

PROJECT SPECIAL PROVISIONS**ROADWAY****SHOULDER RECONSTRUCTION:**

(1-18-00) (Rev. 6-19-07)

RR 07

Description

The work covered by this provision consists of reconstructing earth shoulders in accordance with the *Roadway Standard Drawing Nos. 560.01 and 560.02*, from the edge of pavement to the existing shoulder point as directed by the Engineer. Perform this work immediately after the resurfacing operations are completed as directed by the Engineer.

Materials

On any map that contains widening, use all suitable material generated from the widening operation to construct the shoulder. Furnish any other earth material necessary for the construction of the shoulders. Provide earth material meeting the approval of the Engineer. No testing will be necessary.

Construction Methods

Perform shoulder reconstruction in the following order: scarify the existing shoulder to provide the proper bond; add the earth material to the shoulder; and compact the reconstructed shoulder to the satisfaction of the Engineer.

The Contractor shall dispose of any excess material generated by the shoulder reconstruction in an approved disposal site.

Measurement and Payment

Shoulder Reconstruction will be measured and paid for as the actual number of shoulder miles that have been constructed. Measurement will be made along the edge of each shoulder. Measurement will be made to the nearest 0.01 of a mile. Such price and payment will be full compensation for furnishing earth material, hauling, placing, compaction, and all incidentals necessary to complete construction of the shoulders.

Incidental Stone Base will be measured and paid for as provided in Article 545-6 of the *Standard Specifications*.

Seeding and Mulching will be measured and paid for as provided elsewhere in this contract.

Payment will be made under:

Pay Item	Pay Unit
Shoulder Reconstruction	Shoulder Mile

SHOULDER RECONSTRUCTION PROCEDURE:

(7-1-95)

R1 R10 (Rev.)

Perform shoulder reconstruction immediately following paving operations and in no case allow paving operations to exceed shoulder operations by more than two weeks without written permission of the Engineer. Failure to meet this requirement shall be cause to cease paving operations until it can be met. Place final pavement marking after shoulder construction.

Upon completion of shoulder reconstruction, remove construction signs as directed by the Engineer.

CONSTRUCTION SEQUENCE:

(7-1-95)

R1 R34 (Rev.)

Once a map is started the Contractor will be required to complete paving, including intersections, before moving to another map.

INCIDENTAL STONE BASE:

(7-1-95) (Rev.7-18-06)

R5 R28

Description

Place incidental stone base on driveways, mailboxes, etc. immediately after paving and do not have the paving operations exceed stone base placement by more than one week without written permission of the Engineer.

Materials and Construction

Provide and place incidental stone base in accordance with the requirements of Section 545 of the *2006 Standard Specifications*.

Measurement and Payment

Incidental Stone Base will be measured and paid for in accordance with Article 545-6 of the *2006 Standard Specifications*.

ASPHALT PAVEMENTS - SUPERPAVE:

(7-18-06) (Rev 9-19-06)

R6 R01

Revise the *2006 Standard Specifications* as follows:

Page 6-2, Article 600-9 Measurement and Payment

Delete the second paragraph.

Page 6-12, 609-5(C)2(c) add after (AASHTO T 209):

or ASTM D 2041

Page 6-13, last line on page & Page 6-14, Subarticle 609-5(C)(2)(e), delete and substitute the following:

(e) Retained Tensile Strength (TSR) - (AASHTO T 283 Modified), add subarticle (1) Option 1 before the first paragraph.

(1) Option 1

Add subarticle (2) Option 2 and the following sentence as the first sentence of the second paragraph:

(2) Option 2

Mix sampled from truck at plant with one set of specimens prepared by the Contractor and then tested jointly by QA and QC at a mutually agreed upon lab site within the first 7 calendar days after beginning production of each new mix design.

Page 6-28, 610-3(A) Mix Design-General, third sentence of the fourth paragraph:

Substitute 20% for 15%

First, second and third sentences of the fifth paragraph:

Substitute 20% for 15%

Page 6-44, 610-8, third full paragraph, replace the first sentence with the following:

Use the 30 foot minimum length mobile grade reference system or the non-contacting laser or sonar type ski *with at least four referencing stations mounted on the paver at a minimum length of 24 feet* to control the longitudinal profile when placing the initial lanes and all adjacent lanes of all layers, including resurfacing and asphalt in-lays, unless otherwise specified or approved.

Page 6-54, Article 620-4, add the following pay item:

Pay Item	Pay Unit
Asphalt Binder for Plant Mix, Grade PG 70-28	Ton

Page 6-69, Table 660-1 Material Application Rates and Temperatures, add the following:

Type of Coat	Grade of Asphalt	Asphalt Rate gal/yd ²	Application Temperature °F	Aggregate Size	Aggregate Rate lb./sq. yd. Total
Sand Seal	CRS-2 or CRS-2P	0.22-0.30	150-175	Blotting Sand	12-15

Page 6-75, 660-9(B), add the following as sub-item (5)

(5) Sand Seal

Place the fully required amount of asphalt material in one application and immediately cover with the seal coat aggregate. Uniformly spread the fully required amount of aggregate in one application and correct all non-uniform areas prior to rolling.

