95 | \$10.86 | \$0.00 | \$57.10 |

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i> | 03/16/2014 | \$41.19 | \$7.70 | \$19.25 | \$0.00 | \$68.14 |

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 03/16/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$24.71 | \$7.70 | \$19.25 | \$0.00 | \$51.66 |
| 2 | 70 | \$28.83 | \$7.70 | \$19.25 | \$0.00 | \$55.78 |
| 3 | 75 | \$30.89 | \$7.70 | \$19.25 | \$0.00 | \$57.84 |
| 4 | 80 | \$32.95 | \$7.70 | \$19.25 | \$0.00 | \$59.90 |
| 5 | 85 | \$35.01 | \$7.70 | \$19.25 | \$0.00 | \$61.96 |
| 6 | 90 | \$37.07 | \$7.70 | \$19.25 | \$0.00 | \$64.02 |

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|-------------------------------------|------------|---------|--------|---------|--------|---------|
| LABORER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 06/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$20.46 | \$7.30 | \$12.70 | \$0.00 | \$40.46 |
| 2 | 70 | \$23.87 | \$7.30 | \$12.70 | \$0.00 | \$43.87 |
| 3 | 80 | \$27.28 | \$7.30 | \$12.70 | \$0.00 | \$47.28 |
| 4 | 90 | \$30.69 | \$7.30 | \$12.70 | \$0.00 | \$50.69 |

Effective Date - 12/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$20.91 | \$7.30 | \$12.70 | \$0.00 | \$40.91 |
| 2 | 70 | \$24.40 | \$7.30 | \$12.70 | \$0.00 | \$44.40 |
| 3 | 80 | \$27.88 | \$7.30 | \$12.70 | \$0.00 | \$47.88 |
| 4 | 90 | \$31.37 | \$7.30 | \$12.70 | \$0.00 | \$51.37 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| LABORER: CARPENTER TENDER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.25 | \$7.30 | \$12.70 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$35.00 | \$7.30 | \$12.70 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.75 | \$7.30 | \$12.70 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.50 | \$7.30 | \$12.70 | \$0.00 | \$56.50 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| LABORER: MASON TENDER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|---|------------------|---------------|----------------|----------------------------------|-------------------|
| LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |
| | For apprentice rates see "Apprentice- LABORER" | | | | | |
| LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |
| | 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 <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |
| | For apprentice rates see "Apprentice- LABORER" | | | | | |
| MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i> | 02/01/2014 | \$36.66 | \$10.18 | \$16.83 | \$0.00 | \$63.67 |
| | 08/01/2014 | \$37.37 | \$10.18 | \$16.90 | \$0.00 | \$64.45 |
| | 02/01/2015 | \$37.82 | \$10.18 | \$16.90 | \$0.00 | \$64.90 |
| | 08/01/2015 | \$38.53 | \$10.18 | \$16.97 | \$0.00 | \$65.68 |
| | 02/01/2016 | \$38.98 | \$10.18 | \$16.97 | \$0.00 | \$66.13 |
| | 08/01/2016 | \$39.68 | \$10.18 | \$17.05 | \$0.00 | \$66.91 |
| | 02/01/2017 | \$40.14 | \$10.18 | \$17.05 | \$0.00 | \$67.37 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$18.33 | \$10.18 | \$16.83 | \$0.00 | \$45.34 |
| 2 | 60 | \$22.00 | \$10.18 | \$16.83 | \$0.00 | \$49.01 |
| 3 | 70 | \$25.66 | \$10.18 | \$16.83 | \$0.00 | \$52.67 |
| 4 | 80 | \$29.33 | \$10.18 | \$16.83 | \$0.00 | \$56.34 |
| 5 | 90 | \$32.99 | \$10.18 | \$16.83 | \$0.00 | \$60.00 |

Effective Date - 08/01/2014

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

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| MARBLE MASONS, TILELAYERS & TERRAZZO MECH | 02/01/2014 | \$48.10 | \$10.18 | \$18.15 | \$0.00 | \$76.43 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 08/01/2014 | \$49.00 | \$10.18 | \$18.22 | \$0.00 | \$77.40 |
| | 02/01/2015 | \$49.56 | \$10.18 | \$18.22 | \$0.00 | \$77.96 |
| | 08/01/2015 | \$50.46 | \$10.18 | \$18.29 | \$0.00 | \$78.93 |
| | 02/01/2016 | \$51.03 | \$10.18 | \$18.29 | \$0.00 | \$79.50 |
| | 08/01/2016 | \$51.93 | \$10.18 | \$18.37 | \$0.00 | \$80.48 |
| | 02/01/2017 | \$52.50 | \$10.18 | \$18.37 | \$0.00 | \$81.05 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$24.05 | \$10.18 | \$18.15 | \$0.00 | \$52.38 |
| 2 | 60 | \$28.86 | \$10.18 | \$18.15 | \$0.00 | \$57.19 |
| 3 | 70 | \$33.67 | \$10.18 | \$18.15 | \$0.00 | \$62.00 |
| 4 | 80 | \$38.48 | \$10.18 | \$18.15 | \$0.00 | \$66.81 |
| 5 | 90 | \$43.29 | \$10.18 | \$18.15 | \$0.00 | \$71.62 |

Effective Date - 08/01/2014

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

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| MECHANICS MAINTENANCE OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| MILLWRIGHT (Zone 1) MILLWRIGHTS LOCAL 1121 - Zone 1 | 04/01/2014 | \$35.73 | \$9.80 | \$16.21 | \$0.00 | \$61.74 |
| | 10/01/2014 | \$36.68 | \$9.80 | \$16.21 | \$0.00 | \$62.69 |
| | 04/01/2015 | \$37.64 | \$9.80 | \$16.21 | \$0.00 | \$63.65 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 04/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 55 | \$19.65 | \$9.80 | \$4.48 | \$0.00 | \$33.93 |
| 2 | 65 | \$23.22 | \$9.80 | \$13.36 | \$0.00 | \$46.38 |
| 3 | 75 | \$26.80 | \$9.80 | \$14.18 | \$0.00 | \$50.78 |
| 4 | 85 | \$30.37 | \$9.80 | \$14.99 | \$0.00 | \$55.16 |

Effective Date - 10/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 55 | \$20.17 | \$9.80 | \$4.48 | \$0.00 | \$34.45 |
| 2 | 65 | \$23.84 | \$9.80 | \$13.36 | \$0.00 | \$47.00 |
| 3 | 75 | \$27.51 | \$9.80 | \$14.18 | \$0.00 | \$51.49 |
| 4 | 85 | \$31.18 | \$9.80 | \$14.99 | \$0.00 | \$55.97 |

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|-----------------------------------|------------|---------|--------|---------|--------|---------|
| MORTAR MIXER LABORERS - ZONE 1 | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$20.96 | \$10.00 | \$14.18 | \$0.00 | \$45.14 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$24.43 | \$10.00 | \$14.18 | \$0.00 | \$48.61 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| Painter (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 2 | 07/01/2014 | \$46.76 | \$7.85 | \$16.10 | \$0.00 | \$70.71 |
| | 01/01/2015 | \$47.66 | \$7.85 | \$16.10 | \$0.00 | \$71.61 |
| | 07/01/2015 | \$48.56 | \$7.85 | \$16.10 | \$0.00 | \$72.51 |
| | 01/01/2016 | \$49.51 | \$7.85 | \$16.10 | \$0.00 | \$73.46 |
| | 07/01/2016 | \$50.46 | \$7.85 | \$16.10 | \$0.00 | \$74.41 |
| | 01/01/2017 | \$51.41 | \$7.85 | \$16.10 | \$0.00 | \$75.36 |

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, NEW) * | 07/01/2014 | \$37.66 | \$7.85 | \$16.10 | \$0.00 | \$61.61 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 01/01/2015 | \$38.56 | \$7.85 | \$16.10 | \$0.00 | \$62.51 |
| | 07/01/2015 | \$39.46 | \$7.85 | \$16.10 | \$0.00 | \$63.41 |
| | 01/01/2016 | \$40.41 | \$7.85 | \$16.10 | \$0.00 | \$64.36 |
| | 07/01/2016 | \$41.36 | \$7.85 | \$16.10 | \$0.00 | \$65.31 |
| | 01/01/2017 | \$42.31 | \$7.85 | \$16.10 | \$0.00 | \$66.26 |

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---------------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, REPAINT) | 07/01/2014 | \$35.72 | \$7.85 | \$16.10 | \$0.00 | \$59.67 |
| PAINTERS LOCAL 35 - ZONE 2 | 01/01/2015 | \$36.62 | \$7.85 | \$16.10 | \$0.00 | \$60.57 |
| | 07/01/2015 | \$37.52 | \$7.85 | \$16.10 | \$0.00 | \$61.47 |
| | 01/01/2016 | \$38.47 | \$7.85 | \$16.10 | \$0.00 | \$62.42 |
| | 07/01/2016 | \$39.42 | \$7.85 | \$16.10 | \$0.00 | \$63.37 |
| | 01/01/2017 | \$40.37 | \$7.85 | \$16.10 | \$0.00 | \$64.32 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|----------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (TRAFFIC MARKINGS) | 06/01/2014 | \$34.10 | \$7.30 | \$12.70 | \$0.00 | \$54.10 |
| LABORERS - ZONE 1 | 12/01/2014 | \$34.85 | \$7.30 | \$12.70 | \$0.00 | \$54.85 |
| | 06/01/2015 | \$35.60 | \$7.30 | \$12.70 | \$0.00 | \$55.60 |
| | 12/01/2015 | \$36.35 | \$7.30 | \$12.70 | \$0.00 | \$56.35 |
| | 06/01/2016 | \$37.10 | \$7.30 | \$12.70 | \$0.00 | \$57.10 |
| | 12/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |

For Apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, NEW) * | 07/01/2014 | \$36.26 | \$7.85 | \$16.10 | \$0.00 | \$60.21 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 01/01/2015 | \$37.16 | \$7.85 | \$16.10 | \$0.00 | \$61.11 |
| | 07/01/2015 | \$38.06 | \$7.85 | \$16.10 | \$0.00 | \$62.01 |
| | 01/01/2016 | \$39.01 | \$7.85 | \$16.10 | \$0.00 | \$62.96 |
| | 07/01/2016 | \$39.96 | \$7.85 | \$16.10 | \$0.00 | \$63.91 |
| | 01/01/2017 | \$40.91 | \$7.85 | \$16.10 | \$0.00 | \$64.86 |

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|----------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, REPAINT) | 07/01/2014 | \$34.32 | \$7.85 | \$16.10 | \$0.00 | \$58.27 |
| PAINTERS LOCAL 35 - ZONE 2 | 01/01/2015 | \$35.22 | \$7.85 | \$16.10 | \$0.00 | \$59.17 |
| | 07/01/2015 | \$36.12 | \$7.85 | \$16.10 | \$0.00 | \$60.07 |
| | 01/01/2016 | \$37.07 | \$7.85 | \$16.10 | \$0.00 | \$61.02 |
| | 07/01/2016 | \$38.02 | \$7.85 | \$16.10 | \$0.00 | \$61.97 |
| | 01/01/2017 | \$38.97 | \$7.85 | \$16.10 | \$0.00 | \$62.92 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2014

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

Effective Date - 01/01/2015

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

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.23 | \$9.41 | \$8.80 | \$0.00 | \$50.44 |
| | 08/01/2014 | \$32.23 | \$9.91 | \$8.80 | \$0.00 | \$50.94 |
| | 12/01/2014 | \$32.23 | \$9.91 | \$9.33 | \$0.00 | \$51.47 |
| | 06/01/2015 | \$32.58 | \$9.91 | \$9.33 | \$0.00 | \$51.82 |
| | 08/01/2015 | \$32.58 | \$10.41 | \$9.33 | \$0.00 | \$52.32 |
| | 12/01/2015 | \$32.58 | \$10.41 | \$10.08 | \$0.00 | \$53.07 |
| | 06/01/2016 | \$33.08 | \$10.41 | \$10.08 | \$0.00 | \$53.57 |
| | 08/01/2016 | \$33.08 | \$10.91 | \$10.08 | \$0.00 | \$54.07 |
| PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 12/01/2016 | \$33.08 | \$10.91 | \$10.89 | \$0.00 | \$54.88 |
| | 08/01/2013 | \$40.10 | \$9.80 | \$18.17 | \$0.00 | \$68.07 |
| | 08/01/2014 | \$41.60 | \$9.80 | \$18.17 | \$0.00 | \$69.57 |
| PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$43.10 | \$9.80 | \$18.17 | \$0.00 | \$71.07 |
| | 08/01/2013 | \$40.10 | \$9.80 | \$18.17 | \$0.00 | \$68.07 |
| | 08/01/2014 | \$41.60 | \$9.80 | \$18.17 | \$0.00 | \$69.57 |
| | 08/01/2015 | \$43.10 | \$9.80 | \$18.17 | \$0.00 | \$71.07 |

