

PROJECT SPECIAL PROVISIONS
ROADWAY

1-15-02

RR01

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX: 11-21-00

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

The base price index for asphalt binder for plant mix is \$244.38 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, 2005.

RR19

INCIDENTAL STONE BASE:

The provisions of Section 545 of the 2002 Standard Specifications shall apply with the following exception:

The Contractor shall place Incidental Stone Base on driveways, mailboxes, etc. immediately after paving and in no case shall paving operations exceed stone base placing by more than one week without written permission of the Engineer.

RR28 REVISED

ASPHALT PAVEMENTS - SUPERPAVE**05-17-05**

Rev. 08-02-05

Revise the 2002 *Standard Specifications* as follows:

PRIME COAT**Page 6-2, Article 600-9**

Delete the first paragraph and substitute the following:

The quantity of prime coat to be paid will be the number of gallons (liters) of prime coat material that has been satisfactorily placed on the roadway. Each distributor load of prime coat material delivered and utilized on the project will be measured. Deductions will be made from each measured tank of material for all material placed on the roadway that exceeds the application rate established by the Engineer by more than 0.03 gallons per square yard (0.14 liters per square meter)

ASPHALT TACK COAT**Page 6-4, Article 605-8**

Insert the following after paragraph one.

Take necessary precautions to limit the tracking and/or accumulation of tack coat material on either existing or newly constructed pavements. Excessive accumulation of tack may require corrective measures.

FIELD VERIFICATION AND JOB MIX FORMULA ADJUSTMENTS**Page 6-7, Article 609-4**

Delete the first paragraph and substitute the following:

Conduct field verification of the mix at each plant within 30 calendar days prior to initial production of each mix design, when required by the Allowable Mix Adjustment Policy and when directed as deemed necessary.

Page 6-8, Article 609-4

Delete the first paragraph and substitute the following:

Retain records of these calibrations and mix verification tests, including Superpave Gyratory Compactor (SGC) printouts, at the QC laboratory. In addition, furnish copies, including SGC printouts, to the Engineer for review and approval within one working day after beginning production of the mix.

Page 6-8, Article 609-4

Add the following sentence at the end of the last paragraph:

Any mix produced that is not verified may be assessed a price reduction at the Engineer's discretion in addition to any reduction in pay due to mix and/or density deficiencies.

Quality control minimum sampling and testing schedule:

Page 6-8, Subarticle 609-5(A)

Delete the second sentence in the fourth paragraph and substitute the following:

This person is responsible for monitoring all roadway paving operations and all quality control processes and activities, to include stopping production or implementing corrective measures when warranted.

Page 6-9, Subarticle 609-5(C)1

Delete the second sentence in the second paragraph and substitute the following:

Retain the QC compacted volumetric test specimens for 5 calendar days, commencing the day the specimens are prepared.

Page 6-9, Subarticle 609-5(C)2

At the bottom of this page, delete the sentence directly above the Accumulative Production Increment and substitute the following:

Sample and test the completed mixture from each mix design at the following minimum frequency during mix production:

Page 6-10, Subarticle 609-5(C)2

In the first full paragraph on this page, add to the reference AASHTO T 168 "Modified"

Revise Items B, C, D and E on this page as follows:

- B. Gradation on Recovered Blended Aggregate from Mix Sample (AASHTO T 30 Modified) Grade on all sieves specified on JMF
- C. Maximum Specific Gravity (AASHTO T 209 or ASTM D 2041), optional (ASTM D 6857)
- D. Bulk Specific Gravity of Compacted Specimens (AASHTO T166), optional (ASTM D 6752), Average of 3 specimens at N_{des} gyrations (AASHTO T 312)
- E. Air Voids (VTM) (AASHTO T 269), Average of 3 specimens at N_{des} gyrations

Page 6-11, Subarticle 609-5(C)2

At the top of this page, delete Item B., "Reclaimed Asphalt Pavement..." and substitute the following:

