

Section 700

Bituminous Paving and Street Construction

701.0 DESCRIPTION

These specifications include bituminous paving construction in accordance with the requirements of the Contract.

All references to MnDOT Specifications shall mean the latest published edition of the Minnesota Department of Transportation Standard Specifications for Highway Construction, as modified by any Supplemental Specification edition published prior to the date of advertisement for bids. All references to other Specifications of AASHTO, ASTM, ANSI, AWWA, etc. shall mean the latest published edition available on the date of advertisement for bids.

702.0 MATERIALS

The materials used in this work shall conform to the requirements for kind and size of material specified herein or as shown on the construction plans.

Before any installation, the Contractor shall submit a list of materials proposed for use. This list shall be complete with catalogs, drawings, diagrams or any other descriptive data that may be required to establish specification compliance.

Should the Contractor fail to submit a list of materials, the Engineer shall reserve the right to select all items or omitted items on the required material list. Any items selected by the Engineer shall be furnished and installed by the Contractor without any changes in the contract price.

702.1 (2211) AGGREGATE BASE

Aggregate base material and installation shall meet MnDOT Specifications Section 2211, Class 5 or Class 7. The aggregate base shall have the additional requirements that the Liquid Limit (LL) shall have a maximum value of 25 and the Plasticity Index (PI) shall be from 0 to 3. Limestone from the Platteville formation is not acceptable for aggregate base material.

702.2 (2360) PLANT MIXED ASPHALT PAVEMENT

The specifications for bituminous products shall conform to the MnDOT Specifications Section 2360 and supplements. The following mixture type designations shall apply in most cases unless specified differently on the Proposal or in the special conditions.

Mix Designation Numbers for the bituminous mixtures are as follows:

Type	Mix Number	Use
SP 9.5 Wearing Course Mix (2, C)	SPWEA240C	Bituminous mixture for residential streets, driveways, pathways, trails, and tennis courts.
SP 9.5 Wearing Course Mix (3, C)	SPWEA340C	Final lift of pavement for streets with traffic between 1,000 and 12,500 trips per day
SP 12.5 Wearing Course Mix (3, C)	SPWEB340C	All bituminous lifts below the final lift for streets with traffic between 1,000 and 12,500 vehicles per day

Bituminous tack coat shall conform to the MnDOT Specifications Section 2357, except as modified herein.

The bituminous material for tack coat shall be CSS-1H.

702.3 (3723) JOINT SEALANT MATERIAL

Joint sealant material shall conform to MnDOT Specifications Section 3723 for Clean and Seal cracks. A list of certified sources is on file at the Chemical Laboratory, MnDOT's Maplewood Office of Materials and Road Research.

<http://www.dot.state.mn.us/products/index.html>

703.0 CONSTRUCTION REQUIREMENTS

The construction requirements under this section shall conform to MnDOT Specifications except as modified herein.

703.1 NOTIFICATION TO PROPERTY OWNERS

It is the Contractor's responsibility to notify residents of restricted access to driveways during construction and to accommodate special needs.

The Contractor must notify the Engineer of paving at least 48 hours prior to starting work.

The Contractor must post all areas scheduled for paving. Ample signing shall be set in all boulevards 24 hours prior to paving. Signs shall be supplied by the Engineering Department. All signs shall be returned upon completion of the project.

The Contractor shall maintain access to commercial establishments. The Contractor is also responsible for maintaining access to residential driveways whenever possible. Contractor shall coordinate work to provide access at no additional compensation.

703.2 (2105) COMMON EXCAVATION AND SUBGRADE EXCAVATION

The provisions of MnDOT Specifications Section 2105 are supplemented and/or modified with the following:

All excess material will be the property of the Contractor. The Contractor shall be responsible for removal and disposal. Removal of excess materials shall be paid for as Common Excavation with no compensation except as specified in the Bid.