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2013

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.05 | \$9.80 | \$18.17 | \$0.00 | \$48.02 |
| 2 | 60 | \$24.06 | \$9.80 | \$18.17 | \$0.00 | \$52.03 |
| 3 | 70 | \$28.07 | \$9.80 | \$18.17 | \$0.00 | \$56.04 |
| 4 | 75 | \$30.08 | \$9.80 | \$18.17 | \$0.00 | \$58.05 |
| 5 | 80 | \$32.08 | \$9.80 | \$18.17 | \$0.00 | \$60.05 |
| 6 | 80 | \$32.08 | \$9.80 | \$18.17 | \$0.00 | \$60.05 |
| 7 | 90 | \$36.09 | \$9.80 | \$18.17 | \$0.00 | \$64.06 |
| 8 | 90 | \$36.09 | \$9.80 | \$18.17 | \$0.00 | \$64.06 |

Effective Date - 08/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.80 | \$9.80 | \$18.17 | \$0.00 | \$48.77 |
| 2 | 60 | \$24.96 | \$9.80 | \$18.17 | \$0.00 | \$52.93 |
| 3 | 70 | \$29.12 | \$9.80 | \$18.17 | \$0.00 | \$57.09 |
| 4 | 75 | \$31.20 | \$9.80 | \$18.17 | \$0.00 | \$59.17 |
| 5 | 80 | \$33.28 | \$9.80 | \$18.17 | \$0.00 | \$61.25 |
| 6 | 80 | \$33.28 | \$9.80 | \$18.17 | \$0.00 | \$61.25 |
| 7 | 90 | \$37.44 | \$9.80 | \$18.17 | \$0.00 | \$65.41 |
| 8 | 90 | \$37.44 | \$9.80 | \$18.17 | \$0.00 | \$65.41 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--------------------------|------------|---------|--------|---------|--------|---------|
| PIPEFITTER & STEAMFITTER | 03/01/2014 | \$48.19 | \$9.20 | \$16.14 | \$0.00 | \$73.53 |
| PIPEFITTERS LOCAL 537 | 09/01/2014 | \$49.19 | \$9.20 | \$16.14 | \$0.00 | \$74.53 |
| | 03/01/2015 | \$50.19 | \$9.20 | \$16.14 | \$0.00 | \$75.53 |
| | 09/01/2015 | \$51.19 | \$9.20 | \$16.14 | \$0.00 | \$76.53 |
| | 03/01/2016 | \$52.19 | \$9.20 | \$16.14 | \$0.00 | \$77.53 |
| | 09/01/2016 | \$53.19 | \$9.20 | \$16.14 | \$0.00 | \$78.53 |
| | 03/01/2017 | \$54.19 | \$9.20 | \$16.14 | \$0.00 | \$79.53 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$19.28 | \$9.20 | \$7.00 | \$0.00 | \$35.48 |
| 2 | 45 | \$21.69 | \$9.20 | \$16.14 | \$0.00 | \$47.03 |
| 3 | 60 | \$28.91 | \$9.20 | \$16.14 | \$0.00 | \$54.25 |
| 4 | 70 | \$33.73 | \$9.20 | \$16.14 | \$0.00 | \$59.07 |
| 5 | 80 | \$38.55 | \$9.20 | \$16.14 | \$0.00 | \$63.89 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$19.68 | \$9.20 | \$7.00 | \$0.00 | \$35.88 |
| 2 | 45 | \$22.14 | \$9.20 | \$16.14 | \$0.00 | \$47.48 |
| 3 | 60 | \$29.51 | \$9.20 | \$16.14 | \$0.00 | \$54.85 |
| 4 | 70 | \$34.43 | \$9.20 | \$16.14 | \$0.00 | \$59.77 |
| 5 | 80 | \$39.35 | \$9.20 | \$16.14 | \$0.00 | \$64.69 |

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|-------------------|------------|---------|--------|---------|--------|---------|
| PIPELAYER | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| LABORERS - ZONE 1 | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--------------------------------|------------|---------|--------|---------|--------|---------|
| PLUMBERS & GASFITTERS | 03/01/2014 | \$49.41 | \$9.82 | \$14.29 | \$0.00 | \$73.52 |
| PLUMBERS & GASFITTERS LOCAL 12 | 09/01/2014 | \$50.41 | \$9.82 | \$14.29 | \$0.00 | \$74.52 |
| | 03/01/2015 | \$51.41 | \$9.82 | \$14.29 | \$0.00 | \$75.52 |
| | 09/01/2015 | \$52.41 | \$9.82 | \$14.29 | \$0.00 | \$76.52 |
| | 03/01/2016 | \$53.56 | \$9.82 | \$14.29 | \$0.00 | \$77.67 |
| | 09/01/2016 | \$54.61 | \$9.82 | \$14.29 | \$0.00 | \$78.72 |
| | 03/01/2017 | \$55.61 | \$9.82 | \$14.29 | \$0.00 | \$79.72 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$17.29 | \$9.82 | \$5.33 | \$0.00 | \$32.44 |
| 2 | 40 | \$19.76 | \$9.82 | \$6.02 | \$0.00 | \$35.60 |
| 3 | 55 | \$27.18 | \$9.82 | \$8.08 | \$0.00 | \$45.08 |
| 4 | 65 | \$32.12 | \$9.82 | \$9.47 | \$0.00 | \$51.41 |
| 5 | 75 | \$37.06 | \$9.82 | \$10.85 | \$0.00 | \$57.73 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$17.64 | \$9.82 | \$5.33 | \$0.00 | \$32.79 |
| 2 | 40 | \$20.16 | \$9.82 | \$6.02 | \$0.00 | \$36.00 |
| 3 | 55 | \$27.73 | \$9.82 | \$8.08 | \$0.00 | \$45.63 |
| 4 | 65 | \$32.77 | \$9.82 | \$9.47 | \$0.00 | \$52.06 |
| 5 | 75 | \$37.81 | \$9.82 | \$10.85 | \$0.00 | \$58.48 |

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$54.58 Step5 with lic\$60.90

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PNEUMATIC CONTROLS (TEMP.) PIPEFITTERS LOCAL 537 | 03/01/2014 | \$48.19 | \$9.20 | \$16.14 | \$0.00 | \$73.53 |
| | 09/01/2014 | \$49.19 | \$9.20 | \$16.14 | \$0.00 | \$74.53 |
| | 03/01/2015 | \$50.19 | \$9.20 | \$16.14 | \$0.00 | \$75.53 |
| | 09/01/2015 | \$51.19 | \$9.20 | \$16.14 | \$0.00 | \$76.53 |
| | 03/01/2016 | \$52.19 | \$9.20 | \$16.14 | \$0.00 | \$77.53 |
| | 09/01/2016 | \$53.19 | \$9.20 | \$16.14 | \$0.00 | \$78.53 |
| | 03/01/2017 | \$54.19 | \$9.20 | \$16.14 | \$0.00 | \$79.53 |

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

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PNEUMATIC DRILL/TOOL OPERATOR LABORERS - ZONE 1 | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| POWDERMAN & BLASTER LABORERS - ZONE 1 | 06/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 12/01/2014 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 06/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 12/01/2015 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 06/01/2016 | \$38.10 | \$7.30 | \$12.70 | \$0.00 | \$58.10 |
| | 12/01/2016 | \$39.10 | \$7.30 | \$12.70 | \$0.00 | \$59.10 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4 | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$28.11 | \$10.00 | \$14.18 | \$0.00 | \$52.29 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25b</i> | 07/01/2014 | \$27.73 | \$7.73 | \$8.65 | \$0.00 | \$44.11 |
| | 05/01/2015 | \$27.88 | \$7.73 | \$8.92 | \$0.00 | \$44.53 |
| | 07/01/2015 | \$27.88 | \$7.98 | \$8.92 | \$0.00 | \$44.78 |
| | 05/01/2016 | \$28.03 | \$7.98 | \$9.31 | \$0.00 | \$45.32 |
| | 07/01/2016 | \$28.03 | \$8.23 | \$9.31 | \$0.00 | \$45.57 |
| | 05/01/2017 | \$28.18 | \$8.23 | \$9.72 | \$0.00 | \$46.13 |
| | 07/01/2017 | \$28.18 | \$8.48 | \$9.72 | \$0.00 | \$46.38 |
| READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25b</i> | 07/01/2014 | \$29.03 | \$7.73 | \$8.65 | \$0.00 | \$45.41 |
| | 05/01/2015 | \$29.18 | \$7.73 | \$8.92 | \$0.00 | \$45.83 |
| | 07/01/2015 | \$29.18 | \$7.98 | \$8.92 | \$0.00 | \$46.08 |
| | 05/01/2016 | \$29.33 | \$7.98 | \$9.31 | \$0.00 | \$46.62 |
| | 07/01/2016 | \$29.33 | \$8.23 | \$9.31 | \$0.00 | \$46.87 |
| | 05/01/2017 | \$29.48 | \$8.23 | \$9.72 | \$0.00 | \$47.43 |
| | 07/01/2017 | \$29.48 | \$8.48 | \$9.72 | \$0.00 | \$47.68 |
| RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i> | 04/01/2011 | \$24.24 | \$8.67 | \$15.51 | \$0.00 | \$48.42 |
| RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i> | 05/01/2011 | \$24.24 | \$6.34 | \$6.23 | \$0.00 | \$36.81 |
| As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate. | | | | | | |

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2

Effective Date - 05/01/2011

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$14.54 | \$6.34 | \$0.00 | \$0.00 | \$20.88 |
| 2 | 60 | \$14.54 | \$6.34 | \$6.23 | \$0.00 | \$27.11 |
| 3 | 65 | \$15.76 | \$6.34 | \$6.23 | \$0.00 | \$28.33 |
| 4 | 70 | \$16.97 | \$6.34 | \$6.23 | \$0.00 | \$29.54 |
| 5 | 75 | \$18.18 | \$6.34 | \$6.23 | \$0.00 | \$30.75 |
| 6 | 80 | \$19.39 | \$6.34 | \$6.23 | \$0.00 | \$31.96 |
| 7 | 85 | \$20.60 | \$6.34 | \$6.23 | \$0.00 | \$33.17 |
| 8 | 90 | \$21.82 | \$6.34 | \$6.23 | \$0.00 | \$34.39 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|--------|---------|---------------------------|------------|
| RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i> | 02/01/2014 | \$39.21 | \$10.50 | \$10.70 | \$0.00 | \$60.41 |
| | 08/01/2014 | \$39.21 | \$10.50 | \$11.60 | \$0.00 | \$61.31 |
| | 02/01/2015 | \$40.11 | \$10.50 | \$11.60 | \$0.00 | \$62.21 |
| | 08/01/2015 | \$41.01 | \$10.50 | \$11.60 | \$0.00 | \$63.11 |
| | 02/01/2016 | \$41.91 | \$10.50 | \$11.60 | \$0.00 | \$64.01 |

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$19.61 | \$10.50 | \$3.38 | \$0.00 | \$33.49 |
| 2 | 60 | \$23.53 | \$10.50 | \$10.70 | \$0.00 | \$44.73 |
| 3 | 65 | \$25.49 | \$10.50 | \$10.70 | \$0.00 | \$46.69 |
| 4 | 75 | \$29.41 | \$10.50 | \$10.70 | \$0.00 | \$50.61 |
| 5 | 85 | \$33.33 | \$10.50 | \$10.70 | \$0.00 | \$54.53 |

Effective Date - 08/01/2014

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

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> | 02/01/2014 | \$39.46 | \$10.50 | \$10.70 | \$0.00 | \$60.66 |
| | 08/01/2014 | \$39.46 | \$10.50 | \$11.60 | \$0.00 | \$61.56 |
| | 02/01/2015 | \$40.36 | \$10.50 | \$11.60 | \$0.00 | \$62.46 |
| | 08/01/2015 | \$41.26 | \$10.50 | \$11.60 | \$0.00 | \$63.36 |
| | 02/01/2016 | \$42.16 | \$10.50 | \$11.60 | \$0.00 | \$64.26 |

For apprentice rates see "Apprentice- ROOFER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|--------|---------|---------------------------|------------|
| SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A | 02/01/2014 | \$42.76 | \$9.82 | \$19.74 | \$2.17 | \$74.49 |
| | 08/01/2014 | \$43.61 | \$9.82 | \$19.74 | \$2.17 | \$75.34 |
| | 02/01/2015 | \$44.51 | \$9.82 | \$19.74 | \$2.17 | \$76.24 |
| | 08/01/2015 | \$45.51 | \$9.82 | \$19.74 | \$2.17 | \$77.24 |
| | 02/01/2016 | \$46.51 | \$9.82 | \$19.74 | \$2.17 | \$78.24 |
| | 08/01/2016 | \$47.66 | \$9.82 | \$19.74 | \$2.17 | \$79.39 |
| | 02/01/2017 | \$48.76 | \$9.82 | \$19.74 | \$2.17 | \$80.49 |
| | 08/01/2017 | \$49.86 | \$9.82 | \$19.74 | \$2.17 | \$81.59 |
| | 02/01/2018 | \$51.01 | \$9.82 | \$19.74 | \$2.17 | \$82.74 |