- B. Reclaimed Asphalt Pavement (RAP) Binder Content and Gradation (AASHTO T 308 Modified or T 164 and AASHTO T 30 Modified) (sampled from stockpiles or cold feed system at beginning of production and weekly thereafter). Have RAP approved for use in accordance with Article 1012-1(G). (Split Sample Required)

Page 6-11, Subarticle 609-5(C)2

Insert the following sampling and testing at the end of this Subarticle:

- F. Uncompacted Void Content of Fine Aggregate, AASHTO T 304, Method A (natural sand only). Performed at Mix Design and when directed as deemed necessary. (Split Sample Required)
- G. Reclaimed Asphalt Shingle Material (RAS) Binder Content and Gradation (AASHTO T 308 Modified or T 164 and AASHTO T 30 Modified) (sampled from stockpiles or cold feed system at beginning of production and weekly thereafter). Have RAS approved for use in accordance with Article 1012-1(F). (Split Sample Required)

CONTROL CHARTS**Page 6-11, Subarticle 609-5(C)3**

Delete the first paragraph and substitute the following:

Maintain standardized control charts furnished by the Department at the field laboratory. For mix incorporated into the project, record full test series data from all regularly scheduled random samples or directed samples which replace regularly scheduled random samples, on control charts the same day the tests are obtained.

In addition, partial test series results obtained due to reasons outlined in Subarticle 609-5(C)2 will be reported to Quality Assurance personnel on the proper forms, but will not be plotted on the control charts.

Page 6-12, Subarticle 609-5(C)3

Delete item 3 in the list below the second full paragraph and substitute the following:

- 3. If failure to stop production after two consecutive moving averages exceed the warning limits occurs, but production does stop at a subsequent time, re-establish a new moving average beginning at the actual production stop point.

Page 6-12, **Subarticle 609-5(C)3**

Delete the first and second sentence in the third full paragraph and substitute the following:

In addition, re-establish the moving averages for all mix properties.

CONTROL LIMITS

Page 6-12, **Subarticle 609-5(C) 4**

At the bottom of this page, delete the table and substitute the following:

CONTROL LIMITS

Mix Control Criteria	Target Source	Warning Limit	Moving Average Limit	Individual Limit
2.36mm Sieve	JMF	±4.0 %	±5.0 %	±8.0 %
0.075mm Sieve	JMF	±1.5 %	±2.0 %	±2.5 %
Binder Content	JMF	±0.3 %	±0.5 %	±0.7 %
VTM @ N _{des}	JMF	±1.0 %	±1.5 %	±2.0 %
VMA @ N _{des}	Min. Spec. Limit	-0.5%	-0.8%	-1.0%
P _{0.075} / P _{be} Ratio	Max. Spec. Limit	0.0	N/A	+0.4%
%G _{mm} @ N _{ini}	Max. Spec. Limit	N/A	N/A	+2.0%
TSR	Min. Spec. Limit	N/A	N/A	-15.0%

Allowable Retesting for Mix Deficiencies:

Page 6-14, **Subarticle 609-5C(7)**

In the first paragraph, insert the following as the fourth sentence:

The Contractor under the supervision of the Department’s QA personnel will perform these retests.

FIELD COMPACTION QUALITY CONTROL

Page 6-15, **Subarticle 609-5(D)1**

In the last sentence of the third paragraph of this subarticle, insert the wording “and wedging as shown in the HMA/QMS Manual, “ after the wording “temporary pavements”

Delete the first and second sentences in the fourth paragraph and substitute the following:

Base and intermediate mix types (surface mixes not included) utilized for pavement widening of less than 4.0 feet and all mix types used in tapers, irregular areas and intersections (excluding full width travel lanes of uniform thickness), will not be subject to the sampling and testing frequency specified above provided the pavement is compacted using approved equipment and procedures. However, the Engineer may require occasional density sampling and testing to evaluate the compaction process.

