



**SPECIAL PROVISIONS
FOR
UNIT PAVING**

**Polk County
TAP-T-1945(835)--8V-77**

**Effective Date
August 21, 2018**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

PART 1 – GENERAL

1.01 SECTION INCLUDES

Provide all labor, materials, equipment and supervision required to furnish and install concrete pavers types A and B.

1.02 SUBMITTALS

- A. Submit manufacturer's product data for each type of paver, setting material, and accessory required.
- B. Paver manufacturer's material test data certifying pavers comply with specification.
- C. Submit manufacturer's product data and color sample for polymeric sand.
- D. Paver sample, one of each specified color and finish. Include the full range of exposed color and texture proposed for the work.

1.03 MOCK-UPS REQUIRED

- A. Type A Paver Mockup: Provide a mockup of the paver condition with concrete border as indicated in the plan set. Include paver pattern, concrete base, concrete edge, and bituminous setting bed. Obtain approval by Engineer prior to construction.
- B. Type B Paver Mockup: Provide a mockup of the paver condition as indicated in the plans. Include paver pattern and adjacent concrete paving. Obtain approval by Engineer prior to construction.

1.04 CODES, PERMITS AND FEES

- A. Obtain any necessary permits for this Section of Work and pay any fees required for permits.
- B. The entire installation shall fully comply with all local and state laws and ordinances, and with all established codes applicable thereto.

1.05 SITE DISTURBANCES

- A. Take precautions to insure that equipment and vehicles do not disturb or damage existing site grading, walks, drives, utilities, plants, etc.
- B. Verify locations and depths of all underground utilities prior to excavation.
- C. Repair and/or return to original condition any damage caused by Contractor's negligence at no cost to Contracting Authority.
- D. Provide temporary barricades and warning lights as required for protection of project work and public safety.

1.06 QUALITY ASSURANCE

- A. Installation: Performed only by experienced installers with satisfactory record of performance on complete projects of comparable size and quality.
- B. Provide each type of paver from only one manufacturer to ensure consistent color range and texture.
- C. Do not change source or brands of setting materials during the course of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Pavers: Deliver, store, and handle pavers in accordance with manufacturer's recommendations. Use non-staining materials for blocking and packing. Protect from damage and soiling.
- B. Polymeric Joint Sand: Store product in its original packaging, in a dry place and away from U.V. rays. Bags may be stored outside if they are properly protected with an opaque and waterproof tarp.

PART 2 - PRODUCTS

2.01 CONCRETE PAVERS

- A. Concrete Pavers
 - 1. Type A
 - a. Standard Paver on Concrete Base
 - i. Finish: Exposed Aggregate
 - ii. Color: Black
 - iii. Size: 7.875 inches by 3.875 inches by 2.75 inches
 - iv. Pattern: Running bond (parallel with curb)
 - 2. Type B
 - a. Permeable Paver
 - i. Finish: Brushed
 - ii. Color: Charcoal / Natural Blend

- iii. Size: 9.5 inches by 4.75 inches by 3.125 inches
- iv. Pattern: Herringbone (90 degrees to curb)

2.02 JOINT SAND

Polymeric jointing sand shall be dark grey. Provide sample to Engineer for approval.

2.03 BITUMINOUS SETTING BED

- A. Asphalt Cement: Conform to ASTM Designation D 3381; viscosity grade PG 64-22.
- B. Fine Aggregate: Clean, hard sand with durable particles and free from adherent coating, lumps of clay, alkali salts, and organic matter; uniformly graded from "coarse" to "fine" and 97% passing the No. 4 sieve and meet the gradation requirements when tested in accordance with the standard method of test for sieve or screen analysis of fine and coarse aggregates ASTM Designation CO136-81.
- C. Dried Fine Aggregate combined with hot asphalt cement, and heated to approximately 300°F at an asphalt plant. Approximate proportion of materials shall be 7% asphalt cement and 93% fine aggregate. Each ton shall be apportioned by weight in the approximate ratio of 145 pounds asphalt to 1885 pounds sand. The Contractor shall determine the exact proportions to produce the best possible mixture for construction of the bituminous setting bed to meet construction requirements.

2.04 NEOPRENE-MODIFIED ASPHALT ADHESIVE

- A. Mastic (asphalt adhesive)
 - Solids (base): 75+1%
 - Lbs/Gal.: 8-8.5 lb.
 - Solvent: Varsol (over 100°F Flash)
- B. Base (2% Neoprene, 10% Fibers, 88% Asphalt)
 - Melting Point - ASTM D-36: 200°F minimum.
 - Penetration/77° F. 100 Gram Load, 5 second: 23-27
 - Ductility-ASTM D-113-44 at 25°C; 5 cm/per minute: 125cm minute.

