

SECTION 02460

SITE IMPROVEMENTS

PART 1. GENERAL

1.1 Related Work Specified Elsewhere

- a. The general provisions and documents of the Contract, including General and Special Conditions, apply to the work specified in this Section.
- b. Site Earthwork - Section 02200.
- c. Construction Drawings.

PART 2. PRODUCTS

2.1 Concrete Walks

- a. All concrete shall meet the requirements as specified in Section 03300 of these Specifications.

2.2 Concrete Pavers

- a. Paving stone for handicap curb ramp, entry plaza and rear patio shall be 4"x8" nominal. All 4"x 8" pavers shall be 2-3/8" thick, with average minimum compressive strength of 8,000 psi with no individual unit under 7,200 psi, and absorption rate of 5 percent, with no unit greater than 7 percent (ASTM C 140) when tested in accordance with ASTM 936-82. Paver for the handicap ramps shall be Holland Stone with a Score, color "Granite Gray". Pavers for entry plaza and rear patio shall be "Cumberland Blend" and New England Blend. All pavers as manufactured by Duracon Paving Systems, Genest Concrete - Wilson Street, P.O. Box 151, Sanford, Maine 04073 or approved equal.

2.3 Concrete Paver Joint Sealant

- a. Sureland SB-1370 joint stabilizing sealer as manufactured by Sureband East, Inc.

2.4 Stone Retaining Wall

- a. Stone used to build the stone walls shall be hard, durable bluestone as found at the Sawyer Street Quarry in Cape Elizabeth or approved equal. Landscape Architect shall approve samples of stone to be used prior to delivery to site for installation.

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2.5 Drip Strip

- a. Material for perimeter drip strip shall be Mirafi 160-N geotextile drainage fabric and ¾ inch washed stone.

2.6 Wood Fence

- a. Contractor shall furnish wood fence in quantities as shown on the Drawings and as specified herein.
- b. Fence shall be six (6) feet in height, white cedar fence, model "Board & Cap", as manufactured by Ron Forest & Sons Fence Co., Scarborough, Maine. All Cedar shall be Grade #1.
- c. Posts shall be 5" x 5" x 10' long, Grade #1 cedar "Philly" style, as manufactured by Ron Forest & Sons Fence Co., Scarborough, Maine.

2.7 Bike Rack

- a. The Contractor shall provide a ground (embedded) mountain bike rack, constructed of 2-3/8" O.D. 2" I.D x 0.154" wall ASTM A53 schedule 40 steel pipe. Finish to powder coat "dark green". Bike rack shall be model "Heavy Duty Challenger", to accommodate 6 bicycles, as manufactured by Mardrax, 2210 Pinehurst Drive, Middleton, WI (800) 448-7931 or approved equal.

2.8 Dumpster Enclosure

- a. Contractor shall furnish dumpster pad, fence and gate as shown and detailed on the Drawings and as specified herein. All fasteners shall be heavy duty and hot dipped galvanized.

2.9 Signage

- a. Provide traffic control signs complying with U.S. Department of Transportation, Federal Highway Administrations Manual "Uniform Traffic Control Devices"; local codes, and as specified. See Drawings for type, location and quantity of sign required.

To be painted with reflective baked - enamel finish with following colors:

- (1) "HANDICAPPED PARKING ONLY" Sign: 12" x 18" white legend on blue background. ("Van Accessible" where required)
- (2) "PEDESTRIAN CROSSING" sign shall be 12"x18", black text on white background.

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2.10 Concrete Bases and Footings

- a. Furnish and install all concrete work in accordance with the following standards: ACI 301 Formwork, ASTM C150 Normal Type I Portland Cement, grey color, ASTM C33 fine and coarse aggregates, ASTM C94 concrete mix, comprehensive strength of 4000 PSI at 28 days. Deformed welded wire fabric ANSI/ASTM A497, rebar; ASTM A613 grade 60.

2.11 Pavement Markings

- a. The paint shall be a non-bleeding, quick drying, alkyd petroleum base paint suitable for traffic-bearing surfaces and shall meet FS TTP-85E and mixed in accordance with manufacturer's instructions before application.

