

SECTION 32 11 23
AGGREGATE BASE COURSES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate base course on a prepared subgrade.
- B. Related Sections:
 - 1. Section 31 23 16 - Excavation and Fill: Preparing subgrade under base course.
 - 2. Section 32 12 16 - Asphalt Paving: Binder and finish asphalt courses.
 - 3. Section 32 13 13 - Concrete Paving: Finish concrete surface course.
 - 4. Section 32 17 13 - Parking Bumpers.
 - 5. Section 33 05 13 - Manholes and Structures: Frames and lids penetrating aggregate base course.

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-pound) rammer and a 457-mm (18-inch) drop.
- B. ASTM International:
 - 1. [ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).]
 - 2. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
 - 3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 - 4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- C. SCDOT Standard Specifications:
 - 1. Standard Specifications for Highway Construction, 2007, published by the South Carolina Department of Transportation.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Samples: Submit to testing laboratory 10-pound sample of each type of aggregate in airtight containers.
- C. Materials Source: Submit name of imported materials suppliers.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Divisions 300 and 800 of the SCDOT Standard Specifications.
- B. Maintain one copy of document on site.
- C. Furnish each aggregate material from single source throughout the Work.
- D. Use sources approved by SCDOT.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Aggregate Base Course: Coarse aggregate Type A or B with a gradation of ABC conforming to Section 801 of SCDOT Standard Specifications.
- B. Fine Aggregate: Sand gradation 1S or 2S conforming to Section 801 of SCDOT standard Specifications.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verify existing conditions before starting work.
- B. Verify substrate has been inspected and gradients and elevations are correct and dry.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and recompacting as specified in Section 31 23 16.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

- A. Place aggregate in minimum 4-inch and maximum 10-inch layers and roller compact to specified density. When total thickness is 10 inches or less, place in one layer. When total thickness is greater than 10 inches, place in two equal layers.
- B. Have each layer of material compacted and approved prior to placing succeeding layers.
- C. Level and contour surfaces to elevations and gradients indicated on Drawings.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Use mechanical tamping equipment in areas inaccessible to roller compaction equipment.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation from Thickness: 1/2 inch.
- C. Maximum Variation from Elevation: 1/2 inch.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Independent laboratory, field inspecting, testing, adjusting, and balancing.
- B. Laboratory Material Tests: Conform to Modified Proctor ASTM D1557 or AASHTO T180.
- C. In-place Compaction Tests: Conform to:
 - 1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- D. Compaction:
 - 1. 100 percent of maximum when measured in-place by standard methods.
 - 2. 98 percent of maximum when measured in-place by nuclear methods.
- E. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- F. Frequency of Compaction Tests: Two tests per layer for every 5,000 tons of aggregate base course.

END OF SECTION