PART 3 - EXECUTION

3.01 PREPARATION OF CONCRETE SUB-BASE

- A. Inspect concrete sub-base to insure surface is clean and built in conformance with details.
- B. Verify elevation difference between concrete sub-base and adjacent finish concrete surface to insure concrete pavers can be installed flush with bordering concrete pavement.

3.02 PREPARATION OF ASPHALT BASE

- A. Apply Bituminous Setting Bed over concrete base.
- B. Bituminous Setting Bed surface must be parallel with (have the same slope as) the finish grade of the granite pavers.
- C. Bituminous Setting Bed surface shall be smooth and free of low spots, voids and debris.

3.03 PLACEMENT OF PAVERS

- A. Begin laying pavers from the edge/s referenced on the drawings.
- B. Place pavers by hand.
- C. Always work on top of laid pavers.
- D. A chalk line may be snapped on asphalt base to assist in alignment of pavers.
- E. Complete placement of whole pavers over entire area.
- F. Complete placement of pavers by placing cut pavers along edges.
- G. Maintain consistent joint width.

3.04 POLYMERIC SAND JOINT FILLING

- A. Weather conditions:
 - 1. Use product under dry weather and when there is no rain forecasted for 24 hours.
 - 2. Temperature should remain above 32°F during the drying period (minimum 48 hours).
 - 3. Surface must be completely dry. Do not apply to wet or damp surfaces.
- B. Installation:
 - 1. Do not mix polymeric sand with cement or sand.
 - 2. Avoid excessive wetting or flooding of paved areas during installation.
 - 3. Spread sand uniformly over the surface. Using a push broom, sweep the product so as to fill the joints completely, down to their full depth. Avoid sweeping the product over long distances, so that the integrity of polymeric joint is preserved.
- C. Compaction:
 - 1. Pass a plate vibrator over the entire surface to fully firm up the joints. If a vibrating plate compactor cannot be used, tamp the stones with a rubber mallet to ensure the sand is densely packed in the joints.
 - 2. Repeat spread of sand and compaction with plate vibrator until joints are completely packed. Joints must be filled up to the bottom of the pavers chamfer, or at least up to 1/8 inch below the top of the pavers.
 - 3. Take precautions necessary to prevent damage to abutting concrete pavement surface.
- D. Wetting:
 - 1. Sweep the surface with a fine bristle brush and remove all residue with a leaf blower.
 - 2. Surfaces must be free of the product.
 - 3. Wet 200 square feet of surface at a time. Ensure that the wetting of one section is finished before another section is started. Wetting of the entire project should be done without interruptions.
 - a. Define a 200 square foot section.
 - b. Set the spray nozzle to "shower".
 - c. Start showering from the bottom of the slope.
 - d. At a height of 4 feet, use a water gun connected to a hose to direct a fine mist (water gun setting: "mist" or equivalent) of water on a specific paver area for 10 to 15 seconds. Wait 3 to 4 minutes (not longer).
 - e. From a height of 2 to 4 feet, aim the water mist directly at the paver surface. Mist and rinse simultaneously so as to eliminate any sand residue left on the pavers. Any sand residue should go directly into the paver joints. Wait 3 to 4 minutes (not longer).

- f. From a height of 2 to 4 feet, aim the water mist again directly at the paver surface. Again, mist and rinse simultaneously so as to eliminate any sand residue left on the pavers. The sand residue should go directly into the paver joints. However, stop misting when you see a minimal amount of water retention on the paver joints.
 - g. As soon as wetting is completed on a section, use a leaf blower to quickly blow the excess water off the surface. This will remove any remaining sand and polymer residue.
 - h. Move on to an adjacent 200 square foot section immediately.
 - i. Caution: foaming and run-off on the surface are caused by excessive watering; adjust spraying accordingly.
- E. Drying:
- 1. Do not expose to water or rain within cure period.
 - 2. To ensure optimal cohesion and long-term stability, dry completely after initial wetting. Drying time will be shorter if it is warm and dry, and longer if the climate is cool and damp. Temperature should remain above 32°F during the entire drying process (minimum 48 hours).
- F. Down time before using:
- 1. Pedestrian areas: no specific considerations
 - 2. Motor-vehicle areas: 24 to 48 hours

3.05 CLEAN UP – PAVERS

- A. Sweep excess sand from paved surfaces and remove from site.
- B. Remove all excess materials and debris from site.

3.06 METHOD OF MEASUREMENT

Measurement is based on the number of square feet of unit pavers as shown on the plans.

3.07 BASIS OF PAYMENT

Payment will be made at the unit bid price per square footage of paver extents. Included with this item is supply, deliver, storage, preparation, installation, and all labor, materials, and equipment necessary to install pavers as indicated on the plans and as recommended by the manufacturer.