

SECTION 00 91 13.1

ADDENDUM NO. 1

NOTICE is hereby given that the **Bidding Documents have been modified and replacement pages issued** herewith. Replacement pages have an **Issue Date of April 22, 2016**; contain reference to “**Addendum 1**” in the footer, and text changes for additions identified by double underline and deletions identified by ~~Strikeout~~.

Specifications: Replacement pages include

- Section 00 01 10 Table of Contents Pages 2 – 3
- Section 33 40 00 Storm Drainage Pages 1 – 5

Changes Include:

- Part 2.3: Ductile iron grates have been removed from the contract documents and replaced with bronze grates.
- Headings were mislabeled and corrected to read “100% Construction Documents” and “Adams Hancock Green – Phase 1”.

NOTICE is hereby given of the following **additional information and clarifications** which do not cause change to the Bidding Documents.

The Specification Sections listed below were compiled out of sequence within the Bidding Documents, but are complete and will remain unchanged. The Specification Sections listed in the order below are found after Section 33 40 00 – Storm Drainage.

05 70 00 – Ornamental Site Metal

12 14 00 – Site Artwork

26 00 00 – Electrical

31 00 00 – Earthwork

NOTICE is hereby given of the following **additional information and clarifications** which do not cause change to the Bidding Documents. The answers below are provided in response to questions and comments submitted by Bidders.

1. *A vendor inquired about providing permanent signage for the Adams Hancock Green – Phase 1 Project.*

Clarification: The contract includes a requirement for a temporary construction sign to be provided by the Contractor, but no permanent signs. Plan-holders are responsible for soliciting quotes for their bids.

“Prepared by: Woodard & Curran (Engineer)”

Issue Date: April 22, 2016

CONTRACTING REQUIREMENTS (CONTINUED)

00 73 05	<u>Supplementary Conditions (listing)</u>	
	00 73 10	Project Specific Requirements
	00 73 19	Health and Safety Requirements
	00 73 37	Equal Employment Opportunity Requirements
	00 73 43	Wage Rate Requirements
	00 73 46	Wage Determination Schedule
	00 73 73	Statutory Requirements

SPECIFICATIONS**DIVISION 01 - GENERAL REQUIREMENTS**~~01 00 01 Overall General Requirements~~01 00 10 Overall General Requirements

01 11 00	Summary of Work
01 15 00	Project Specific Requirement and Procedures
01 15 30	Payment and Administrative Procedures and Quality Requirements
01 20 25	Measurement and Payment
01 50 00	Temporary Facilities and Controls
01 60 00	Product Requirements
01 70 00	Execution and Closeout Requirements
01 91 15	Startup and Commissioning Requirements

DIVISION 02 - EXISTING CONDITIONS

02 41 13	Selective Site Preparation and Demolition
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DIVISION 03 - CONCRETE

03 30 00	Site Cast-in-Place Concrete
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DIVISION 05 - METALS

05 70 00	Ornamental Site Metal
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DIVISION 12 - FURNISHINGS

12 14 00	Site Artwork
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DIVISION 26 - ELECTRICAL

26 00 00	Electrical
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DIVISION 31 - EARTHWORK

31 00 00	Earthwork
31 22 16	Fine Grading

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 14 00	Unit Pavers
32 14 40	Stone Pavers
32 14 42	Site Stone
32 30 00	Site Furnishings
32 84 00	Irrigation System

229836.00

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32 91 15 Planting Soils

32 92 23 Sod Lawn

32 93 00 Planting

32 93 10 Landscape Maintenance

**Adams Hancock Green - Phase 1
Quincy, Massachusetts**

DIVISION 33 - UTILITIES

33 10 00 Water Systems

33 31 00 Sanitary Sewerage

33 40 00 Storm Drainage

END OF SECTION

**SECTION 334000
STORM DRAINAGE**

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. This Section includes storm drain systems work as indicated on Drawings and schedules, and by requirements of this Section.
- B. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Section 310000, Earthwork.

1.1 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment, services and transportation required to complete work.