Page 6-16, Subarticle 609-5(D)1

Delete item number 2 at the top of this page. Item number 3 should be re-numbered as 2 after the specified deletion.

Pavement Samples (Cores)

Page 6-16, Subarticle 609-5(D)2

In the first paragraph, delete the second sentence and insert the following as the last sentence in that paragraph:

The use of a separator medium beneath the layer to be tested is prohibited.

LIMITED PRODUCTION PROCEDURE

Page 6-17, Subarticle 609-5(D) 5

Delete the first paragraph and substitute the following:

Proceed on limited production when, for the same mix type, one of the following items occur:

- (1) Two consecutive failing lots, excluding lots representing an individual resurfacing map or portion thereof.
- (2) Three consecutive failing lots, with each lot representing an individual resurfacing map or portion thereof.
- (3) Two consecutive failing nuclear control strips.

Pavement within each construction category (New and Other), as defined in Article 610-13, and pavement placed simultaneously by multiple paving crews will be evaluated independently for limited production purposes.

Delete the first sentence in the last paragraph and substitute the following:

If the Contractor does not operate by the limited production procedures as specified above, the two consecutive failing density lots, three consecutive failing lots with each lot representing an individual resurfacing map or portion thereof, or two consecutive failing nuclear control strips, whichever is applicable, and all mix produced thereafter will be considered unacceptable. Remove this material and replace with material that complies with the Specifications, unless otherwise approved.

DOCUMENTATION (RECORDS)

Page 6-18, **Subarticle 609-5(E)**

Delete the third and fourth sentence in the first full paragraph and substitute the following:

Maintain all QC records, forms and equipment calibrations for a minimum of 3 years from their completion date.

Delete the second full paragraph and substitute the following:

Falsification of test results, documentation of observations, records of inspection, adjustments to the process, discarding of samples and/or test results, or any other deliberate misrepresentation of the facts will result in the revocation of the applicable person's QMS certification. The Engineer will determine acceptability of the mix and/or pavement represented by the falsified results or documentation. If the mix and/or pavement in question is determined to be acceptable, the Engineer may allow the mix to remain in place at no pay for the mix, asphalt binder and other mix components. If the mix and/or pavement represented by the falsified results is determined not to be acceptable, remove and replace with mix, which complies with the Specifications. Payment will be made for the actual quantities of materials required to replace the falsified quantities, not to exceed the original amounts.

QUALITY ASSURANCE

Page 6-18, **Article 609-6**

In Item 1 under Plant Mix Quality Assurance, substitute "5 percent" for "10 percent".

In Item 2 under Plant Mix Quality Assurance, substitute "sampling and testing procedures" for "tests".

In Item 4 under Plant Mix Quality Assurance, add "for that increment" after the word "sample".

In Item 5 under Plant Mix Quality Assurance, add "at a frequency equal to or greater than 10 percent of the QC sample frequency"; or

Insert the following after Item 5 under Plant Mix Quality Assurance:

6. By any combination of the above.

Delete the paragraph below Plant Mix Quality Assurance, and replace with the following:

The Engineer will conduct assurance tests on both split QC samples taken by the Contractor and verification samples taken by the Department. These samples may be the regular quality control samples or a sample selected by the Engineer from any location in the process or verification samples taken at random by the Department. The frequency will be equal to or greater than 5 percent of that required of the Contractor as stated in Subarticle 609-5(C)2. The Engineer may select any or all samples for assurance testing.

In Item 1 under Density Quality Assurance, delete the wording at the end of the sentence “at a frequency equal to or greater than 10 percent of the frequency required of the Contractor”.

In Item 3 under Density Quality Assurance, substitute 5 percent for 10 percent.

Page 6-19, Article 609-6

In Item 4 under Density Quality Assurance, add “at a frequency equal to or greater than 10 percent of the QC sample frequency.”

Insert the following after Item 4 under Density Quality Assurance:

- 5. By periodically directing the recalculation of random numbers for the Quality Control core or nuclear density test locations. The original QC test locations may be tested by QA and evaluated as verification tests.

