

Section 3300

Paving for Driveways and Parking Areas

PART 1: General

- 1.1 *General Description of Work* –
 - 1.1.1 *Graded Aggregate Base* – Extent of base course work is shown on drawings
 - 1.1.2 *Asphalt Concrete Paving* – Extent of Asphalt concrete paving work is shown on drawings
- 1.2 *Submittals* –
 - 1.2.1 *Material Certificates* – Provide copies of material certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds specified requirements.
 - 1.2.2 *Design Mix* – Provide design mix for each type of asphalt concrete paving course for approval by the Project Engineer.
- 1.3 *Quality Assurance* – Comply with FDOT Standard Specifications, latest edition, and with local governing regulations.
- 1.4 *Site Conditions* –
 - 1.4.1 *Weather Limitations* –
 - 1.4.1.1 *Graded Aggregate Base* – Graded aggregate base course may be placed when air temperature is above 30°F (-1°C) and rising.
 - 1.4.1.2 *Asphalt Concrete* – Apply prime and tack coats when ambient temperature is above 50°F (10°C), and when temperature has not been below 35°F (1°C) for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
 - 1.4.1.3 Construct asphalt concrete surface course when atmospheric temperature is above 40°F (4°C), and when base is dry. Base course may be placed when air temperature is above 30°F (-1°C) and rising.
 - 1.4.2 Establish and maintain required lines and elevations.

PART 2: Products

- 2.1 *General* – Use locally available materials and gradations which exhibit a satisfactory record of previous installations.
- 2.2 *Graded Aggregate Base Course* – Materials for the graded aggregate base shall meet the requirements of the FDOT Standard Specifications for Road and Bridge Construction, latest edition.

- 2.3 *Asphalt Concrete* –
- 2.3.1 *Prime Coat* – Cut-back asphalt type; AASHTO M 82 (ASTM D 2027) MC-30, MC-70 or MC-250.
 - 2.3.2 *Tack Coat* – Emulsified asphalt; AASHTO M 140 (ASTM D 977) or M 208 (D 2397); SS-1, SS-1h, CSS-1 or CSS-1h, diluted with one part water to one part emulsified asphalt.
 - 2.3.3 *Lane Marking Paint* – Paint shall meet or exceed Federal Specification TT-P-19528 and conform to the reflective requirements of FDOT Specifications.

PART 3: Execution

- 3.1 *Graded Aggregate Base* –
- 3.1.1 *Subgrade Preparation* –
 - 3.1.1.1 It is the Contractor's responsibility that the finished roadbed section meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added. After the roadbed grading operations have been substantially completed, the Contractor shall make his own determination as to the quantity (if any) of stabilizing material, of the type selected by him, necessary for compliance with the bearing value requirements.
 - 3.1.1.2 Remove loose material from compacted sub-base surface immediately before applying herbicide treatment.
 - 3.1.1.3 Proof roll prepared base surface to check for unstable areas and areas requiring additional compaction.
 - 3.1.1.4 Notify Architect of unsatisfactory conditions. Do not begin base work until deficient subgrade areas have been corrected and are ready to receive base.
 - 3.1.2 *Placing Base* – Place base course as directed in Section 204 of FDOT Standard Specifications. Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness, as indicated on plans.
 - 3.1.3 *Field Quality Control* –
 - 3.1.3.1 *General* – Test in-place base courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Architect.
 - 3.1.3.2 *Thickness* – In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:
 - 3.1.3.3 *Base Course* – Shall be 1/2 inch, plus or minus.
 - 3.1.3.4 *Surface Smoothness* – The finished surface of the base course shall be checked with a template cut to the required crown and with a 15-foot straightedge laid parallel to the centerline of the road. All irregularities greater than 1/4 inch shall be

corrected by scarifying, and removing or adding base material as may be required, after which the entire area shall be re-compacted to meet the specified density requirements.

3.1.3.5 *Compaction* – Graded aggregate base shall be compacted to a minimum density of 98 percent of maximum density as determined by the Modified Proctor Compaction Test. Soil-cement base (if any) shall be compacted to a minimum density of 95 percent of the Modified Proctor Test. The graded aggregate base shall be compacted at a moisture content within 1 percent of the optimum moisture content determined for the base material, by the modified Proctor compaction test; moisture contents for the base materials should be maintained, in the noted range, until completion of the pavement operations. All test results are to be submitted to the Engineer prior to beginning paving operations.

3.1.3.6 *Frequency of Field Density Test* – One test per 400 square yards of paved area.

3.2 *Asphalt Concrete* –

3.2.1 *Surface Preparation* –

3.2.1.1 Remove loose material from compacted base surface immediately before applying prime coat.

3.2.1.2 Proof roll prepared base surface to check for unstable areas and areas requiring additional compaction.

3.2.1.3 Notify Architect/Engineer of unsatisfactory conditions. Do not begin paving work until deficient base areas have been corrected and are ready to receive paving.

3.2.1.4 *Prime Coat* – Apply at rate of 0.15 to 0.20 gallons per square yard, over compacted base. Apply material to penetrate and seal, but not flood, surface. Cure and dry as long as necessary to attain penetration and evaporation of volatile.

3.2.1.5 *Tack Coat* –

3.2.1.5.1 Apply to contact surfaces of previously constructed asphalt or portland cement concrete and surfaces abutting or projecting into asphalt concrete pavement. Distribute at rate of 0.05 to 0.15 gallons per square yard of surface.