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$17.10 | \$9.82 | \$4.28 | \$0.00 | \$31.20 |
| 2 | 40 | \$17.10 | \$9.82 | \$4.28 | \$0.00 | \$31.20 |
| 3 | 45 | \$19.24 | \$9.82 | \$8.70 | \$1.13 | \$38.89 |
| 4 | 45 | \$19.24 | \$9.82 | \$8.70 | \$1.13 | \$38.89 |
| 5 | 50 | \$21.38 | \$9.82 | \$9.49 | \$1.22 | \$41.91 |
| 6 | 50 | \$21.38 | \$9.82 | \$9.74 | \$1.23 | \$42.17 |
| 7 | 60 | \$25.66 | \$9.82 | \$11.05 | \$1.40 | \$47.93 |
| 8 | 65 | \$27.79 | \$9.82 | \$11.84 | \$1.48 | \$50.93 |
| 9 | 75 | \$32.07 | \$9.82 | \$13.41 | \$1.66 | \$56.96 |
| 10 | 85 | \$36.35 | \$9.82 | \$14.48 | \$1.82 | \$62.47 |

Effective Date - 08/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$17.44 | \$9.82 | \$4.28 | \$0.00 | \$31.54 |
| 2 | 40 | \$17.44 | \$9.82 | \$4.28 | \$0.00 | \$31.54 |
| 3 | 45 | \$19.62 | \$9.82 | \$8.70 | \$1.13 | \$39.27 |
| 4 | 45 | \$19.62 | \$9.82 | \$8.70 | \$1.13 | \$39.27 |
| 5 | 50 | \$21.81 | \$9.82 | \$9.49 | \$1.22 | \$42.34 |
| 6 | 50 | \$21.81 | \$9.82 | \$9.74 | \$1.23 | \$42.60 |
| 7 | 60 | \$26.17 | \$9.82 | \$11.05 | \$1.40 | \$48.44 |
| 8 | 65 | \$28.35 | \$9.82 | \$11.84 | \$1.48 | \$51.49 |
| 9 | 75 | \$32.71 | \$9.82 | \$13.41 | \$1.66 | \$57.60 |
| 10 | 85 | \$37.07 | \$9.82 | \$14.48 | \$1.82 | \$63.19 |

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SIGN ERECTOR - Local 35 Zone 2

Effective Date - 06/01/2013

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

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|---------|---------|---------|---------|
| SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.69 | \$9.41 | \$8.80 | \$0.00 | \$50.90 |
| | 08/01/2014 | \$32.69 | \$9.91 | \$8.80 | \$0.00 | \$51.40 |
| | 12/01/2014 | \$32.69 | \$9.91 | \$9.33 | \$0.00 | \$51.93 |
| | 06/01/2015 | \$33.04 | \$9.91 | \$9.33 | \$0.00 | \$52.28 |
| | 08/01/2015 | \$33.04 | \$10.41 | \$9.33 | \$0.00 | \$52.78 |
| | 12/01/2015 | \$33.04 | \$10.41 | \$10.08 | \$0.00 | \$53.53 |
| | 06/01/2016 | \$33.54 | \$10.41 | \$10.08 | \$0.00 | \$54.03 |
| | 08/01/2016 | \$33.54 | \$10.91 | \$10.08 | \$0.00 | \$54.53 |
| SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2016 | \$33.54 | \$10.91 | \$10.89 | \$0.00 | \$55.34 |
| | 06/01/2014 | \$32.98 | \$9.41 | \$8.80 | \$0.00 | \$51.19 |
| | 08/01/2014 | \$32.98 | \$9.91 | \$8.80 | \$0.00 | \$51.69 |
| | 12/01/2014 | \$32.98 | \$9.91 | \$9.33 | \$0.00 | \$52.22 |
| | 06/01/2015 | \$33.33 | \$9.91 | \$9.33 | \$0.00 | \$52.57 |
| | 08/01/2015 | \$33.33 | \$10.41 | \$9.33 | \$0.00 | \$53.07 |
| | 12/01/2015 | \$33.33 | \$10.41 | \$10.08 | \$0.00 | \$53.82 |
| | 06/01/2016 | \$33.83 | \$10.41 | \$10.08 | \$0.00 | \$54.32 |
| SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i> | 08/01/2016 | \$33.83 | \$10.91 | \$10.08 | \$0.00 | \$54.82 |
| | 12/01/2016 | \$33.83 | \$10.91 | \$10.89 | \$0.00 | \$55.63 |
| | 03/01/2014 | \$53.58 | \$8.42 | \$13.60 | \$0.00 | \$75.60 |
| | 10/01/2014 | \$54.73 | \$8.42 | \$13.60 | \$0.00 | \$76.75 |
| | 01/01/2015 | \$54.73 | \$8.42 | \$13.75 | \$0.00 | \$76.90 |
| | 03/01/2015 | \$55.73 | \$8.42 | \$13.75 | \$0.00 | \$77.90 |
| | 10/01/2015 | \$56.88 | \$8.42 | \$13.75 | \$0.00 | \$79.05 |
| | 01/01/2016 | \$56.88 | \$8.67 | \$13.90 | \$0.00 | \$79.45 |
| 03/01/2016 | \$57.88 | \$8.67 | \$13.90 | \$0.00 | \$80.45 | |
| 10/01/2016 | \$59.03 | \$8.67 | \$13.90 | \$0.00 | \$81.60 | |
| 03/01/2017 | \$60.03 | \$8.67 | \$13.90 | \$0.00 | \$82.60 | |

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$18.75 | \$8.42 | \$8.25 | \$0.00 | \$35.42 |
| 2 | 40 | \$21.43 | \$8.42 | \$8.25 | \$0.00 | \$38.10 |
| 3 | 45 | \$24.11 | \$8.42 | \$8.25 | \$0.00 | \$40.78 |
| 4 | 50 | \$26.79 | \$8.42 | \$8.25 | \$0.00 | \$43.46 |
| 5 | 55 | \$29.47 | \$8.42 | \$8.25 | \$0.00 | \$46.14 |
| 6 | 60 | \$32.15 | \$8.42 | \$8.25 | \$0.00 | \$48.82 |
| 7 | 65 | \$34.83 | \$8.42 | \$8.25 | \$0.00 | \$51.50 |
| 8 | 70 | \$37.51 | \$8.42 | \$8.25 | \$0.00 | \$54.18 |
| 9 | 75 | \$40.19 | \$8.42 | \$8.25 | \$0.00 | \$56.86 |
| 10 | 80 | \$42.86 | \$8.42 | \$8.25 | \$0.00 | \$59.53 |

Effective Date - 10/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$19.16 | \$8.42 | \$8.25 | \$0.00 | \$35.83 |
| 2 | 40 | \$21.89 | \$8.42 | \$8.25 | \$0.00 | \$38.56 |
| 3 | 45 | \$24.63 | \$8.42 | \$8.25 | \$0.00 | \$41.30 |
| 4 | 50 | \$27.37 | \$8.42 | \$8.25 | \$0.00 | \$44.04 |
| 5 | 55 | \$30.10 | \$8.42 | \$8.25 | \$0.00 | \$46.77 |
| 6 | 60 | \$32.84 | \$8.42 | \$8.25 | \$0.00 | \$49.51 |
| 7 | 65 | \$35.57 | \$8.42 | \$8.25 | \$0.00 | \$52.24 |
| 8 | 70 | \$38.31 | \$8.42 | \$8.25 | \$0.00 | \$54.98 |
| 9 | 75 | \$41.05 | \$8.42 | \$8.25 | \$0.00 | \$57.72 |
| 10 | 80 | \$43.78 | \$8.42 | \$8.25 | \$0.00 | \$60.45 |

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

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2014 | \$33.44 | \$13.00 | \$13.03 | \$0.00 | \$59.47 |
| | 09/01/2014 | \$33.84 | \$13.00 | \$13.05 | \$0.00 | \$59.89 |
| | 03/01/2015 | \$34.38 | \$13.00 | \$13.06 | \$0.00 | \$60.44 |
| | 09/01/2015 | \$35.10 | \$13.00 | \$13.08 | \$0.00 | \$61.18 |
| | 03/01/2016 | \$35.81 | \$13.00 | \$13.10 | \$0.00 | \$61.91 |

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$13.38 | \$13.00 | \$0.40 | \$0.00 | \$26.78 |
| 2 | 40 | \$13.38 | \$13.00 | \$0.40 | \$0.00 | \$26.78 |
| 3 | 45 | \$15.05 | \$13.00 | \$10.29 | \$0.00 | \$38.34 |
| 4 | 45 | \$15.05 | \$13.00 | \$10.29 | \$0.00 | \$38.34 |
| 5 | 50 | \$16.72 | \$13.00 | \$10.54 | \$0.00 | \$40.26 |
| 6 | 55 | \$18.39 | \$13.00 | \$10.79 | \$0.00 | \$42.18 |
| 7 | 60 | \$20.06 | \$13.00 | \$11.04 | \$0.00 | \$44.10 |
| 8 | 65 | \$21.74 | \$13.00 | \$11.29 | \$0.00 | \$46.03 |
| 9 | 70 | \$23.41 | \$13.00 | \$11.54 | \$0.00 | \$47.95 |
| 10 | 75 | \$25.08 | \$13.00 | \$11.79 | \$0.00 | \$49.87 |

Effective Date - 09/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$13.54 | \$13.00 | \$0.41 | \$0.00 | \$26.95 |
| 2 | 40 | \$13.54 | \$13.00 | \$0.41 | \$0.00 | \$26.95 |
| 3 | 45 | \$15.23 | \$13.00 | \$10.30 | \$0.00 | \$38.53 |
| 4 | 45 | \$15.23 | \$13.00 | \$10.30 | \$0.00 | \$38.53 |
| 5 | 50 | \$16.92 | \$13.00 | \$10.55 | \$0.00 | \$40.47 |
| 6 | 55 | \$18.61 | \$13.00 | \$10.80 | \$0.00 | \$42.41 |
| 7 | 60 | \$20.30 | \$13.00 | \$11.05 | \$0.00 | \$44.35 |
| 8 | 65 | \$22.00 | \$13.00 | \$11.30 | \$0.00 | \$46.30 |
| 9 | 70 | \$23.69 | \$13.00 | \$11.55 | \$0.00 | \$48.24 |
| 10 | 75 | \$25.38 | \$13.00 | \$11.80 | \$0.00 | \$50.18 |

Notes:

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|-------------------------------------|------------|---------|---------|---------|--------|---------|
| TERRAZZO FINISHERS | 02/01/2014 | \$47.00 | \$10.18 | \$18.15 | \$0.00 | \$75.33 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 08/01/2014 | \$47.90 | \$10.18 | \$18.22 | \$0.00 | \$76.30 |
| | 02/01/2015 | \$48.46 | \$10.18 | \$18.22 | \$0.00 | \$76.86 |
| | 08/01/2015 | \$49.36 | \$10.18 | \$18.29 | \$0.00 | \$77.83 |
| | 02/01/2016 | \$49.93 | \$10.18 | \$18.29 | \$0.00 | \$78.40 |
| | 08/01/2016 | \$50.83 | \$10.18 | \$18.37 | \$0.00 | \$79.38 |
| | 02/01/2017 | \$51.40 | \$10.18 | \$18.37 | \$0.00 | \$79.95 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2014

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$23.50 | \$10.18 | \$18.15 | \$0.00 | \$51.83 |
| 2 | 60 | \$28.20 | \$10.18 | \$18.15 | \$0.00 | \$56.53 |
| 3 | 70 | \$32.90 | \$10.18 | \$18.15 | \$0.00 | \$61.23 |
| 4 | 80 | \$37.60 | \$10.18 | \$18.15 | \$0.00 | \$65.93 |
| 5 | 90 | \$42.30 | \$10.18 | \$18.15 | \$0.00 | \$70.63 |