LIMITS OF PRECISION

Page 6-19, Article 609-6

In the limits of precision table, delete the last three rows and substitute the following:

QA retest of prepared QC Gyrotory Compacted

Volumetric Specimens	± 0.015
Retest of QC Core Sample	± 1.2% (% Compaction)
Comparison of QA Core Sample	± 2.0% (% Compaction)
QA Verification Core Sample	± 2.0% (% Compaction)
Nuclear Comparison of QC Test	± 2.0% (% Compaction)
QA Nuclear Verification Test	± 2.0% (% Compaction)

Delete the first paragraph below the Limits of Precision table and insert the following two paragraphs.

The Engineer will immediately investigate the reason for differences if any of the following occur:

- 1. QA test results of QC split sample does not meet above limits of precision, or
- 2. QA test results of QC split sample does not meet the individual test control limits or the specification requirements, or
- 3. QA verification sample test results exceed the allowable retesting tolerances.

If the potential for a pavement failure exists, the Engineer may suspend production, wholly or in part, in accordance with the requirements of Article 108-7 while the investigation is in progress. The Engineer’s investigation may include, but not be limited to the following:

- 1. Joint testing of any remaining split samples
- 2. Review and observation of the QC technician’s sampling and testing procedures,

3. Evaluation and calibration of QC testing equipment, and/or
4. Comparison testing of other retained quality control samples, and/or additional density core samples.

In the third sentence of the second paragraph below the limits of precision table, insert “or verification test results” after “quality assurance test results”.

ASPHALT CONCRETE PLANT MIX PAVEMENTS – DESCRIPTION

Page 6-20, **Article 610-1**

Insert the following after the last paragraph:

A high frequency of asphalt plant mix, density, or mix and density deficiencies occurring over an extended duration of time may result in future asphalt, which is represented by mix and/or density test results not in compliance with minimum specification requirements, being excluded from acceptance at an adjusted contract unit price in accordance with Article 105-3. This acceptance process may apply to all asphalt produced and /or placed and may continue until the Engineer determines a history of quality asphalt production and placement is reestablished.

MATERIALS

Page 6-21, **Article 610-2**

Delete reference of Anti-strip additive (chemical) to **Article 1020-2** and substitute **Article 1020-8**.

COMPOSITION OF MIXTURES (MIX DESIGN AND JOB MIX FORMULA)

Page 6-21, **Subarticle 610-3(A)**

At the end of the second paragraph, add the following sentence:

In addition, submit Superpave gyratory compactor printouts for all specimens compacted at N_{des} and N_{max} during the mix design process.

Insert the following paragraph after the second paragraph:

For the final surface layer of the specified mix type, use a mix design with an aggregate blend gradation above the maximum density line on the 2.36 mm and larger sieves.

Insert the following at the end of the third paragraph:

When the percent of binder contributed from RAS or a combination of RAS and RAP exceeds 20 percent of the total binder in the completed mix, the virgin binder PG grade shall be one grade below (both high and low temperature grade) the binder grade specified in Table 610-2 for the mix type.

Delete the fourth paragraph and substitute the following:

For Type S 12.5D mixes, the maximum percentage of reclaimed asphalt material is limited to 15% and shall be produced using virgin asphalt binder grade PG 76-22. For all other recycled mix types, when the percentage of RAP is 15 percent or less of the total mixture, the virgin binder PG grade shall be as specified in Table 610-2 for the specified mix type. When the percentage of RAP is greater than 15 but not more than 25 percent of the total mixture, the virgin binder PG grade shall be one grade below (both high and low temperature grade) the specified grade for the mix type. When the percentage of RAP is greater than 25 percent of the total mixture, the Engineer will establish and approve the asphalt binder grade.