Immediately after the aggregate has been uniformly spread, perform rolling.

When directed, broom excess aggregate material from the surface of the seal coat.

When the sand seal is to be constructed for temporary sealing purposes only and will not be used by traffic, other grades of asphalt material meeting the requirements of Articles 1020-6 and 1020-7 may be used in lieu of the grade of asphalt required by Table 660-1 when approved.

Page 10-41, Table 1012-1, add the following:

Mix Type	Course Aggregate Angularity ^(b) ASTM D5821	Fine Aggregate Angularity % Minimum AASHTO T304 Method A	Sand Equivalent % Minimum AASHTO T176	Flat & Elongated 5:1 Ratio % Maximum ASTM D4791 Section 8.4
S 9.5 D	100/100	45	50	10

Page 10-45, Replace Table 1012-2 with the following:

TABLE 1012-2
NEW SOURCE RAP GRADATION and BINDER TOLERANCES
 (Apply Tolerances to Mix Design Data)

Mix Type	0-20% RAP			21-25% RAP			26%+ RAP		
	Base	Inter.	Surf.	Base	Inter.	Surf.	Base	Inter.	Surf.
P _b , %		± 0.7%			± 0.4%			± 0.3%	
1 1/2" (37.5)	±10	-	-	±7	-	-	±5	-	-
3/4" (19.0)	±10	±10	-	±7	±7	-	±5	±5	-
1/2" (12.5)	-	±10	±6	-	±7	±3	-	±5	±2
3/8" (9.5)	-	-	±8	-	-	±5	-	-	±4
No. 4 (4.75)	±10	-	±10	±7	-	±7	±5	-	±5
No. 8 (2.36)	±8	±8	±8	±5	±5	±5	±4	±4	±4
No.16 (1.18)	±8	±8	±8	±5	±5	±5	±4	±4	±4
No. 30 (0.600)	±8	±8	±8	±5	±5	±5	±4	±4	±4
No. 50 (0.300)	-	-	±8	-	-	±5	-	-	±4
No. 200 (0.075)	±4	±4	±4	±2	±2	±2	±1.5	±1.5	±1.5

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:

(1-1-02)

R6 R15

The approximate asphalt binder content of the asphalt concrete plant mixtures used on this project will be as follows:

Asphalt Concrete Base Course	Type B 25.0	4.3 %
Asphalt Concrete Intermediate Course	Type I 19.0	4.7 %
Asphalt Concrete Surface Course	Type S 4.75A	7.0 %
Asphalt Concrete Surface Course	Type SF 9.5A	6.5 %
Asphalt Concrete Surface Course	Type S 9.5	6.0 %
Asphalt Concrete Surface Course	Type S 12.5	5.5 %

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the *2006 Standard Specifications*.

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:

(11-21-00)

R6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2006 Standard Specifications*.

The base price index for asphalt binder for plant mix is \$ **318.93** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **October 1, 2007**.

RESURFACING EXISTING BRIDGES:

(7-1-95)

R6 R61

The Contractor's attention is directed to the fact that he will be required to resurface the bridges on this project if directed by the Engineer.

Place the surface so as to follow a grade line set by the Engineer with the minimum thickness as shown on the sketch herein or as directed by the Engineer. State Forces will make all necessary repairs to the bridge floors prior to the time that the Contractor places the proposed surfacing. Give the Engineer at least 15 days notice prior to the expected time to begin operations so that State Forces will have sufficient time to complete their work.

At all bridges that are not to be resurfaced, taper out the proposed resurfacing layer adjacent to the bridges to insure a proper tie-in with the bridge surface.

PAVING INTERSECTIONS:

(7-1-95)

R6 R67

Surface all unpaved intersections back from the edge of the pavement on the main line of the project at least 50 feet. The pavement placed in the intersection shall be of the same material and thickness placed on the main line of the project.

Resurface all paved intersections back to the ends of the radii, or as directed by the Engineer.

The base on the unpaved intersections will be placed and prepared for surfacing by State Forces.

Widen the pavement on curves as directed by the Engineer.

ADJUSTMENT OF MANHOLES, METER BOXES, AND VALVE BOXES:

Utility adjustments on this project shall be made in accordance with Article 858-3 of the 2006 Standard Specifications and details in the plans with the following exception:

Cast iron or steel fittings will not be permitted for the adjustment of manholes, meter boxes, and valve boxes on this project.