Subgrade excavation shall be made at locations as directed by the Engineer in the field. All unsuitable materials, as determined by the Engineer, shall be removed and replaced with suitable material. Excess excavation, salvaged aggregate, reclaimed material, granular borrow, and Class 5 or Class 7 aggregate base can be utilized as backfill in subgrade excavation areas at the option of the Engineer. Excess excavation used as backfill shall be incidental to Common Excavation with no additional compensation. Suitable on-site reclaimed material shall be used prior to importing granular borrow or Class 5 aggregate. If the supply of suitable on-site material has been exhausted, the Contractor shall import backfill material as directed by the Engineer.

703.3 (2112) SUBGRADE PREPARATION

Subgrade preparation, where required by the Engineer, shall be accomplished in accordance with MnDOT Specifications Section 2112 except that the top 12 inches of the subgrade shall receive subgrade preparation prior to placing a base or surface course rather than the top 6 inches as required in MnDOT Specifications Section 2112. Tests on the prepared subgrade shall be a test roll or as outlined in other portions of the specifications.

Subgrade preparation shall be considered as an incidental item to roadway construction and no payment will be made, therefore.

703.4 (2112) AGGREGATE GRADING AND COMPACTION

Aggregate grading and compaction shall be accomplished in accordance with MnDOT Specifications Section 2112. Tests on the prepared base shall be completed as outlined in other portions of the specifications.

703.5 (2211) AGGREGATE BASE

Aggregate base courses shall be constructed in accordance with the provisions of MnDOT Specifications Section 2211 except as modified below:

- a) Compaction shall be achieved by the "Quality Compaction Method" described in MnDOT Specifications Section 2211.3D.2.b.
- b) MnDOT Specifications Section 2211. 3D.2.b Quality Compaction Method is supplemented as follows:

The Engineer may elect to perform density tests as shown in the MnDOT Grading and Base Manual, as needed to assist inspection. The actual density obtained by testing the aggregate base must meet or exceed the requirements shown in 2211.3D.2.a Specified Density method or 2211.3D.2.c Penetration Index Method in order to be acceptable.

703.6 (2360) PLANT MIXED ASPHALT PAVEMENT

Bituminous pavement shall be constructed in accordance with the provisions of MnDOT Specifications Section 2360 and supplements, except as modified below. This specification is available on MN/DOT's website at www.dot.state.mn.us/materials/bituminous.html.

- a) Pavement shall be compacted by the Ordinary Compaction Method.
- b) The provisions of MnDOT 2360.2E.5.a (1) are modified with the following:
Scrap shingles, as an asphalt binder source, shall not be included in any wear or non-wear layer.
- c) The provisions of MnDOT 2360.3 A.4 are hereby modified with the following:
Do not place pavement final wearing course lift unless the temperature is 50 degrees and rising.
- d) The provisions of MnDOT 2360.3F are hereby modified with the following:
The Contractor shall submit at the pre-construction conference a MnDOT approved Mixture Design Report for each mixture designation proposed to be used on the project.
- e) MODIFICATIONS TO MnDOT 2399 PAVEMENT SMOOTHNESS SPECIFICATION
Due to the nature of these roadways, this Contract shall be excluded from pavement smoothness testing. Surface requirements as part of 2360.3.E will apply. The Engineer reserves the right to have noticeable bumps and dips corrected by the Contractor with removal, diamond grinding, or left in place with a price deduction.

703.7 (2104) SAWING BITUMINOUS PAVEMENT

Sawing Bituminous Pavement shall include cutting the full depth of pavement as directed by the Engineer. Only those sections of pavement ordered for sawing by the Engineer shall be paid for. Other sawing done at the option of the Contractor shall be considered incidental.

703.8 CASTING ADJUSTMENTS

All manhole, catch basins, and water valve castings that fall within the bituminous roadway shall be adjusted according to MnDOT Specifications Section 2506. All adjustments shall be made after placement of the base course and prior to placement of the wearing course. All castings shall be adjusted to a final elevation that will be 1/4 inch below the finished wearing surface. Backfilling of necessary excavations shall be with bituminous base course mixture.

Manhole safety ramps shall be installed on all raised castings within four hours of adjustment and will remain in place until placement of the wearing course.