Page 6-22, **Subarticle 610-3(A)**

Insert the following sentence at the end of the Item 4:

If natural sand is utilized in the proposed mix design, determine and report the Uncompacted Void Content of the natural sand in accordance with AASHTO T-304, Method A.

Page 6-23, **Subarticle 610-3(A)**

Under the quantities of mix components insert the following sentence:

When requested by the Engineer, submit to the Department's Materials and Tests Unit, in Raleigh, six (6) Superpave Gyrotory Compactor specimens compacted to a height of 75 mm and to a void content (VTM) of 4.0% +/- 0.5% for performance rut testing with the Asphalt Pavement Analyzer.

JOB MIX FORMULA

Page 6-24, **Subarticle 610-3(C)**

Delete Table 610-1 and associated notes. Substitute the following:

**TABLE 610-1
SUPERPAVE AGGREGATE GRADATION DESIGN CRITERIA**

Standard d	Percent Passing Criteria (Control Points)											
	Sieves											
(mm)	Mix Type (Nominal Maximum Aggregate Size)											
	4.75 mm (a)		9.5 mm (c)		12.5 mm (c)		19.0 mm		25.0 mm		37.5 mm	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
50.0											100.0	
37.5									100.0		90.0	100.0
25.0							100.0		90.0	100.0		90.0
19.0					100.0		90.0	100.0		90.0		
12.5			100.0		90.0	100.0		90.0				
9.5	100.0		90.0	100.0		90.0						
4.75	90.0	100.0		90.0								
2.36	65.0	90.0	32.0(b)	67.0(b)	28.0	58.0	23.0	49.0	19.0	45.0	15.0	41.0
1.18												
0.600												
0.300												
0.150												
0.075	4.0	8.0	4.0	8.0	4.0	8.0	3.0	8.0	3.0	7.0	3.0	6.0

- (a) For Type S 4.75A, a minimum of 50% of the aggregate components shall be manufactured material from the crushing of stone.
- (b) For Type SF 9.5A, the percent passing the 2.36mm sieve shall be a minimum of 60% and a maximum of 70%.
- (c) For the final surface layer of the specified mix type, use a mix design with an aggregate blend gradation above the maximum density line on the 2.36 mm and larger sieves.

Page 6-25, Subarticle 610-3(C),

Delete Table 610-2 and associated notes. Substitute the following:

**TABLE 610-2
SUPERPAVE MIX DESIGN CRITERIA**

Mix	Design ESALs	Binder PG	Compaction Levels			Volumetric Properties (c)			
Type	millions	Grade	No. Gyration @			VMA	VTM	VFA	%Gmm
(f)	(a)	(b)	N _{ini}	N _{des}	N _{max}	% Min.	%	Min. - Max.	@ N _{ini}
S-4.75A	<0.3	64 -22	6	50	75	20.0	7.0-15.0		
SF-9.5A	<0.3	64 -22	6	50	75	16.0	3.0 - 5.0	70 - 80	≤ 91.5
S-9.5B	0.3 - 3	64 -22	7	75	115	15.0	3.0 - 5.0	65 - 80	≤ 90.5
S-9.5C	3 - 30	70 -22	8	100	160	15.0	3.0 - 5.0	65 - 76	≤ 90.0
S-12.5C	3 - 30	70 -22	8	100	160	14.0	3.0 - 5.0	65 - 75	≤ 90.0
S-12.5D	> 30	76 -22	9	125	205	14.0	3.0 - 5.0	65 - 75	≤ 90.0
I-19.0B	< 3	64 -22	7	75	115	13.0	3.0 - 5.0	65 - 78	≤ 90.5
I-19.0C	3 - 30	64 -22	8	100	160	13.0	3.0 - 5.0	65 - 75	≤ 90.0
I-19.0D	> 30	70 -22	9	125	205	13.0	3.0 - 5.0	65 - 75	≤ 90.0
B-25.0B	< 3	64 -22	7	75	115	12.0	3.0 - 5.0	65 - 78	≤ 90.5
B-25.0C	> 3	64 -22	8	100	160	12.0	3.0 - 5.0	65 - 75	≤ 90.0
B-37.5C	> 3	64 -22	8	100	160	11.0	3.0 - 5.0	63 - 75	≤ 90.0
	<i>Design Parameter</i>				<i>Design Criteria</i>				
All	1. %G _{mm} @ N _{max}				≤ 98.0% (d)				
Mix	2. Dust to Binder Ratio (P _{0.075} / P _{be})				0.6 - 1.4				
Types	3. Retained Tensile Strength (TSR) (AASHTO T 283 Modified)				85 % Min. (e)				