3.2.1.5.2 Allow to dry until at proper condition to receive paving.

3.2.1.5.3 Exercise care in applying bituminous materials to avoid smearing of adjoining concrete surfaces. Remove and clean damaged surfaces.

3.2.2 *Plant Mix Asphaltic Surface Course* –

3.2.2.1 *General* – This item shall consist of a wearing surface constructed of asphaltic concrete on a prepared base, in accordance with the plans and specifications.

3.2.2.2 *Materials* –

- 3.2.2.2.1 The materials and construction methods shall comply with those set forth for Super Pave Asphaltic Concrete in the latest edition of the FDOT Standard Specifications, Section 320, 330 and 334.
- 3.2.2.2.2 The asphaltic cement shall meet the requirements of AASHTO Specification M-20, Viscosity Grade AC-20 (Penetration Grade 60-70).

3.2.2.3 *Job Mix Formula –*

- 3.2.2.3.1 The Marshall Method of testing will be used in establishing the job mix formula and for control testing throughout the work. The following parameters shall be used in determining the job mix formula:

| Testing Parameters for Job Mix Formula | |
|---|--------------|
| Item | Value |
| Number of blows each end of specimen | 75 |
| Stability | 1200 |
| Flow (maximum) 1/100 of an inch | 14 |
| Flow (minimum) 1/100 of an inch | 8 |
| Percent Voids | 3 to 5 |
| Percent Voids filled with bitumen | 75 to 85 |

- 3.2.2.3.2 The density of field samples shall not be less than 95 percent of the Marshall laboratory compacted mixture composed of the same materials in like proportions.

- 3.2.2.4 *Thickness* – The thickness of the surface shall be as shown on the construction plans. This requirement shall be checked by cores and where a deficiency of more than 1/4 inch exists, the Contractor shall be required to correct the deficiency either by replacing the full thickness or overlaying the area to the satisfaction of the Architect/Engineer.

3.2.3 *Placing Mix –*

- 3.2.3.1 *General* – Place asphalt concrete mixture on prepared surface, spread and strike-off. Spread mixture at minimum temperature of 225°F (107°C). Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness.
- 3.2.3.2 *Joints* – Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density and smoothness as other sections of asphalt concrete course. Clean contact surfaces and apply tack coat.

3.2.4 *Rolling –*

- 3.2.4.1 *General* –

- 3.2.4.1.1 Begin rolling when mixture will bear roller weight without excessive displacement.
- 3.2.4.1.2 Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- 3.2.4.2 *Breakdown Rolling* – Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
- 3.2.4.3 *Second Rolling* – Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- 3.2.4.4 *Finish Rolling* – Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
- 3.2.4.5 *Patching* – Remove and replace paving areas mixed with foreign materials and defective areas. Cut-out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
- 3.2.4.6 *Protection* –
 - 3.2.4.6.1 After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
 - 3.2.4.6.2 Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.
- 3.2.5 *Traffic And Lane Markings* –
 - 3.2.5.1 *Cleaning* – Sweep and clean surface to eliminate loose material and dust.
 - 3.2.5.2 *Striping* –
 - 3.2.5.2.1 Paint shall meet or exceed Federal Specification II-P-1952B and conform to the reflective requirements of FDOT Specifications. Color: White, Yellow, and Blue (whichever is required)
 - 3.2.5.2.2 Apply paint with mechanical equipment to produce uniform straight edges. Apply in 2 coats at Manufacturer's recommended rates.
- 3.2.6 *Field Quality Control* –
 - 3.2.6.1 *General* –
 - 3.2.6.1.1 Test in-place asphalt concrete courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Architect/Engineer. Contractor to replace asphalt removed for testing purposes.
 - 3.2.6.1.2 Should any work or materials fail to meet the requirements set forth in the plans and specifications, Contractor shall pay for retesting of same.

3.2.6.1.3 A minimum of two cores and density test shall be made to determine pavement thickness and density. Density test and determinations shall be per FDOT Standard Specifications Section 330-10. Architect/Engineer shall determine location of cores and test.

3.2.6.2 *Thickness –*

3.2.6.2.1 In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:

3.2.6.2.1.1 Base Course: Shall be 1/2 inch, plus or minus.

3.2.6.2.1.2 Surface Course: Shall be 1/4 inch, plus or minus.

3.2.6.3 *Surface Smoothness –*

3.2.6.3.1 Test finished surface of each asphalt concrete course for smoothness, using a 10-foot straightedge applied parallel with, and at right angles to centerline of paved area.

Surfaces will not be acceptable if exceeding the following tolerances for smoothness.

3.2.6.3.1.1 Base Course Surface: Shall be 1/4 inch, plus or minus

3.2.6.3.1.2 Wearing Course Surface: Shall be 3/16 inch, plus or minus

3.2.6.3.1.3 Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template, 1/4 inch

3.2.6.3.2 Check surface areas at intervals as directed by Architect/Engineer.

PART 4: Measurement and Payment

4.1 *General –*

4.1.1 Graded Aggregate Base and Asphalt Concrete shall be measured for payment either in square yards or by lump sum only for areas indicated on the plans, or as provided in the Proposal and Contract.

4.1.2 Compensation, will be for furnishing all materials, labor, equipment, tools and incidentals required for the work, all in accordance with the plans and these specifications.