Effective Date - 08/01/2014

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

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$35.45 | \$7.30 | \$12.90 | \$0.00 | \$55.65 |
| | 12/01/2014 | \$36.20 | \$7.30 | \$12.90 | \$0.00 | \$56.40 |
| | 06/01/2015 | \$36.95 | \$7.30 | \$12.90 | \$0.00 | \$57.15 |
| | 12/01/2015 | \$37.70 | \$7.30 | \$12.90 | \$0.00 | \$57.90 |
| | 06/01/2016 | \$38.45 | \$7.30 | \$12.90 | \$0.00 | \$58.65 |
| | 12/01/2016 | \$39.45 | \$7.30 | \$12.90 | \$0.00 | \$59.65 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$34.17 | \$7.30 | \$12.90 | \$0.00 | \$54.37 |
| | 12/01/2014 | \$34.92 | \$7.30 | \$12.90 | \$0.00 | \$55.12 |
| | 06/01/2015 | \$35.67 | \$7.30 | \$12.90 | \$0.00 | \$55.87 |
| | 12/01/2015 | \$36.42 | \$7.30 | \$12.90 | \$0.00 | \$56.62 |
| | 06/01/2016 | \$37.17 | \$7.30 | \$12.90 | \$0.00 | \$57.37 |
| | 12/01/2016 | \$38.17 | \$7.30 | \$12.90 | \$0.00 | \$58.37 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2014 | \$34.05 | \$7.30 | \$12.90 | \$0.00 | \$54.25 |
| | 12/01/2014 | \$34.80 | \$7.30 | \$12.90 | \$0.00 | \$55.00 |
| | 06/01/2015 | \$35.55 | \$7.30 | \$12.90 | \$0.00 | \$55.75 |
| | 12/01/2015 | \$36.30 | \$7.30 | \$12.90 | \$0.00 | \$56.50 |
| | 06/01/2016 | \$37.05 | \$7.30 | \$12.90 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$38.05 | \$7.30 | \$12.90 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.11 | \$10.00 | \$14.18 | \$0.00 | \$64.29 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$33.27 | \$9.41 | \$8.80 | \$0.00 | \$51.48 |
| | 08/01/2014 | \$33.27 | \$9.91 | \$8.80 | \$0.00 | \$51.98 |
| | 12/01/2014 | \$33.27 | \$9.91 | \$9.33 | \$0.00 | \$52.51 |
| | 06/01/2015 | \$33.62 | \$9.91 | \$9.33 | \$0.00 | \$52.86 |
| | 08/01/2015 | \$33.62 | \$10.41 | \$9.33 | \$0.00 | \$53.36 |
| | 12/01/2015 | \$33.62 | \$10.41 | \$10.08 | \$0.00 | \$54.11 |
| | 06/01/2016 | \$34.12 | \$10.41 | \$10.08 | \$0.00 | \$54.61 |
| | 08/01/2016 | \$34.12 | \$10.91 | \$10.08 | \$0.00 | \$55.11 |
| | 12/01/2016 | \$34.12 | \$10.91 | \$10.89 | \$0.00 | \$55.92 |
| TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i> | 06/01/2014 | \$46.33 | \$7.30 | \$13.30 | \$0.00 | \$66.93 |
| | 12/01/2014 | \$47.08 | \$7.30 | \$13.30 | \$0.00 | \$67.68 |
| | 06/01/2015 | \$47.83 | \$7.30 | \$13.30 | \$0.00 | \$68.43 |
| | 12/01/2015 | \$48.58 | \$7.30 | \$13.30 | \$0.00 | \$69.18 |
| | 06/01/2016 | \$49.33 | \$7.30 | \$13.30 | \$0.00 | \$69.93 |
| | 12/01/2016 | \$50.33 | \$7.30 | \$13.30 | \$0.00 | \$70.93 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i> | 06/01/2014 | \$48.33 | \$7.30 | \$13.30 | \$0.00 | \$68.93 |
| | 12/01/2014 | \$49.08 | \$7.30 | \$13.30 | \$0.00 | \$69.68 |
| | 06/01/2015 | \$49.83 | \$7.30 | \$13.30 | \$0.00 | \$70.43 |
| | 12/01/2015 | \$50.58 | \$7.30 | \$13.30 | \$0.00 | \$71.18 |
| | 06/01/2016 | \$51.33 | \$7.30 | \$13.30 | \$0.00 | \$71.93 |
| | 12/01/2016 | \$52.33 | \$7.30 | \$13.30 | \$0.00 | \$72.93 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i> | 06/01/2014 | \$38.40 | \$7.30 | \$13.30 | \$0.00 | \$59.00 |
| | 12/01/2014 | \$39.15 | \$7.30 | \$13.30 | \$0.00 | \$59.75 |
| | 06/01/2015 | \$39.90 | \$7.30 | \$13.30 | \$0.00 | \$60.50 |
| | 12/01/2015 | \$40.65 | \$7.30 | \$13.30 | \$0.00 | \$61.25 |
| | 06/01/2016 | \$41.40 | \$7.30 | \$13.30 | \$0.00 | \$62.00 |
| | 12/01/2016 | \$42.40 | \$7.30 | \$13.30 | \$0.00 | \$63.00 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i> | 06/01/2014 | \$40.40 | \$7.30 | \$13.30 | \$0.00 | \$61.00 |
| | 12/01/2014 | \$41.15 | \$7.30 | \$13.30 | \$0.00 | \$61.75 |
| | 06/01/2015 | \$41.90 | \$7.30 | \$13.30 | \$0.00 | \$62.50 |
| | 12/01/2015 | \$42.65 | \$7.30 | \$13.30 | \$0.00 | \$63.25 |
| | 06/01/2016 | \$43.40 | \$7.30 | \$13.30 | \$0.00 | \$64.00 |
| | 12/01/2016 | \$44.40 | \$7.30 | \$13.30 | \$0.00 | \$65.00 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 06/01/2014 | \$32.69 | \$9.41 | \$8.80 | \$0.00 | \$50.90 |
| | 08/01/2014 | \$32.69 | \$9.91 | \$8.80 | \$0.00 | \$51.40 |
| | 12/01/2014 | \$32.69 | \$9.91 | \$9.33 | \$0.00 | \$51.93 |
| | 06/01/2015 | \$33.04 | \$9.91 | \$9.33 | \$0.00 | \$52.28 |
| | 08/01/2015 | \$33.04 | \$10.41 | \$9.33 | \$0.00 | \$52.78 |
| | 12/01/2015 | \$33.04 | \$10.41 | \$10.08 | \$0.00 | \$53.53 |
| | 06/01/2016 | \$33.54 | \$10.41 | \$10.08 | \$0.00 | \$54.03 |
| | 08/01/2016 | \$33.54 | \$10.91 | \$10.08 | \$0.00 | \$54.53 |
| | 12/01/2016 | \$33.54 | \$10.91 | \$10.89 | \$0.00 | \$55.34 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|-----------------------|------------------|---------------|----------------|----------------------------------|-------------------|
| WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i> | 06/01/2014 | \$34.35 | \$7.30 | \$12.70 | \$0.00 | \$54.35 |
| | 12/01/2014 | \$35.10 | \$7.30 | \$12.70 | \$0.00 | \$55.10 |
| | 06/01/2015 | \$35.85 | \$7.30 | \$12.70 | \$0.00 | \$55.85 |
| | 12/01/2015 | \$36.60 | \$7.30 | \$12.70 | \$0.00 | \$56.60 |
| | 06/01/2016 | \$37.35 | \$7.30 | \$12.70 | \$0.00 | \$57.35 |
| | 12/01/2016 | \$38.35 | \$7.30 | \$12.70 | \$0.00 | \$58.35 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2013 | \$40.49 | \$10.00 | \$14.18 | \$0.00 | \$64.67 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i> | 03/01/2014 | \$49.41 | \$9.82 | \$14.29 | \$0.00 | \$73.52 |
| | 09/01/2014 | \$50.41 | \$9.82 | \$14.29 | \$0.00 | \$74.52 |
| | 03/01/2015 | \$51.41 | \$9.82 | \$14.29 | \$0.00 | \$75.52 |
| | 09/01/2015 | \$52.41 | \$9.82 | \$14.29 | \$0.00 | \$76.52 |
| | 03/01/2016 | \$53.56 | \$9.82 | \$14.29 | \$0.00 | \$77.67 |
| | 09/01/2016 | \$54.61 | \$9.82 | \$14.29 | \$0.00 | \$78.72 |
| | 03/01/2017 | \$55.61 | \$9.82 | \$14.29 | \$0.00 | \$79.72 |
| For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER" | | | | | | |
| Outside Electrical - East | | | | | | |
| CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$25.66 | \$8.70 | \$4.48 | \$0.00 | \$38.84 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$36.55 | \$8.70 | \$6.58 | \$0.00 | \$51.83 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$29.94 | \$8.70 | \$6.05 | \$0.00 | \$44.69 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$23.52 | \$8.70 | \$5.24 | \$0.00 | \$37.46 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$36.35 | \$8.70 | \$9.43 | \$0.00 | \$54.48 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$32.08 | \$8.70 | \$6.59 | \$0.00 | \$47.37 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$23.52 | \$8.70 | \$3.72 | \$0.00 | \$35.94 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$19.25 | \$8.70 | \$2.85 | \$0.00 | \$30.80 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |
| JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 09/01/2013 | \$42.77 | \$8.70 | \$11.78 | \$0.00 | \$63.25 |

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/01/2013

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

Notes:

Apprentice to Journeyworker Ratio:1:2

| | | | | | | |
|---|------------|---------|--------|--------|--------|---------|
| TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 07/16/2012 | \$26.33 | \$4.18 | \$2.79 | \$0.00 | \$33.30 |
| TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 07/16/2012 | \$24.78 | \$4.18 | \$2.74 | \$0.00 | \$31.70 |
| TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 07/16/2012 | \$24.78 | \$4.18 | \$2.74 | \$0.00 | \$31.70 |
| TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 01/29/2012 | \$17.18 | \$3.37 | \$0.00 | \$0.00 | \$20.55 |
| This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal. | | | | | | |
| TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 01/29/2012 | \$15.15 | \$3.37 | \$0.00 | \$0.00 | \$18.52 |
| 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. | | | | | | |

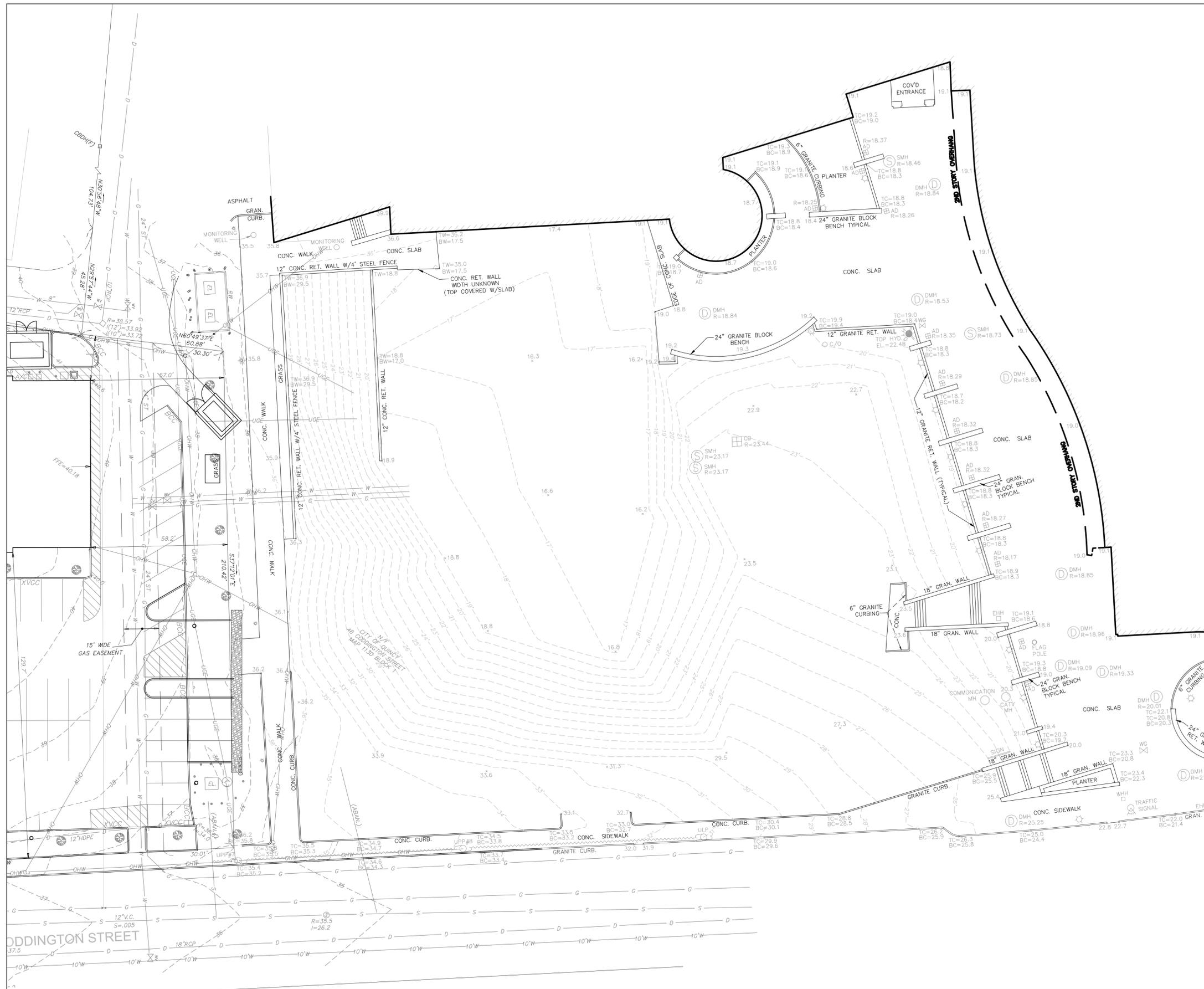
Additional Apprentice Information:

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

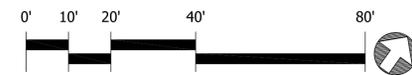
All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours) unless otherwise specified.

- * Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof.
- ** 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.



ODDINGTON STREET
37.5



HALVORSON DESIGN
PARTNERSHIP
LANDSCAPE ARCHITECTURE
25 KINROSS ST., BOSTON, MA 02111-2800
PHONE: 617-552-0200 FAX: 617-552-0204
WWW.HALVORSONDESIGN.COM

**OLD QUINCY HIGH
GREEN SPACE**
QUINCY, MASSACHUSETTS

REVISIONS

PROJECT NO:
DRAWN BY: SL
CHECKED BY: CK
SCALE: 1"=20'-0"

CONSTRUCTION
DOCUMENTS

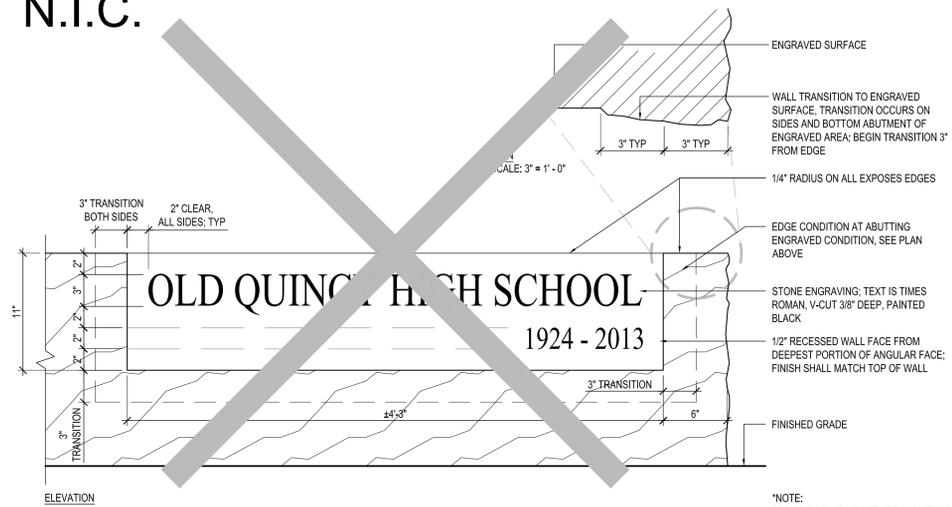
CONCRETE SPECIFIC

JUNE 27, 2014

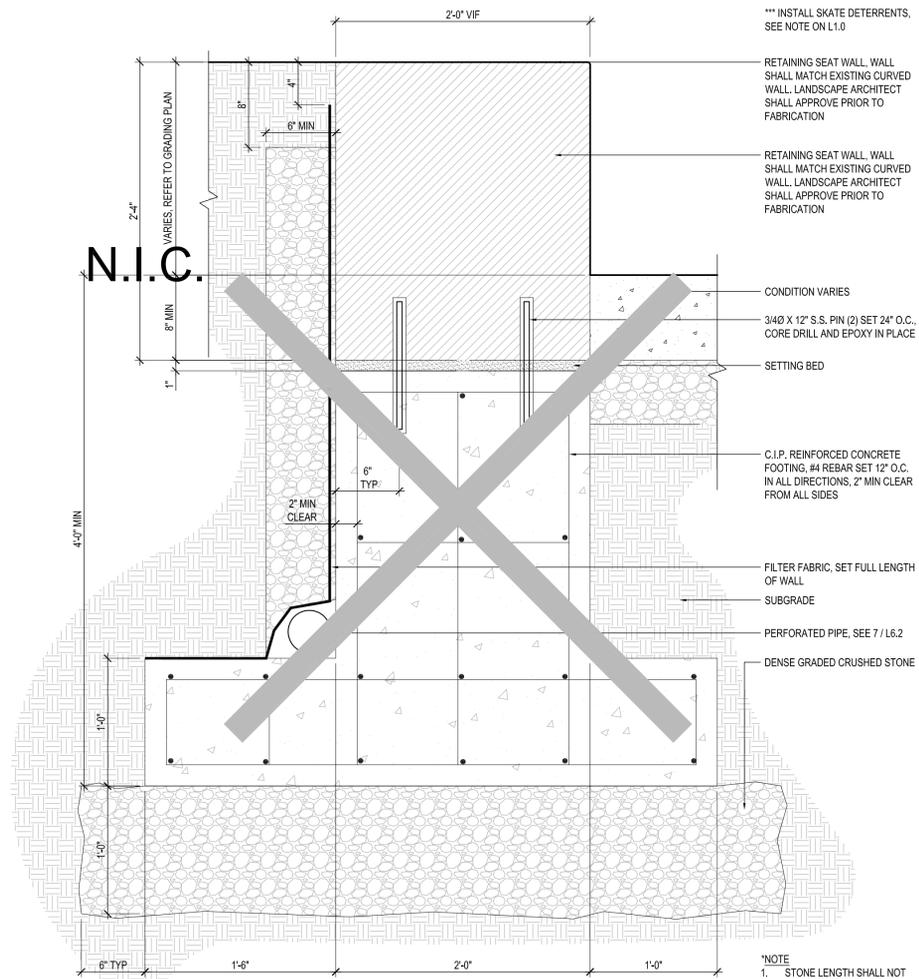
EXISTING
CONDITIONS

L0.0

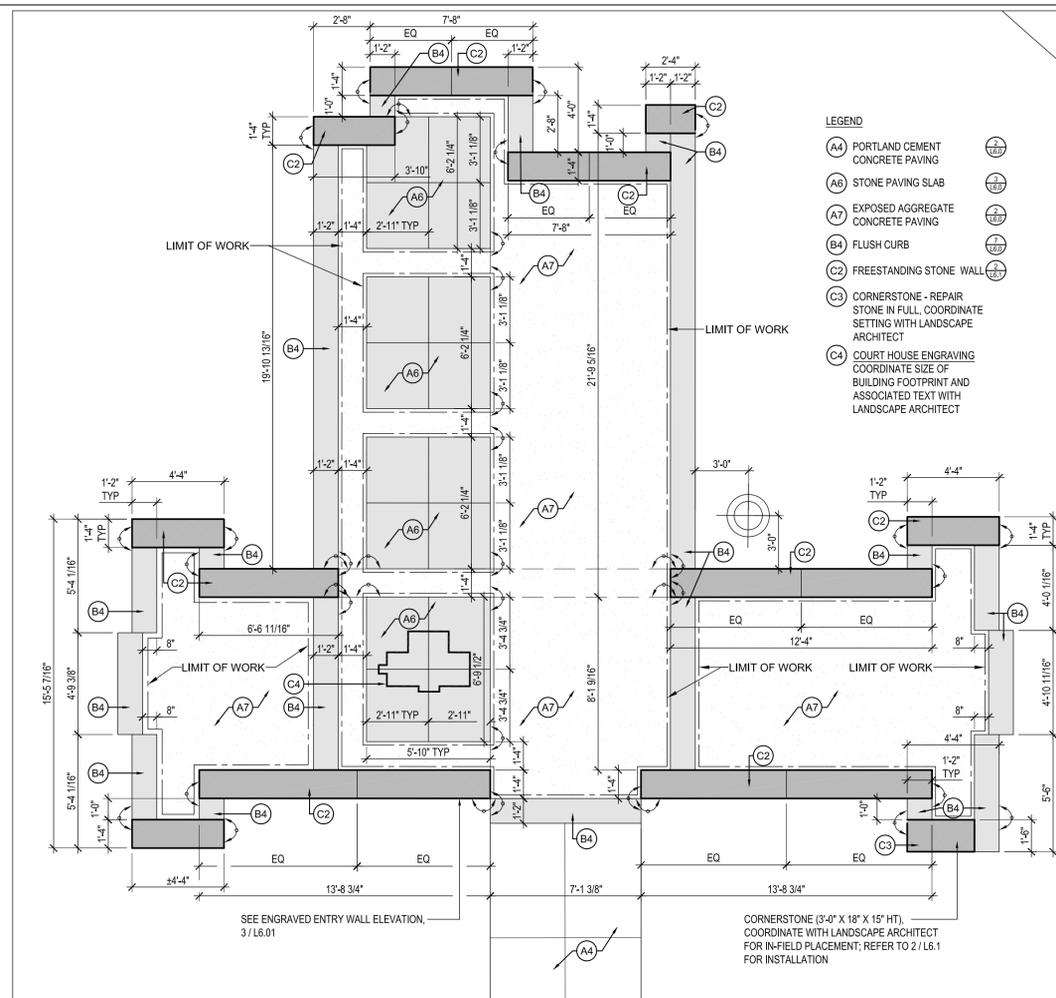
N.I.C.



3 ENGRAVED ENTRY WALL
SCALE: 1-1/2" = 1'-0"

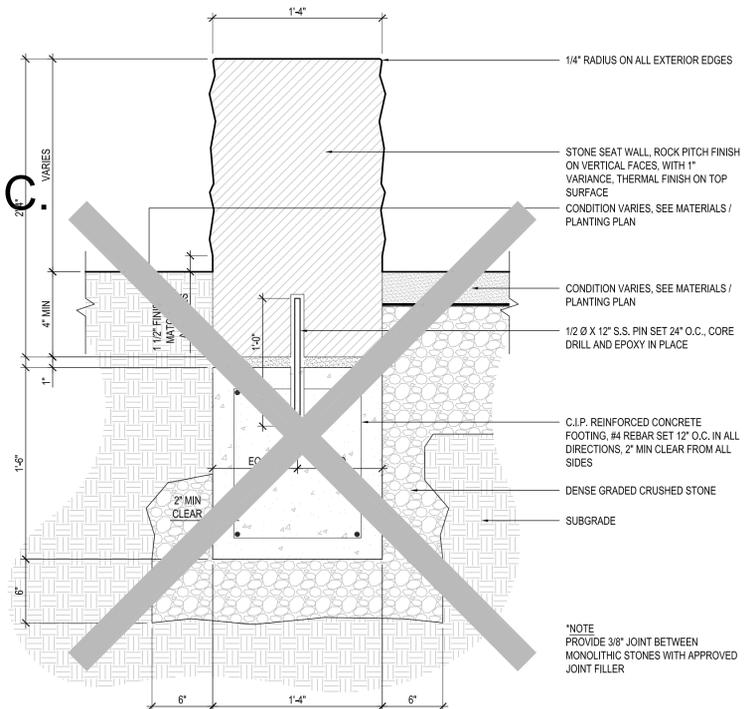


4 STONE RETAINING WALL
SCALE: 1-1/2" = 1'-0"



1 INTERPRETIVE PLAZA - PLAN ENLARGEMENT
SCALE: 1/4" = 1'-0"

N.I.C.