- Notes:**
- (a) Based on 20 year design traffic.
 - (b) When Recycled Mixes are used, select the binder grade to be added in accordance with Subarticle 610-3(A).
 - (c) Volumetric Properties based on specimens compacted to N_{des} as modified by the Department.
 - (d) Based on specimens compacted to N_{max} at selected optimum asphalt content.
 - (e) AASHTO T 283 Modified (No Freeze-Thaw cycle required). TSR for Type S 4.75A, Type B 25.0 and Type B 37.5 mixes is 80% minimum.
 - (f) Mix Design Criteria for Type S 4.75A may be modified subject to the approval of the Engineer

WEATHER, TEMPERATURE, AND SEASONAL LIMITATIONS FOR PRODUCING AND PLACING ASPHALT MIXTURES

Page 6-26, **Article 610-4, Table 610-3**

Delete the title of **Table 610-3** and substitute the following title:

ASPHALT PLACEMENT- MINIMUM TEMPERATURE REQUIREMENTS

In the first column, third row; delete reference to the ACSC Types S 9.5A and S 12.5B mix.

Add the following minimum placing temperatures for mix types S 4.75A and SF 9.5A.

Asphalt Concrete Mix Type	Minimum Air Temperature	Minimum Road Surface Temperature
ACSC, Type S 4.75A, SF 9.5A	40°F (5°C)	50°F (10°C)

SPREADING AND FINISHING

Page 6-32, **Article 610-8**

Insert the following after the second sentence within the sixth paragraph.

Take necessary precautions during production, loading of trucks, transportation, truck exchanges with paver, folding of the paver hopper wings, and conveying material in front of the screed to prevent segregation of the asphalt mixtures.

Page 6-32, **Article 610-8**

Delete the last paragraph beginning on this page and continuing on the next page and substitute the following:

Use pavers equipped with an electronic screed control that will automatically control the longitudinal profile and cross slope of the pavement. Control the longitudinal profile through the use of either a mobile grade reference(s), including mechanical, sonic and laser grade sensing and averaging devices, an erected string line(s) when specified, joint matching shoe(s), slope control devices or the approved methods or combination of methods. Unless otherwise specified, use a mobile grade reference system capable of averaging the existing grade or pavement over a minimum 30 foot (9.1 meter) distance or by non-contacting laser or sonar type ski with at least four referencing stations mounted on the paver at a minimum length of 24 feet. Establish the position of the reference system such that the average profile grade is established at the approximate midpoint of the system. The transverse cross-slope shall be controlled as directed by the Engineer.

Page 6-33, Article 610-8

Delete the second full paragraph on this page and substitute the following:

Use the 30 foot (9.1 meter) 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 courses, including resurfacing and asphalt in-lays, unless other specified or approved. A joint matching device short (6 inch [152.4 mm] shoes) may be used only when approved.

At the end of the third full paragraph, add the following sentence:

Waiver of the use of automatic screed controls does not relieve the Contractor of achieving plan grades and cross-slopes.

Insert the following as the last paragraph:

Repair any damage caused by hauling equipment across structures at no additional cost to the Department.