PART 3. EXECUTION

3.1 Concrete Walks

- a. After placement of the gravel base, the surface shall be brought to a smooth, uniform surface by grading and rolling the crushed aggregate base and re-rolled until the surface is true and even.
- b. Slabs shall be placed alternately in lengths not to exceed 30 feet, or as directed and shall be separated by an expansion joint of preformed expansion joint filler and sealant 1/3 inch in thickness. The thickness of the slab shall be as shown on the Plans. The sidewalk surface shall be scored 1-3/8 inch deep into block units as shown on the Plans. When a concrete sidewalk is constructed adjacent to a building, fixed or other structures, a 1/2 inch thick preformed joint filler and sealant shall be used between the slab and the structure. Both expansion and control joints are to occur only within score joints.
- c. Broom Finish - Broom finish by drawing a stiff-bristled pushbroom with a long handle over a troweled surface. Concrete walks shall receive a medium broom finish. Direction of brooming shall be perpendicular to major direction of pedestrian movement or as directed by the Landscape Architect.
- d. Concrete pavement shall be saw cut (not tooled) after brooming to insure a well-defined and smooth border.
- e. Finished concrete shall be properly cured using a waterproof material, such as Sisal Kraft orange label lapped 6 inch taped. The concrete shall be properly moistened before covering it, and shall be kept tight. Curing shall be a minimum of seven (7) days.

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3.2 Concrete Pavers

- a. Base shall be fine graded and compacted to 4-1/2 inches below desired finished grade. The concrete sand setting bed shall be screened loose to a thickness of 1-1/2 inches. After sand has been screened, it shall not be disturbed or pre-compacted.
- b. Pavers shall be laid in a running bond pattern or as indicated on the Drawings, hand tight with care taken to maintain straight and true lines as shown on the Drawings. All necessary cutting shall be accomplished with a masonry saw.
- c. Compaction: After pavers are installed and the cutting has been completed, the stones shall be compacted into the loose sand with a plate type vibrating compactor, two (2) passes on all areas. Sand shall then be swept into the joints and vibrated with a plate type compactor until joints are full. Joints shall be filled all the way to the bottom of the chamfer on the pavers. Excess sand shall be swept off and removed from the site.
- d. Surface tolerance: Upon completion of a section of pavers, the surface of the pavers shall be checked with a ten (10) foot straight edge. Variation exceeding 1/8 inch between adjacent stones shall be corrected by relaying.
- e. Thoroughly clean all exposed surfaces with a solution of detergent and water, using still-fiber brushed.

3.3 Paver Sealant

- a. Pavers and joints shall be sealed with approved sealer, per manufacturer's requirements.

3.4 Stone Retaining Wall

- a. Stone retaining wall shall be installed by skilled workmen thoroughly trained with a minimum of eight years experience with this type of work and under proper supervision.
- b. Construct stone wall to the lines and grades shown on the Drawings and as detailed. Excavate to stable ground. Place larger stones at the bottom of wall, building up using Portland Cement mortar to bed all inside joints. All exposed joints shall be cleaned such that no mortar is visible. The spaces between the larger stones shall be filled with smaller stones in such a manner that both faces shall become a compact mass of stone. Cap stones shall be jointed and filled with mortar.

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3.5 Drip-Strip

- a. The Contractor shall excavate to limits shown on the Drawings. Compact subgrade to provide a firm even base. Place 3/4" washed stone in six (6) inch layers and compact to achieve depth required on the Drawings.

3.6 Wood Fence

- a. Contractor shall place and install fence in locations as shown on the Drawings. Fence posts shall be installed and set into compacted subgrade and backfilled with gravel.
- b. Fence panels shall be attached to posts as recommended by manufacturer. Furnish and install hinges, latches, and wheels on each gate and one cane bolt on one cane bolt on one gate.

3.7 Bike Rack

- a. Contractor shall install bike rack as shown on Drawings in accordance with manufacturer's requirements. Protect finish surface of bike during delivery, installation and placement of concrete pad.

3.8 Dumpster Enclosure

- a. Contractor shall construct and install dumpster enclosure in location and as detailed on the Drawings and as specified herein.

3.9 Signage

- a. Contractor shall install signs in locations and as detailed on the Drawings. Set posts vertical and plumb. Mount sign in accordance with manufacturer's instructions.

3.10 Concrete Pads, Bases and Footings

- a. Contractor shall supply and install concrete pads, bases and footings in quantities and locations as shown on the Drawings and specified herein.

3.11 Pavement Markings

- a. Immediately before applying the pavement marking paint to the pavement, the surface shall be dry and entirely free from dirt, grease, oil or other foreign matter which would reduce the bond between the paint and the pavement. The surface shall be thoroughly cleaned by sweeping and blowing, if required, to remove all dust, dirt and loose materials. Areas which cannot be satisfactorily cleaned by sweeping and blowing shall be scrubbed with water, as directed, after which the surface shall be allowed to dry prior to painting.
- b. Apply two (2) coats of paint at manufacturer's recommended rate without the addition of thinner with a maximum of 125 square feet per gallon. Apply with mechanical equipment to produce uniform straight edges. At sidewalk curbs and crosswalks, use a straightedge to ensure a uniform, clean, and straight stripe.