2 FREESTANDING SEAT WALL
SCALE: 1-1/2" = 1'-0"

HALVORSON DESIGN
PARTNERSHIP
LANDSCAPE ARCHITECTURE
25 KIMBURN ST., BOSTON, MA 02111-2800
PHONE: 617-552-0200 FAX: 617-552-0208
WWW.HALVORSONDESIGN.COM

**OLD QUINCY HIGH
GREEN SPACE**
QUINCY, MASSACHUSETTS

REVISIONS

PROJECT NO: _____
DRAWN BY: SL
CHECKED BY: CK
SCALE: AS NOTED

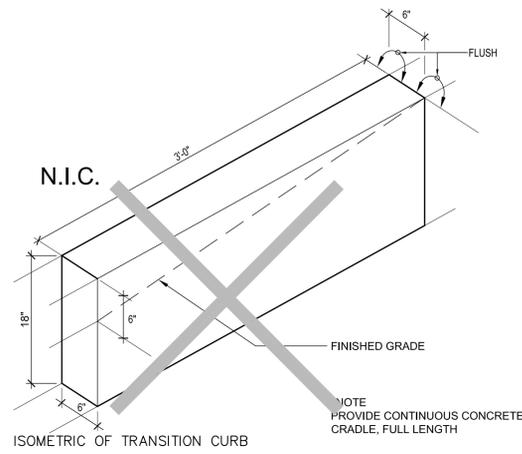
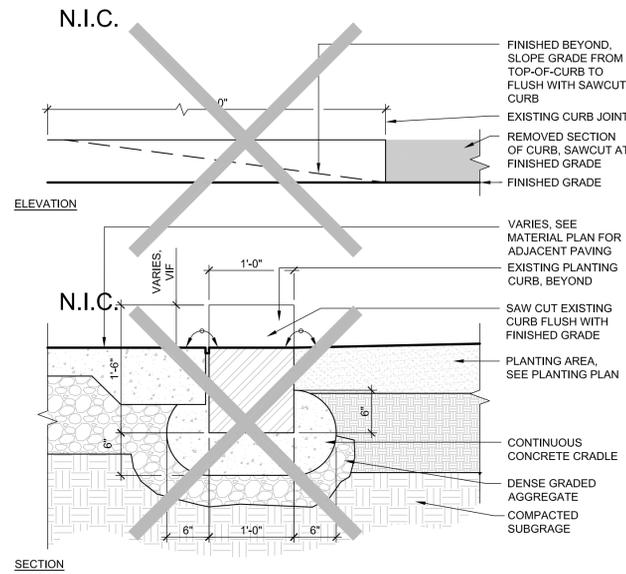
CONSTRUCTION DOCUMENTS

CONCRETE SPECIFIC

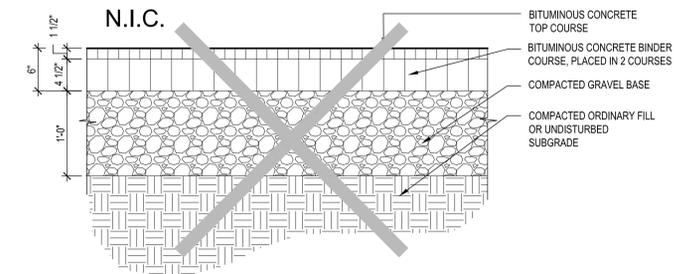
JUNE 27, 2014

SITE IMPROVEMENT DETAILS

L5.1

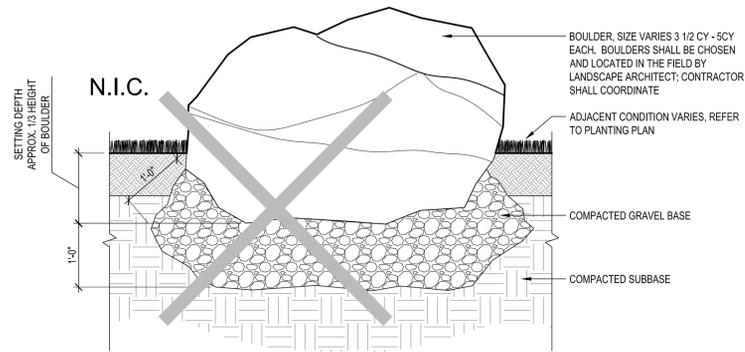


5 VEHICULAR CURB - TRANSITION
Scale: 1" = 1'-0"

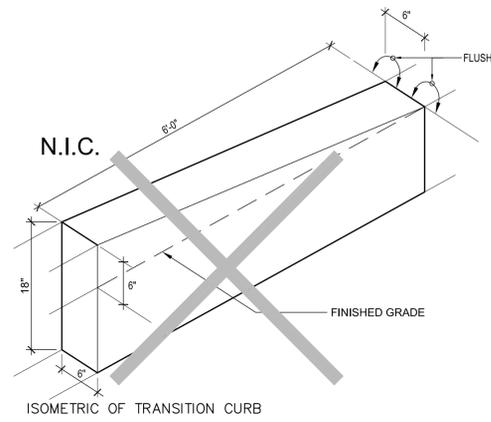


1 BITUMINOUS CONCRETE
Scale: 1" = 1'-0"

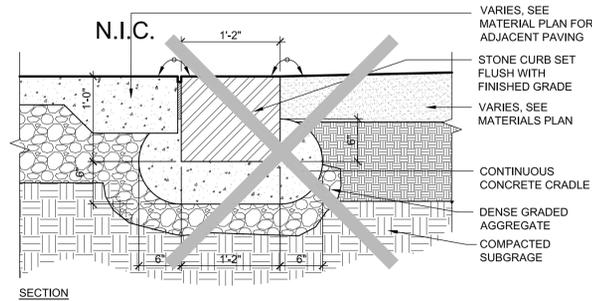
8 EXISTING CURB - SAW CUT
Scale: 1" = 1'-0"



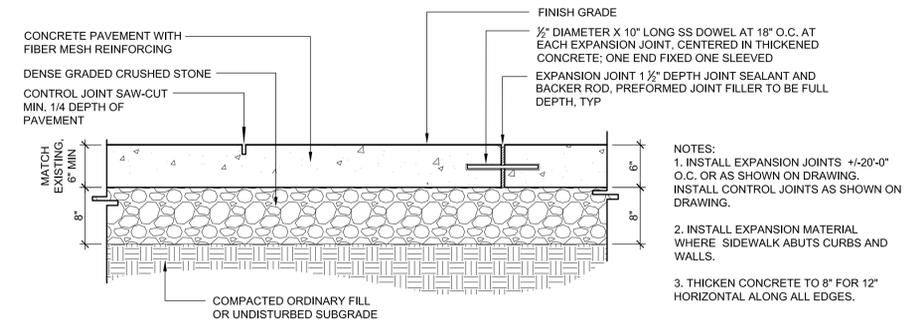
9 BOULDER
Scale: 3/4" = 1'-0"



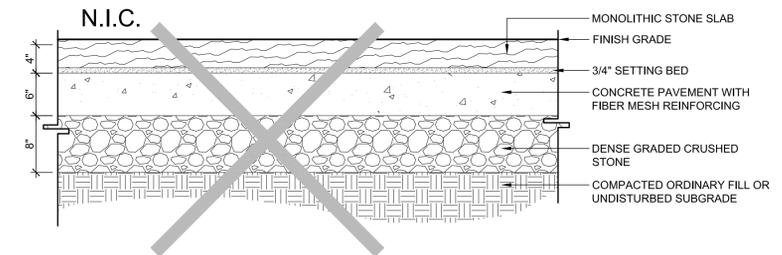
6 PEDESTRIAN CURB - TRANSITION
Scale: 1" = 1'-0"



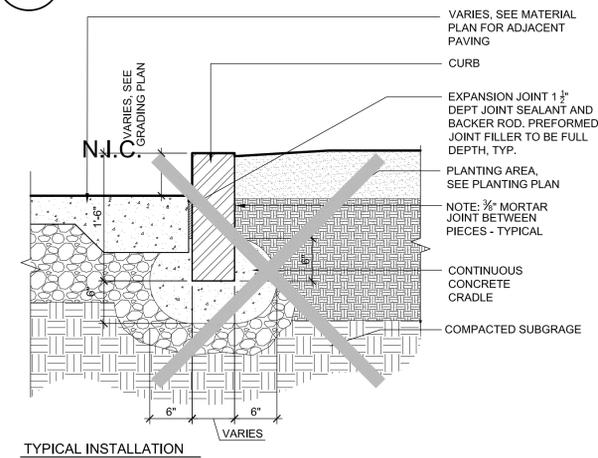
7 FLUSH CURB
Scale: 1" = 1'-0"



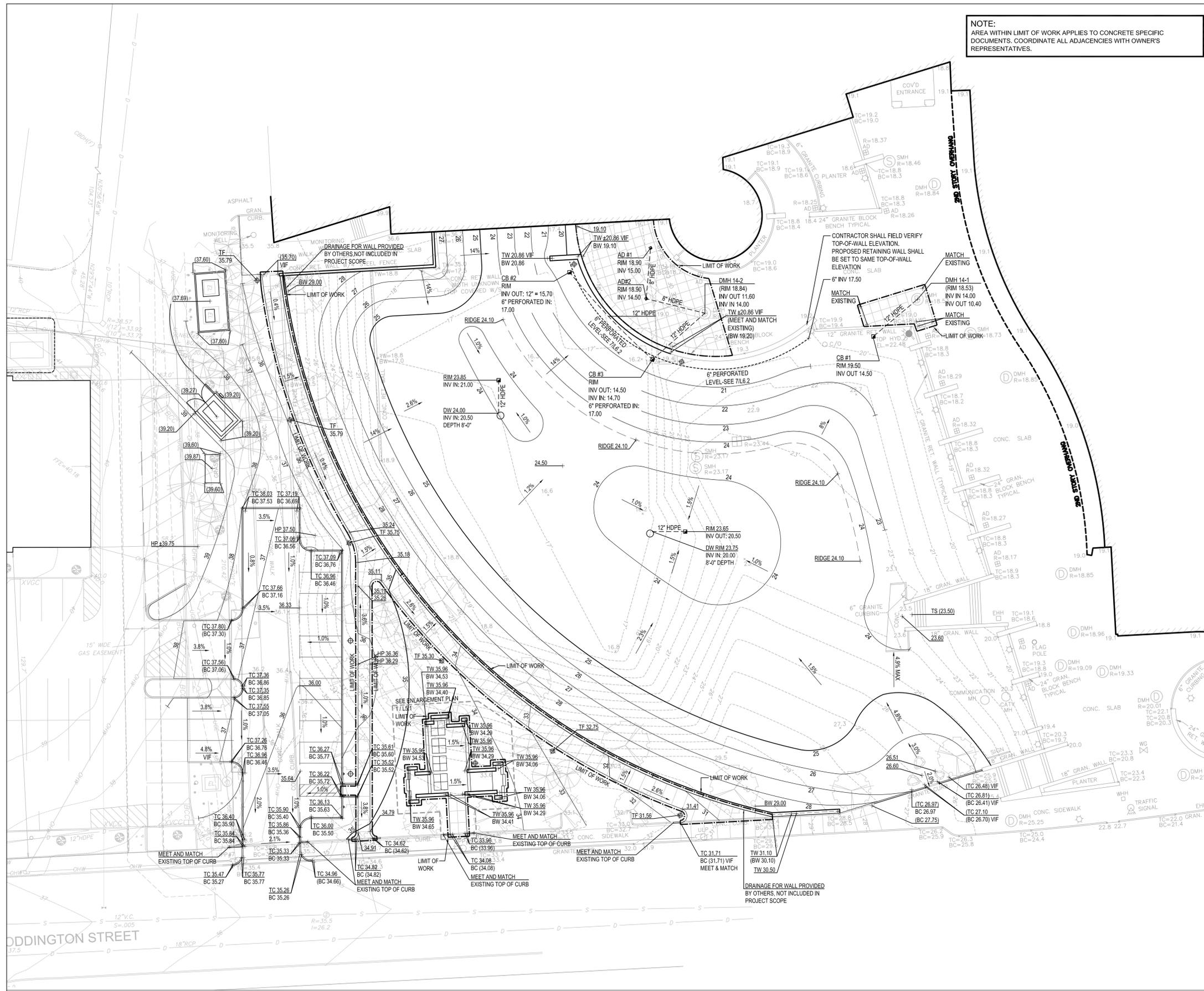
2 INTEGRALLY COLORED CONCRETE PAVING / PORTLAND CEMENT CONCRETE PAVING / EXPOSED AGGREGATE CONCRETE PAVING
SCALE: 1" = 1'-0"



3 STONE PAVING SLAB
SCALE: 1" = 1'-0"



4 VEHICULAR CURB
Scale: 1" = 1'-0"



NOTE:
 AREA WITHIN LIMIT OF WORK APPLIES TO CONCRETE SPECIFIC DOCUMENTS. COORDINATE ALL ADJACENCIES WITH OWNERS REPRESENTATIVES.

