

SECTION 32 14 40.1 BLUESTONE PAVING

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.
- B. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2018.
- C. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.
- D. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.
- G. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types); 2023.

1.02 SECTION INCLUDES

- A. Pavers
- B. Mortar bed.

1.03 RELATED REQUIREMENTS

- A. Section 32 13 13 - Concrete Paving: Subbase for bluestone pavers.

1.04 REFERENCE STANDARDS

- A. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; most current version.
- B. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; most current version.
- C. ASTM C150/C150M - Standard Specification for Portland Cement; most current version.
- D. ASTM C270 - Standard Specification for Mortar For Unit Masonry; most current version.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; most current version.
- F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; most current version
- G. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); most current version.

1.05 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures, for submittal procedures.
- B. Product Data: Provide characteristics of bluestone paver unit, dimensions, special shapes, and setting materials.
- C. Shop Drawings: Indicate layout of bluestone pavers and curbs, dimensions of paved areas, elevations, and affected adjacent construction.

1.06 FIELD CONDITIONS

- A. Maintain cementitious materials and substrate surface to a minimum of 50 degrees Fahrenheit prior to, during, and 48 hours after completion of work.
- B. At end of working day or during rainy weather, cover work exposed to weather with waterproof coverings, securely anchored.

1.07 DEMOLITION

- A. The Contractor shall exercise great care and use every precaution necessary to preserve and protect property adjacent to the work site. Where any damage or injury is done to such property by or on account of any act, omission or neglect on the part of the Contractor, such damaged or injured property shall be restored in a proper and satisfactory manner or replaced at the expense of the Contractor.
- B. The Contractor shall prevent all damage to pipes, conduits, wires, cables or structures above or below ground. The Contractor shall so control his operations as to prevent damage to trees and shrubs, which are to be preserved. Protection may include fences and boards lashed to trees to prevent damage from machine operations. Driving of nails or stringing of wire or rope into or on trees designated to remain is forbidden. No roots over 2 inch. in diameter and no branches of such trees shall be cut. Where soil over the roots of trees to be preserved has become compacted, it shall be restored by proper cultivation to a condition to permit adequate aeration of the soil.
- C. Any damage done to existing utility lines, or disturbed and damaged seeded, planted or paved areas shall be repaired and restored to their original condition by the Contractor at his expense and as directed by the Inspector.

PART 2 PRODUCTS

2.01 PAVER MATERIALS

- A. Bluestone pavers shall be clean, architectural sized paving stones that are 1-1/2" thick. Length and width to be determined by pattern detail. See drawings. These bluestone pavers shall be provided and installed by the Contractor.
- B. Bluestone pavers shall have a thermal surface finish, edges smooth sawn and a rubbed finish on the bottom. The maximum size stone to be provided under this item shall not exceed 2 feet in greatest dimension of any one piece.
- C. The color of the bluestone pavers shall be in the blue-gray spectrum, no earth tones allowed.

2.02 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/150M Type I, white color.
- B. Sand: ASTM C144; sharp, clean, screened sand free of injurious amounts of organic material.
- C. Water: Potable, not detrimental to mix.
- D. Grout shall be Dark Grey in color.

2.03 2.05 ACCESSORIES AND CONCRETE SUBBASE

- A. In the four inch Concrete pavement subbase, Welded Wire Reinforcement: ASTM A1064/A1064M; 2 x 2, 16/16 wire (50 x 50, 1.5/1.5 wire); galvanized steel. Concrete pavement subbase shall conform to the Concrete Paving Specification, Section 32 13 13.
- B. Sealant on the Bluestone Pavers: ASTM C920, self-leveling or non-sag polyurethane or silyl-terminated polyether/polyurethane (STPE/STPU) sealant explicitly approved by the manufacturer/supplier of bluestone pavers for traffic exposure.
 - 1. Color: Clear matte finish

2.04 MIXES

- A. Mortar Bed: TYPE S MORTAR MIX-RATIO OF 3:1-ASTM C270
- B. Joint Grout: Portland cement mix conforming to the following:
 - 1. Compressive Strength (28 day): 3000 psi.
 - 2. Slump: 1 to 2 inches (25 to 50 mm).
 - 3. Air Entrainment: 5 to 7 percent.
 - 4. Color Admixture: Dark Grey, in accordance with manufacturer's instructions.
- C. Add admixtures in accordance with manufacturer's instructions.
- D. Thoroughly mix ingredients in quantities needed for immediate use.

- E. Use within two hours after mixing. Do not re-temper.
- F. Concrete Subbase: shall conform to the Concrete Paving specifications in this contract.

2.05 FABRICATION

- A. Fabrication Tolerances For Stone Units: Within 1/8 inch of actual dimensions.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that the concrete substrate is level, smooth, capable of supporting pavers and imposed loads, and ready to receive work of this section.
- B. Verify gradients and elevations of substrate are correct.

3.02 INSTALLATION

- A. Bluestone paving stones shall be laid in pattern indicated on the Drawings.
- B. The bluestone pavers shall be placed on a 1 inch mortar setting bed, set at grade and slope shown on the plans, over a specified concrete subbase. While the mortar is plastic, the bluestone pavers shall be laid onto the mortar and made hand tight, flush and true.
- C. All paving stones shall be set level to grade as indicated on the Drawings.
- D. After bluestone pavers have been set, mortar grout shall be placed into the joints and struck smooth.
- E. Joints between blocks shall not exceed 1/4" inch.

3.03 CLEANING

- A. Do not clean pavers until pavers and mortar are dry. Post construction, contractor shall clean pavers.
- B. Clean soiled surfaces using cleaning solution. Do not harm pavers, joint materials, or adjacent surfaces.
- C. Use non-metallic tools in cleaning operations.
- D. Rinse surfaces with clean water.
- E. Broom clean paving surfaces.

3.04 PROTECTION

- A. The contractor shall protect the bluestone for the duration of the contract. Any damage done to the adjacent areas shall be repaired by the contractor at no expense to NYCHA
- B. Do not permit traffic over sealant joints until sealant is fully cured.
- C. Do not permit traffic over unprotected paver surface.
- D. Protect paver surface with sheets of plywood.

END OF SECTION 32 14 40.1