1.2 RELATED WORK UNDER OTHER SECTIONS

- A. Section 310000, Earthwork.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product Data: Submit manufacturer's technical product data and installation instructions for storm drain system materials and products.
- C. Shop Drawings: Submit shop drawings for storm drain systems including piping, manholes, catch basins, trench drains, frames, covers and grates.
- D. Record Drawings: At project closeout, submit record drawings of installed storm drain piping and products, in accordance with requirements of Division 1.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacturing of storm drain system's products of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer's Qualifications: Firms with at least 3 years of successful installation experience on projects with storm drain work similar to that required for the project.
- C. Codes and Standards:
 - 1. Storm drain systems must comply with the requirements of the City of Quincy (City).
 - 2. Reference is made herein to the Massachusetts DOT, Standard Specifications for Highways and Bridges, latest edition, hereinafter referred to as the "Standard Specifications". All references to method of measurement, basis of payment, and payment items in the "Standard Specifications" are hereby deleted. References made to

- particular sections or paragraphs in the "Standard Specifications" shall include all related articles mentioned therein.
3. Reference is made herein to the Massachusetts DOT, Standard Specifications for Highways and Bridges, latest edition, hereinafter referred to as the "Standard Specifications".
 4. Reference is made to the Standards of the American Association of State Highway and Transportation Officials (AASHTO), 19th edition 1998 or latest edition.
 5. Reference is made to ASTM F2787, "Standard Practice for Structural design of Thermoplastic Corrugated Wall Stormwater Collection Chambers."
 6. Reference is made to "Stormtech MC-3500/MC-4500 Construction Guide".

PART 2 - MATERIALS

2.1 PIPES AND PIPE FITTINGS

- A. General: Provide pipes of the following materials of class indicated. Provide pipe fittings and accessories of same materials and class as pipes with joining method, as indicated.
 1. The piping shall be manufactured by an established manufacturer of good reputation in the industry and in a permanent plant adapted to meet all the design requirements of the pipe.
- B. Polyvinylchloride Pipe
 1. Solid wall polyvinylchloride pipe, sizes 4" to 15" and fittings shall conform to ASTM Standard Specification for type PSM (PVC) sewer pipe and fittings, designation 3034. Coextruded PVC pipe and fittings using recycled materials and conforming to ASTM Standard Specification, designation F1760, may also be used. All pipe shall have a minimum pipe diameter to wall thickness ratio (SDR) OF 35 and a minimum pipe stiffness of 46 psi.
 2. Wye branches shall conform to the specifications referenced above for pipe material. Saddle wye branches are prohibited.
 3. Pipe and fittings shall have bell and spigot (push-on) joints using elastomeric ring gaskets. Gaskets shall be made of a composition and texture, which is resistant to common ingredients of sewage and industrial wastes, including, oils and ground water and which will endure permanently under the conditions of its proposed use.
 4. Joints shall conform to ASTM Standard Specifications of Joints for Drain and Sewer Plastic Pipe using Flexible Elastomeric Seals, Designation D3212-76.
 5. All pipe and fittings delivered to the job site shall be accompanied by test reports certifying that the pipe and fittings conform to the above mentioned ASTM specifications.
 6. The Contractor shall furnish all labor necessary to assist the Owner's Representative in inspecting the pipe and fittings. The pipe and fittings shall be inspected upon delivery and any which does not conform to the above specifications shall be rejected and immediately removed from the site by the Contractor.

2.2 IDENTIFICATION

- A. Plastic Underground Warning Tapes: Polyethylene plastic tape, 6 inches wide by 4 mils thick, solid green in color with continuously printed caption in black letters "CAUTION – STORM DRAIN LINE BURIED BELOW."