DENSITY REQUIREMENTS

Page 6-34, Article 610-10,

Delete Table 610-4 and substitute the following table and associated notes:

Table 610-4
MINIMUM DENSITY REQUIREMENTS

MIX TYPE	MINIMUM % of G_{mm}
SUPERPAVE MIXES	(Maximum Specific Gravity)
S 4.75A	85.0 ^(a,b)
SF 9.5A	90.0
S 9.5X, S 12.5X, I 19.0X, B 25.0X, B 37.5X	92.0

- (a) All S 4.75A pavement will be accepted for density in accordance with Article 105-3
- (b) Compaction to the above specified density will be required when the S 4.75 A mix is applied at a rate of 100 lbs/sy (55 kg/m²)

Page 6-34, Article 610-10

Delete the second paragraph and substitute the following:

Compact base and intermediate mix types (surface mixes not included) utilized for pavement widening of less than 4.0 feet (1.2 meters) and all mix types used in tapers, irregular areas and intersections (excluding full width travel lanes of uniform thickness), using equipment and procedures appropriate for the pavement area width and/or shape. Compaction with equipment other than conventional steel drum rollers may be necessary to achieve adequate compaction. Occasional density sampling and testing to evaluate the compaction process may be required. Densities lower than that specified in Table 610-4 will be accepted, in accordance with Article 105-3, for the specific mix types and areas listed directly above.

SURFACE REQUIREMENTS AND ACCEPTANCE**Page 6-35, Article 610-12**

Delete the first paragraph and substitute the following:

Construct pavements using quality paving practices as detailed herein. Construct the pavement surface smooth and true to the plan grade and cross slope. Immediately correct any defective areas with satisfactory material compacted to conform with the surrounding area. Pavement imperfections resulting from unsatisfactory workmanship such as segregation, improper longitudinal joint placement or alignment, non-uniform edge alignment and excessive pavement repairs will be considered unsatisfactory and if allowed to remain in place will be accepted in accordance with Article 105-3.

When directed due to unsatisfactory laydown or workmanship, operate under the limited production procedures. Limited production for unsatisfactory laydown is defined as being restricted to the production, placement, compaction, and final surface testing (if applicable) of a sufficient quantity of mix necessary to construct only 2500 feet (750 meter) of pavement at the laydown width.

Remain on limited production until such time as satisfactory laydown results are obtained or until three consecutive 2500 foot (750 meter) sections have been attempted without achieving satisfactory laydown results. If the Contractor fails to achieve satisfactory laydown results after three consecutive 2500 foot (750 meter) sections have been attempted, cease production of that mix type until such time as the cause of the unsatisfactory laydown results can be determined. As an exception, the Engineer may grant approval to produce a different mix design of the same mix type if the cause is related to mix problem(s) rather than laydown procedures.

Mix placed under the limited production procedures for unsatisfactory laydown or workmanship will be evaluated for acceptance in accordance with Article 105-3.

DENSITY ACCEPTANCE

Page 6-36, Article 610-13

Delete the second paragraph and substitute the following:

The pavement will be accepted for density on a lot by lot basis. A lot will consist of one day's production of a given job mix formula on a contract. As an exception, separate lots will be established when the one of the following occurs:

- (1) Portions of pavement are placed in both "New" and "Other" construction categories as defined below. A lot will be established for the portion of the pavement in the "New" construction category and a separate lot for the portion of pavement in the "Other" construction category.
- (2) Pavement is placed on multiple resurfacing maps, unless otherwise approved prior to paving. A lot will be established for each individual resurfacing map or portion thereof.
- (3) Pavement is placed by multiple paving crews. A lot will be established for the pavement placed by each paving crew.
- (4) Pavement is placed in different layers. A lot will be established for each layer.
- (5) Control strips are placed during limited production.

The Engineer will determine the final category and quantity of each lot for acceptance purposes.