Adjustment to manholes, meter boxes, and valve boxes on this project that are in travel lanes shall be made by the use of an approved **Rapid Set Grout, Mortar, or Concrete that will take full set and become load bearing within sixty minutes of placement.** The Resident Engineer will furnish a list of approved materials to the Contractor.

The Contractor shall replace worn/damaged manhole rings and covers, worn meter box frames and covers, and worn valve box frames and covers, as directed by the Engineer, with a new ring/frame and cover assembly. The Department or utility owner will furnish these assemblies at no cost to the Contractor.

In the event that no adjustment is required to a manhole, meter box or valve box, a bond breaker such as sand, paper, asphalt release agent or other approved material shall be used over the top of the manhole or valve. The work of applying the material and subsequent cleaning of the manhole or valve shall be incidental to paving operations and no additional compensation will be made.

Rev. R8R97 (Rev.)

AGGREGATE PRODUCTION:

(11-20-01) (Rev. 11-21-06)

R10 R05

Provide aggregate from a producer who uses the current Aggregate Quality Control/Quality Assurance Program which is in effect at the time of shipment.

No price adjustment is allowed to contractors or producers who use the program. Participation in the program does not relieve the producer of the responsibility of complying with all requirements of the *2006 Standard Specifications*. Copies of this procedure are available upon request from the Materials and Test Unit.

CONCRETE BRICK AND BLOCK PRODUCTION:

(11-20-01) (Rev. 11-21-06)

R10 R10

Provide concrete brick and block from a producer who uses the current Solid Concrete Masonry Brick/Unit Quality Control/Quality Assurance Program that is in effect on the date that material is received on the project.

No price adjustment is allowed to contractors or producers who use the program. Participation in the program does not relieve the producer of the responsibility of complying with all requirements of the *2006 Standard Specifications*. Copies of this procedure are available upon request from the Materials and Test Unit.

PORTLAND CEMENT CONCRETE (Alkali-Silica Reaction):

2-20-07

R10 R16

Revise the *2006 Standard Specifications* as follows:

Article 1024-1(A), replace the 2nd paragraph with the following:

Certain combinations of cement and aggregate exhibit an adverse alkali-silica reaction. The alkalinity of any cement, expressed as sodium-oxide equivalent, shall not exceed 1.0 percent. For mix designs that contain non-reactive aggregates and cement with an alkali content less than 0.6%, straight cement or a combination of cement and fly ash, cement and ground granulated blast furnace slag or cement and microsilica may be used. The pozzolan quantity shall not exceed the amount shown in Table 1024-1. For mixes that contain cement with an alkali content between 0.6% and 1.0%, and for mixes that contain a reactive aggregate documented by the Department, regardless of the alkali content of the cement, use a pozzolan in the amount shown in Table 1024-1.

Obtain the list of reactive aggregates documented by the Department at:<http://www.ncdot.org/doh/operations/materials/pdf/quarryasrprob.pdf>

Table 1024-1	
Pozzolans for Use in Portland Cement Concrete	
<i>Pozzolan</i>	<i>Rate</i>
Class F Fly Ash	20% by weight of required cement content, with 1.2 lbs Class F fly ash per lb of cement replaced
Ground Granulated Blast Furnace Slag	35%-50% by weight of required cement content with 1 lb slag per lb of cement replaced
Microsilica	4%-8% by weight of required cement content, with 1 lb microsilica per lb of cement replaced

GLASS BEADS:

(7-18-06)

R10 R35

Revise the *2006 Standard Specifications* as follows:

Page 10-223, 1087-4(C) Gradation & Roundness

Replace the second sentence of the first paragraph with the following:

All Drop-On and Intermixed Glass Beads shall be tested in accordance with ASTM D1155.

Delete the last paragraph.

CHANGEABLE MESSAGE SIGNS

(11-21-06)

R11 R11

Revise the *2006 Standard Specifications* as follows:

Page 11-9, Article 1120-3, Replace the 3rd sentence with the following:

Sign operator will adjust flash rate so that no more than two messages will be displayed and be legible to a driver when approaching the sign at the posted speed.

PAVEMENT MARKING LINES:

(11-21-06) (Rev. 9-18-07)

RR12R01

Revise the *2006 Standard Specifications* as follows:

Page 12-2, 1205-3(D) Time Limitations for Replacement, add the following at the beginning of the chart:

Facility Type	Marking Type	Replacement Deadline
Full-control-of-access multi-lane roadway (4 or more total lanes) and ramps, including Interstates	All markings including symbols	By the end of each workday's operation if the lane is opened to traffic

Page 12-14, Subarticle 1205-10, Measurement and Payment, delete the first sentence of the first paragraph and replace with the following:

Pavement Marking Lines will be measured and paid for as the actual number of linear feet of pavement marking lines per application that has been satisfactorily placed and accepted by the Engineer.