2.3 AREA DRAIN BASIN

- A. PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The [bronze ductile iron](#) grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be

furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

- B. The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.
- C. Grates for drain basins in pedestrian areas shall be capable of supporting H-10 and grates shall be ADA accessible 12" bronze. 12" and square grates will be hinged to the frame using pins.
~~Metal used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05 for ductile iron. Grate shall be provided painted black.~~

PART 3 - EXECUTION

3.1 INSTALLATION OF PIPE AND PIPE FITTINGS

- A. General: Install piping in accordance with City of Quincy and manufacturer requirements, except where more stringent requirements are indicated.
- B. Inspection and Acceptance of Pipe:
 - 1. Acceptance will be on the basis of tests specified herein. The quality of all materials used in the pipe, the process of manufacture, and the finished pipe shall be subject to inspection by the Owner's Representative. Inspection may be made at the place of manufacture, or on the work site after delivery or at both places and the pipe shall be subject to rejection at any time on account of failure to meet any of the specification requirements, even though sample pipe units may have been accepted as satisfactory at the place of manufacture. The Contractor shall immediately remove all pipes that are rejected from the project site.
 - 2. All work on City utilities must be inspected and approved by the City.
- C. Pipe Storage: Pipe sections shall not be stored on areas over the newly laid pipe or other pipelines which might be damaged by the superimposed load, and storage sections shall be restricted to approved areas.
- D. Handling Pipe: Each pipe unit shall be handled into its position in the trench only in such manner and by such means, as the Owner's Representative accepts as satisfactory. The Contractor will be required to furnish suitable devices to permit satisfactory support of all parts of the pipe unit when it is lifted.
- E. Laying Pipe: Except where a concrete cradle or envelope is required, the pipe shall be laid in a crushed stone cradle. In trenches, no blocking or supporting of the piping by concrete, stones, bricks, wooden wedges, or method other than bedding the pipe on crushed stone will be permitted. Each length of pipe shall be shoved home against the pipe previously laid and held securely in position. Joints shall not be "pulled" or "cramped" without approval of the Owner's Representative.

- F. Alignment and Placement: All pipes shall be laid with extreme care as to grade and alignment. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.
1. Stakeout of drain work and setting of line and grade is the responsibility of the Contractor.
 2. Drain pipe shall be set true to line and grade using a laser beam aligner for grade. Pipe shall be laid carefully to grade. The laser beam projector is to be rigidly mounted with two (2) point suspension to its support platforms. This will assure that the effect of all ground equipment vibrations will be kept to a minimum and permit the laser beam to project itself coaxingly through the center of the pipe. All units must have equipment to control atmospheric conditions in the pipe that could affect the acceptable standard of construction. The laser alignment method selected must be shown to have worked satisfactorily on at least three contracts, and is operated by competent, trained personnel.
 3. The Contractor shall establish centerline and offset stakes at each manhole, plus one intermediate centerline and offset stake as a check point between manholes. Laser aligning shall not be used to establish a continuous line in excess of 400 feet.
- G. Cleaning: Care shall be taken to prevent earth, water and other materials from entering the pipeline. As soon as possible after the pipe and manholes are completed, the Contractor shall clean out the pipeline and manholes being careful to prevent soil, water and debris from entering any existing Drain.
1. Place plugs in end of uncompleted conduit at end of day or whenever work stops.
 2. Flush lines between manholes if required to remove collected debris.
- H. Inspection of Completed Storm Drain System: If the visual inspection of the completed drain or any part thereof shows any pipe, manhole, or joint to be of defective work or material the defect shall be replaced or repaired as directed. The visual inspection shall be conducted by the Owner's Representative and any defects shall be as identified by such. The Contractor shall coordinate and provide site access for the Owner's Representative.

3.2 PIPE JOINT CONSTRUCTION AND INSTALLATION

- A. Join and install PVC pipe as follows:
1. Solvent cement joint pipe and fittings, joining with solvent cement in accordance with ASTM D 2855 and ASTM F 402.
 2. Pipe and gasketed fittings, joining with elastomeric seals in accordance with ASTM D 3212.
 3. Installation in accordance with ASTM D 2321.
- B. Join different types of pipe with standard manufactured couplings and fittings intended for that purpose.

3.3 INSTALLATION OF AREA DRAIN BASIN

- A. The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For H-20 load rated installations, a concrete ring will be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

3.4 BACKFILLING

- A. General: Conduct backfill operations of open-cut trenches closely following laying, jointing, and bedding of pipe, and after initial inspection and testing are completed, all in accordance with Section 310000 Earthwork.

END OF SECTION