GRADING LEGEND

| SYMBOL | DESCRIPTION |
|---------------------|--------------------------|
| GENERAL SITE | |
| --- | LIMIT OF WORK |
| --- | EXISTING CONTOUR |
| --- | PROPOSED CONTOUR |
| + (XX.XX) | EXISTING SPOT ELEVATION |
| + XX.XX | PROPOSED SPOT ELEVATION |
| LP | LOW POINT |
| EX | EXISTING GRADE TO REMAIN |
| VIF | VERIFY IN FIELD |
| TW | TOP OF WALL ELEVATION |
| BW | BOTTOM OF WALL ELEVATION |
| TC | TOP OF CURB ELEVATION |
| BC | BOTTOM OF CURB ELEVATION |
| TS | TOP OF STAIR |

- GRADING NOTES:**
- REVIEW DRAWINGS TO DETERMINE THE TOTAL SCOPE AND COORDINATION OF WORK. EMPLOY A LICENSED SURVEYOR OR REGISTERED CIVIL ENGINEER TO VERIFY AND LAY OUT GRADES, LINES, AND DIMENSIONS SHOWN ON DRAWINGS. VERIFY EXISTING GRADES AND ELEVATIONS OF ADJACENT SITE CONDITIONS WITH ELEVATIONS ON DRAWINGS PRIOR TO BEGINNING WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT DISCREPANCIES TO THE OWNERS REPRESENTATIVE IMMEDIATELY AND RECEIVE WRITTEN INSTRUCTIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - GRADE EVENLY BETWEEN SPOT GRADES AS NOTED.
 - THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE INSIDE OR OUTSIDE OF THE PROPERTY LINE AND LIMIT OF WORK LINE DUE TO THEIR CONSTRUCTION OPERATIONS.
 - USE ONE SINGLE BENCHMARK FOR WORK.
 - THE CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION OF ANY TYPE.
 - EXCAVATE BY HAND IN CLOSE PROXIMITY TO EXISTING UTILITIES, BUILDINGS, AND STRUCTURES.
 - RIM ELEVATIONS OF ANY EXISTING DRAINAGE AND UTILITY STRUCTURES SHALL BE FLUSH WITH FINAL SURROUNDING GRADES SO NOT TO CAUSE A TRIP EDGE.
 - FINAL SHAPING OF EARTHWORK SHALL BE APPROVED IN THE FIELD BY LANDSCAPE ARCHITECT AND OWNER. LANDSCAPE ARCHITECT TO REVIEW AND APPROVE ROUGH GRADING BEFORE THE CONTRACTOR COMMENCES FINE GRADING AND LAYING OF TOPSOIL.
 - PITCH PAVEMENT TO PROVIDE POSITIVE DRAINAGE.
 - PAVEMENT CROSS PITCH SHALL NOT BE GREATER THAN 1.0% OR LESS THAN 0.75%.

HALVORSON DESIGN PARTNERSHIP
 LANDSCAPE ARCHITECTURE
 25 KIMBORN ST. BOSTON, MA 02112
 PHONE 617-552-8282 FAX 617-552-8284
 WWW.HALVORSONDESIGN.COM

OLD QUINCY HIGH GREEN SPACE
 QUINCY, MASSACHUSETTS

REVISIONS

| NO. | DESCRIPTION |
|-----|-------------|
| | |
| | |
| | |

PROJECT NO: _____
 DRAWN BY: SL
 CHECKED BY: CK
 SCALE: 1"=20'-0"

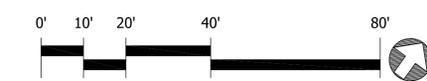
CONSTRUCTION DOCUMENTS

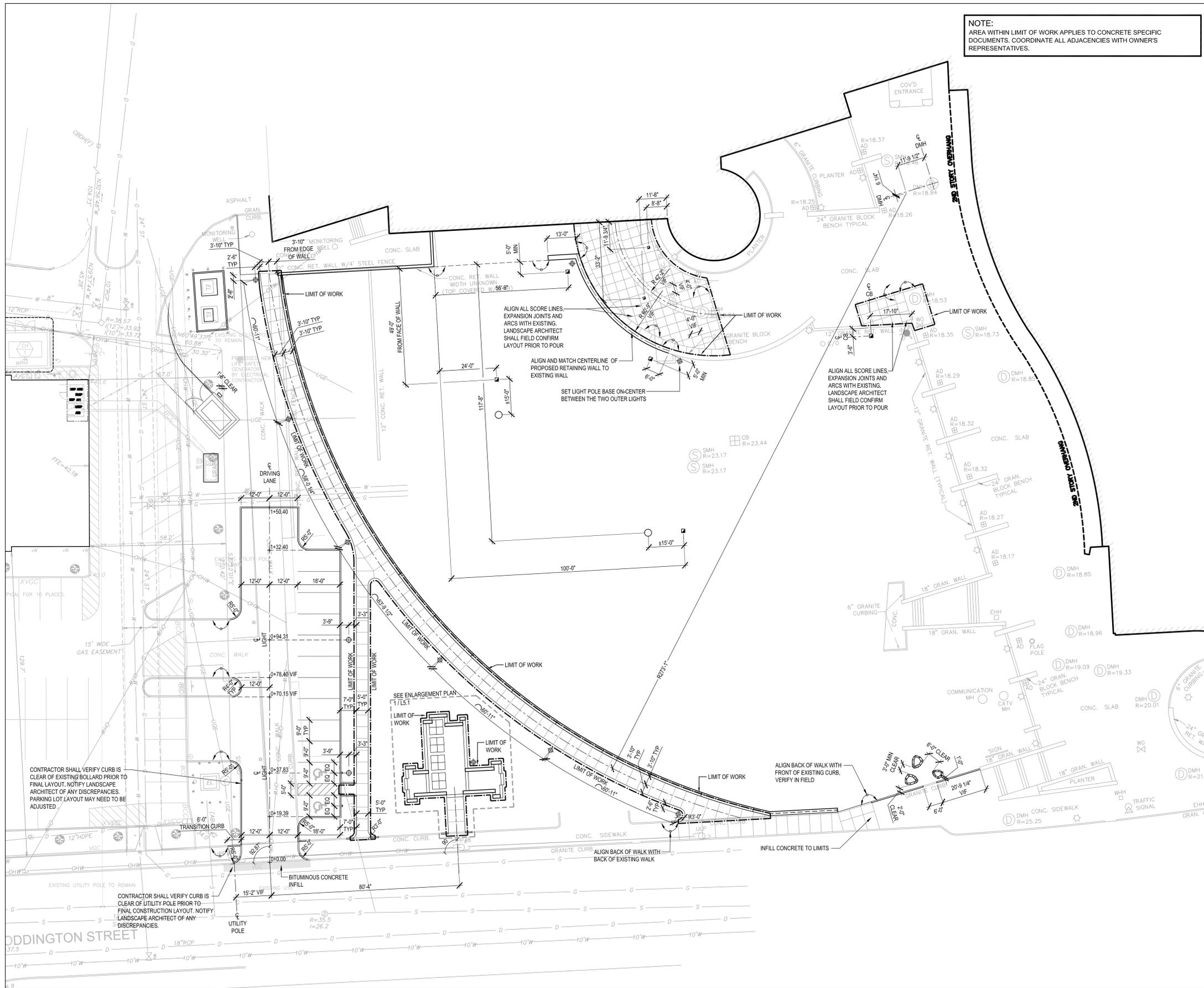
CONCRETE SPECIFIC

JUNE 27, 2014

GRADING PLAN

L3.0





NOTE:
 AREA WITHIN LIMIT OF WORK APPLIES TO CONCRETE SPECIFIC DOCUMENTS. COORDINATE ALL ADJACENCIES WITH OWNER'S REPRESENTATIVES.

| SYMBOL | DESCRIPTION |
|--------|-----------------|
| | LIMIT OF WORK |
| | CENTER LINE |
| | ALIGN |
| | ARC LENGTH |
| | VERIFY IN FIELD |

HALVORSON DESIGN PARTNERSHIP
 LANDSCAPE ARCHITECTURE

25 KINOSTON ST. BOSTON MA 02111-2500
 (617) 552-2222 FAX (617) 552-0224
 WWW.HALVORSONDESIGN.COM

OLD QUINCY HIGH GREEN SPACE

QUINCY, MASSACHUSETTS

REVISIONS

PROJECT NO:
 DRAWN BY: SL
 CHECKED BY: CK
 SCALE: 1"=20'-0"

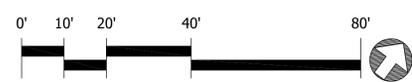
CONSTRUCTION DOCUMENTS

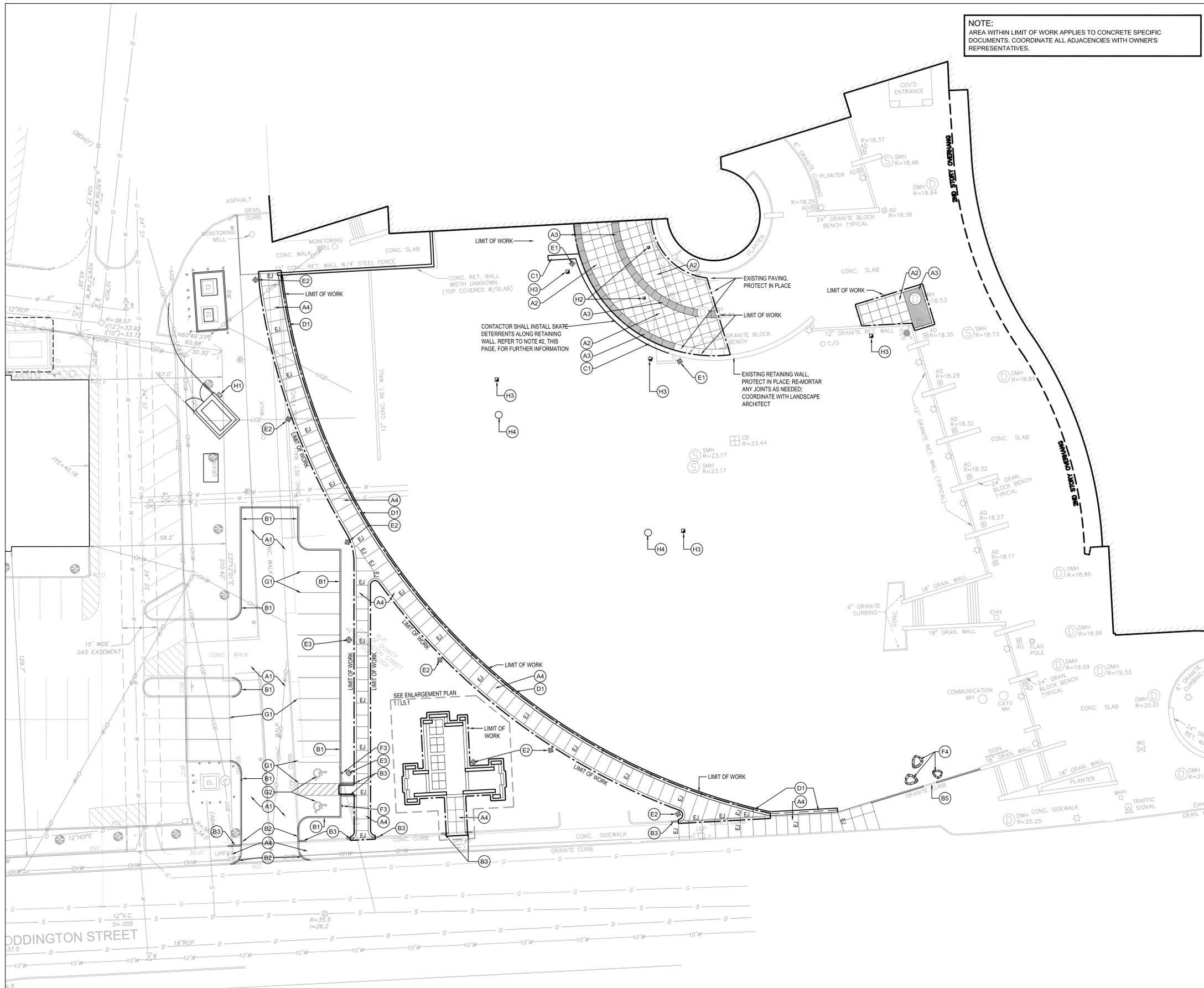
CONCRETE SPECIFIC

JUNE 27, 2014

LAYOUT PLAN

L2.0





| MATERIALS LEGEND | | | |
|--|-----|---|----------|
| SYMBOL | TAG | DESCRIPTION | DETAIL |
| GENERAL SITE | | | |
| --- | | LIMIT OF WORK | |
| PAVING | | | |
| (A1) | | BITUMINOUS CONCRETE | (1) L5.0 |
| (A2) | | INTEGRALLY COLORED CONCRETE PAVING - TYPE A | (2) L5.0 |
| (A3) | | INTEGRALLY COLORED CONCRETE PAVING - TYPE B | (2) L5.0 |
| (A4) | | PORTLAND CEMENT CONCRETE PAVING | (2) L5.0 |
| (A6) | | STONE PAVING SLAB | (3) L5.0 |
| (A7) | | EXPOSED AGGREGATE CONCRETE PAVING | (2) L5.0 |
| CURBING | | | |
| (B1) | | VEHICULAR CURB | (4) L5.0 |
| (B2) | | TRANSITION CURB - VEHICULAR | (5) L5.0 |
| (B3) | | TRANSITION CURB - PEDESTRIAN | (6) L5.0 |
| (B4) | | FLUSH CURB | (7) L5.0 |
| (B5) | | EXISTING CURB - SAW CUT | (8) L5.0 |
| WALLS | | | |
| (C1) | | STONE CURVED RETAINING WALL | (4) L5.1 |
| (C2) | | FREESTANDING SEAT WALL | (2) L5.1 |
| (C3) | | CORNERSTONE | |
| (C4) | | COURT HOUSE ENGRAVING - COORDINATE WITH LANDSCAPE ARCHITECT | |
| FENCES AND RAILS | | | |
| (D1) | | SITE FENCE - INSTALL UNDER OWNER'S DIRECTION | |
| SITE LIGHTING AND ELECTRICAL - SEE ELECTRICAL PLANS | | | |
| (E1) | | POLE LIGHT - EXISTING PEDESTRIAN REUSED | |
| (E2) | | POLE LIGHT - PEDESTRIAN | |
| (E3) | | POLE LIGHT - VEHICULAR | |
| FURNISHINGS | | | |
| (F1) | | TRASH RECEPTACLE | (2) L5.2 |
| (F2) | | RECYCLING RECEPTACLE | (2) L5.2 |
| (F3) | | ACCESSIBLE PARKING SPACE SIGNAGE | (3) L5.2 |
| (F4) | | BOULDER, LOCATION MAY VARY; COORDINATE WITH CITY OFFICIALS | (9) L5.0 |
| MISCELLANEOUS | | | |
| (G1) | | PARKING LOT STRIPING | (4) L5.2 |
| UTILITIES | | | |
| (H1) | | WALL MOUNTED IRRIGATION CONTROL BOX | |
| (H2) | | AREA DRAIN | (5) B.2 |
| (H3) | | CATCH BASIN | (8) L5.2 |
| (H4) | | DRY WELL | (1) L5.2 |