Prior to placement of the wearing course, the Contractor shall contact the Project Representative and schedule a final inspection of all manholes, catch basins, and gate

valves on the project to ensure that each has been raised, cleaned, and is in good working condition. Certification from the Project Representative that this inspection has been completed will be required prior to the placement of the wearing course.

703.9 STRUCTURE CASTING CLEANING

All castings shall be cleaned to remove overspray and milling shavings. All pre-existing and new bituminous shall be cleaned from castings, including pick holes to the extent that is possible. This work shall be considered incidental.

703.10 BITUMINOUS TACK COAT

The material shall be applied at the rate of 0.05 gallons per square yard. The asphalt emulsion shall be undiluted.

The contact surfaces of all fixed structures, the edge of the in-place mixture in all courses at transverse joints, and the wearing course at longitudinal joints shall be given a uniform coating of emulsified asphalt before placing the adjoining mixture. The bituminous material shall be applied by methods that will ensure uniform coating and in no case shall the application be excessive.

Prior to placement of the final wearing course, the Contractor will coat the exposed two inches of concrete gutter with tack coat.

703.11 SAW & SEAL TRANSVERSE CRACK CONTROL JOINT

Dry saw and seal transverse crack control in the bituminous wear course will be the method used in this project. Please refer to the Saw and Seal Bituminous Street plate number ST-8.

Dry saw, and seal shall be performed in the following manner:

- a) Cut shall be in the reverse direction to prevent excess airborne dust.
- b) A vacuum-assisted street sweeper truck to eliminate any extra dust from joint.
- c) Clean the joints thoroughly and install bond breaker tape on the bottom of the joint.
- d) Seal the joint with sealing material adhering to MnDOT Specification 3723.

704.0 METHOD OF MEASUREMENT

All items will be measured separately by length, area, mass or volume, according to design designation as indicated in the pay item name and as may be detailed and defined in the Drawings, Specifications, or Special Conditions.

704.1 (2104) SAWING BITUMINOUS PAVEMENT

Measurement for sawing shall be by the linear foot.

704.2 BITUMINOUS MILLING

Bituminous milling shall be at the depth shown on the Drawings and shall be measured by the square yard.

704.3 (2105) COMMON EXCAVATION AND SUBGRADE EXCAVATION

Measurement for Common Excavation shall be based upon the cubic yard, and shall be a Plan quantity item.

The quantities listed as Subgrade Excavation in the Proposal are estimates and subject to change. Subgrade excavation shall be by the cubic yard, measured by cross-sectional area.

704.4 (2211) AGGREGATE BASE

Aggregate base shall be measured by the ton on trip tickets collected by the Project Coordinator at the time the material is deposited on the site. This item shall include material, delivery, placement, and compaction in place.

704.5 (2112) AGGREGATE GRADING AND COMPACTION

Grading and compaction shall consist of work required to prepare the reclaimed base section for paving. Measurement shall be by the road station.

704.6 (2360) PLANT MIXED ASPHALT PAVEMENT

Plant-Mixed Bituminous shall be measured by the ton based on weights of loads hauled from the plant to the site and shall include, but not be limited to, all aggregate, oil, mixing, mineral filler, hydrated lime, or anti-stripping additives that may be permitted or required. This item shall include material, delivery, and placement of the asphalt.

704.7 (2357) BITUMINOUS TACK COAT

Bituminous tack coat shall be measured by the gallon and shall include all material and work required to mix and place the tack coat specified.

704.8 SAW & SEAL TRANSVERSE CRACK CONTROL JOINT

Saw and seal control joints shall be measured by the linear foot and shall include all labor, equipment, traffic control, and material necessary to saw and seal joints as specified.

705.0 BASIS OF PAYMENT

Payment will be made at the Contract prices per unit of material in the Bid. Compensation shall be in full for all costs constructing the material as specified. Unit prices in the Bid shall prevail with no adjustment being made due to an increase or decrease in quantities.

In the absence of special payment provisions, all costs of restoring surface improvements as required, disposal of surplus or waste materials, maintenance and repair of completed work, and final cleanup operations shall be incidental to the Contract Items under which the costs are incurred.