HALVORSON DESIGN PARTNERSHIP
LANDSCAPE ARCHITECTURE

25 KINOSTON ST. BOSTON MA 02111-4200
PHONE: 617-552-2222 FAX: 617-552-0924
WWW.HALVORSONDESIGN.COM

OLD QUINCY HIGH GREEN SPACE

QUINCY, MASSACHUSETTS

REVISIONS

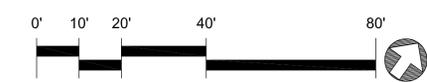
PROJECT NO: 13018
DRAWN BY: SL
CHECKED BY: CK
SCALE: 1"=20'-0"

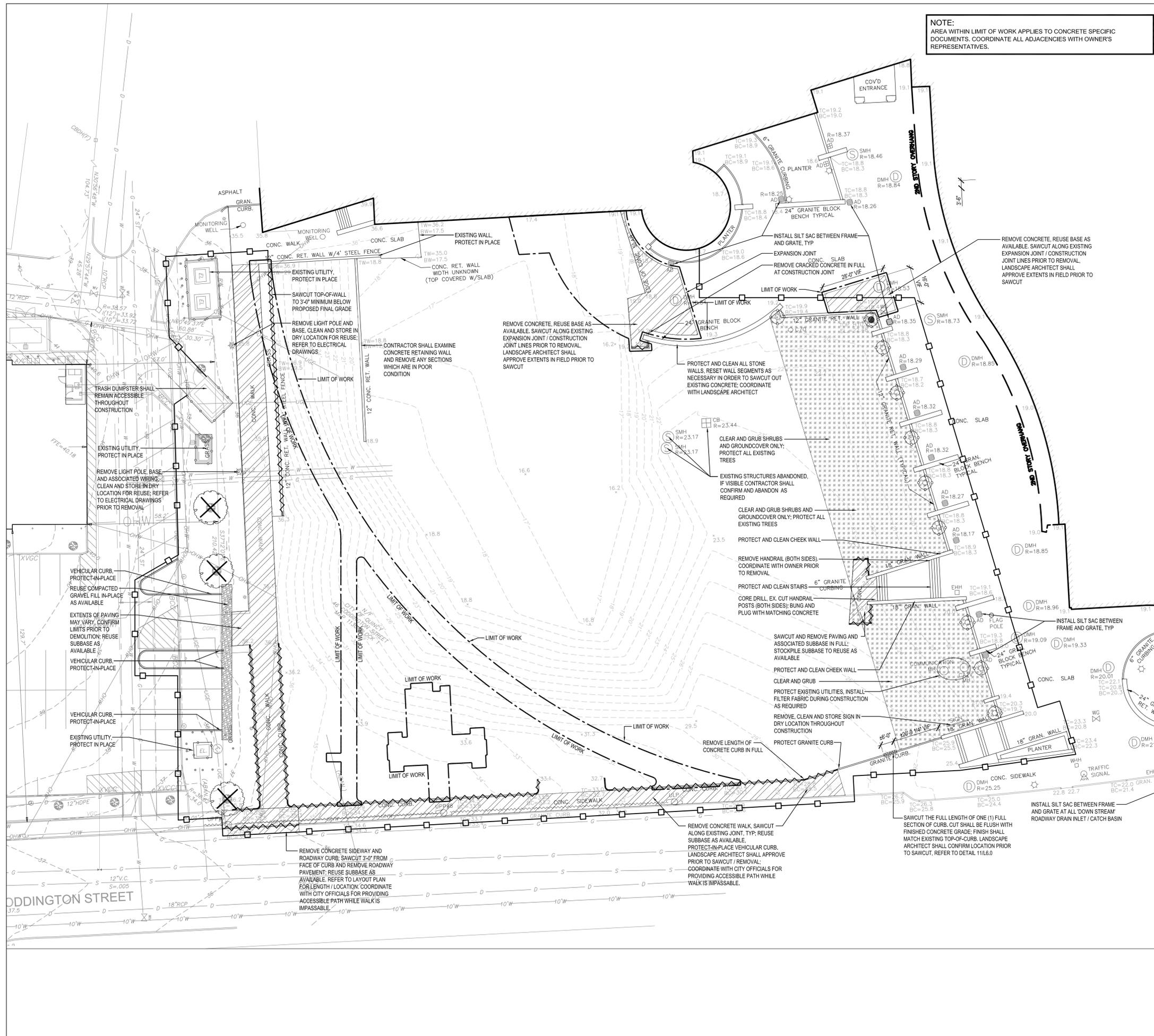
CONSTRUCTION DOCUMENTS

CONCRETE SPECIFIC

JUNE 27, 2014
MATERIALS PLAN

L1.0





NOTE:
 AREA WITHIN LIMIT OF WORK APPLIES TO CONCRETE SPECIFIC DOCUMENTS. COORDINATE ALL ADJACENCIES WITH OWNER'S REPRESENTATIVES.

SITE PREPARATION AND DEMOLITION LEGEND

| SYMBOL | DESCRIPTION |
|--------|--|
| — | LIMIT OF WORK |
| □ | CONSTRUCTION FENCE |
| ○ | PROTECT IN PLACE, INSTALL CONSTRUCTION FENCE AS NECESSARY; COORDINATE WITH LANDSCAPE ARCHITECT |
| ⊗ | REMOVE TREE IN FULL |
| ~ | SAWCUT, DEMO AND DISPOSE PORTION OF EXISTING CURB AND / OR WALL |
| ▨ | DEMO EXISTING PAVING AND REUSE EXISTING BASE AS AVAILABLE. LANDSCAPE ARCHITECT SHALL VERIFY EXTENTS OF REMOVAL PRIOR TO DEMOLITION |
| ▩ | SAWCUT EXISTING CURB FLUSH TO ADJACENT PAVING |
| ⋈ | CLEAR AND GRUB EXISTING LAWN AND PLANT MATERIAL. REMOVE AND STOCKPILE TOPSOIL |

DEMOLITION AND SALVAGE NOTES:

- EXISTING CONDITIONS SURVEY WAS PROVIDED BY NEPONSET VALLEY SURVEY ASSOCIATION, INC (NVA), 95 WHITE STREET, QUINCY, MASSACHUSETTS, 02169
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A THOROUGH SITE EXAMINATION TO DETERMINE THE EXTENT OF DEMOLITION NECESSARY TO PREPARE THE SITE FOR CONSTRUCTION AND SHALL VERIFY ITEMS TO BE DEMOLISHED OR SALVAGED WITH THE OWNER PRIOR TO BEGINNING WORK.
- CARE SHALL BE TAKEN NOT TO DAMAGE ITEMS DESIGNATED TO REMAIN OR DESIGNATED TO BE SALVAGED; REPAIR OR REPLACEMENT OF DAMAGED ITEMS THEREBY DESIGNATED SHALL BE AT THE CONTRACTOR'S EXPENSE.
- DISPOSAL OF ITEMS DESIGNATED TO BE REMOVED SHALL CONFORM TO APPLICABLE LAWS AND REGULATIONS. SALVAGEABLE MATERIAL SHALL BE DELIVERED BY THE CONTRACTOR TO STORAGE AREAS NEAR THE MAINTENANCE YARD ON SITE AS DESIGNATED BY THE OWNER. A PLAN INDICATING AREAS FOR STOCKPILING MATERIALS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO BEGINNING WORK.
- REFER TO SITE UTILITY PLANS FOR UTILITY SITE PREPARATION AND DEMOLITION INFORMATION. VERIFY ALL UTILITY LOCATIONS PRIOR TO EXCAVATION. REPORT DISCREPANCIES OR CONFLICTS IN WRITING TO THE DESIGNER AND RECEIVE INSTRUCTIONS PRIOR TO PROCEEDING.
- CONTRACTOR IS RESPONSIBLE TO REPAIR DAMAGE DUE TO CONSTRUCTION OPERATIONS INSIDE AND OUTSIDE THE LIMIT OF WORK LINE.
- REFER TO CIVIL DWGS FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.
- ERECT AND MAINTAIN CONSTRUCTION FENCING SURROUNDING PARK LIMIT OF WORK FOR DURATION OF CONSTRUCTION OPERATIONS. CONSTRUCTION FENCING SHALL BE CHAINLINK WITH DUST SCREENING SET WITH TEMPORARY BASES WITH GATES AS NEEDED (SEE SPECS). CONTRACTOR SHALL MAINTAIN FENCING THROUGHOUT CONSTRUCTION IN PLUMB CONDITION. ANY DAMAGED FENCING OR SCREENING SHALL BE REPLACED IMMEDIATELY BY CONTRACTOR.
- ERECT AND MAINTAIN CONSTRUCTION FENCING IN ROADWAY AND SIDEWALK LIMITS AS CONSTRUCTION PHASING REQUIRES. SCHEDULE AND COORDINATE UTILITY, SIDEWALK, ROADWAY, AND STREETSCAPE WORK IN PUBLIC WAY TO MINIMIZE IMPACTS TO PUBLIC ACCESS AND PROTECT NEW WORK. PROVIDE PEDESTRIAN AND VEHICULAR ACCESS PLANS TO DESIGNER FOR REVIEW AND APPROVAL PRIOR TO PERFORMING WORK IN PUBLIC WAY OR ERECTING/RELOCATING CONSTRUCTION FENCES.
- REMOVE APPROXIMATELY 6" OF TOP SOIL FROM LAWN AREAS AND 1'-0" FROM PLANTING AREAS OF EXISTING PARK SITE AND STOCKPILE FOR RE-USE. PRIOR TO REUSE, CONTRACTOR TO TEST SOIL TO VERIFY COMPLIANCE WITH SPECIFICATION REQUIREMENTS FOR NEW PURPOSE. SOIL AMENDMENTS REQUIRED TO BRING SOIL INTO COMPLIANCE AS DESCRIBED IN SPECIFICATIONS.
- EXCESS SOILS TO BE LEGALLY DISPOSED OF OFF SITE BY CONTRACTOR. DETERMINE VOLUME OF SOILS FOR EXPORT, IMPORT, AND RE-USE TO MEET THE DESIGN INTENT AND DETAILING SET FORTH IN THIS DRAWING SET. CONTRACTOR TO PROVIDE ALL IMPORT SOIL PER PROJECT REQUIREMENTS.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ITEMS TO COMPLETE THE REQUIRED IMPROVEMENT WORK WHETHER OR NOT EACH ITEM TO BE REMOVED HAS BEEN SPECIFICALLY NOTED.

HALVORSON DESIGN PARTNERSHIP
 LANDSCAPE ARCHITECTURE
 25 KINGSBURY ST., BOSTON, MA 02111-2800
 PHONE: 617-552-8800 FAX: 617-552-8808
 WWW.HALVORSONDESIGN.COM

OLD QUINCY HIGH GREEN SPACE
 QUINCY, MASSACHUSETTS

REVISIONS

PROJECT NO:
 DRAWN BY: SL
 CHECKED BY: CK
 SCALE: 1"=20'-0"

CONSTRUCTION DOCUMENTS

CONCRETE SPECIFIC

JUNE 27, 2014
SITE PREP AND DEMO PLAN

L0.1