Page 6-36, Article 610-13

Delete the first sentence in the third paragraph and insert the following:

The "New" construction category will be defined as pavements of uniform thickness, exclusive of irregular areas, meeting all three of the following criteria:

Delete the sixth paragraph and substitute the following:

A failing lot for density acceptance purposes is defined as a lot for which the average of all test sections, and portions thereof, fails to meet the minimum specification requirement. If additional density sampling and testing, beyond the minimum requirement, is performed and additional test sections are thereby created, then all test results shall be included in the lot average. In addition, any lot or portion of a lot that is obviously unacceptable will be rejected for use in the work.

Page 6-36, Article 610-13

Delete the last paragraph and substitute the following:

Any density lot not meeting minimum density requirements detailed in Table 610-4 will be evaluated for acceptance by the Engineer. If the lot is determined to be reasonably acceptable, the mix will be paid at an adjusted contract price in accordance with Article 105-3. If the lot is determined not to be acceptable, the mix will be removed and replaced with mix meeting and compacted to the requirement of these specifications.

BASIS OF PAYMENT, ASPHALT PAVEMENTS

Page 6-37, Article 610-16

Add the following to the second paragraph:

The quantity of hot mix asphalt pavement, measured as provided in Article 610-15, will be paid for at the contract unit prices per ton (metric ton) for “Asphalt Concrete Surface Course, Type S 4.75A, and SF 9.5A”.

Add the following to the payment item description:

Asphalt Concrete Surface Course, Type S 4.75A	Ton (Metric Ton)
Asphalt Concrete Surface Course, Type SF 9.5A	Ton (Metric Ton)

Delete reference to the Asphalt Concrete Surface Course, Types S 9.5A and S 12.5B in both the second paragraph and in the payment description.

ASPHALT BINDER FOR PLANT MIX - METHOD OF MEASUREMENT

Page 6-39, Article 620-4

Delete the first sentence of the second paragraph and substitute the following:

Where recycled plant mix is being produced, the grade of asphalt binder to be paid for will be the grade for the specified mix type as required in Table 610-2 unless otherwise approved.

OPEN-GRADED ASPHALT FRICTION COURSE CONSTRUCTION REQUIREMENTS

Page 6-43, Article 650-5

Add the following paragraph after the first paragraph:

Do not place open-graded asphalt friction course between October 31 and April 1 of the next year, unless otherwise approved. Place friction course, Type FC-1 mixes, only when the road surface temperature is 50°F (10°C) or higher and the air temperature is 50°F (10°C) or higher.

The minimum air temperature for Type FC-1 Modified and FC-2 Modified mixes will be 60°F (15°C).

AGGREGATES FOR ASPHALT PLANT MIXES

Page 10-34, **Subarticle 1012-1(B)4**

Delete and substitute the following:

(4) Flat and Elongated Pieces:

Use coarse aggregate meeting the requirements of Table 1012-1 for flat and elongated pieces when tested in accordance with ASTM D 4791 (Section 8.4) on the No. 4 (4.75 mm) sieve and larger with a 5:1 aspect ratio (maximum to minimum) for all pavement types, except there is no requirement for Types S 4.75A, SF 9.5A, and S 9.5B.

Page 10-35, **Table 1012-1**

Delete **Table 1012-1** and substitute the following:

**Table 1012-1
AGGREGATE CONSENSUS PROPERTIES^(a)**

Mix Type	Course Aggregate	Fine Aggregate	Sand Equivalent	Flat & Elongated
	Angularity ^(b)	Angularity		5 : 1 Ratio
		% Minimum	% Minimum	% Maximum
	ASTM D 5821	AASHTO T 304 Method A	AASHTO T 176	ASTM D 4791 Section 8.4
S 4.75 A		40	40	
SF 9.5 A S 9.5 B I 19.0 B B 25.0 B	75 / -	40	40	10 ^(c)
S 9.5 C S 12.5 C I 19.0 C B 25.0 C B 37.5 C	95 / 90	45	45	10
S 12.5 D I 19.0 D	100 / 100	45	50	10
OGAFC	100 / 100	N/A	N/A	10

(a) Requirements apply to the course aggregate blend and/or fine aggregate blend

(b) 95/90 denotes that 95% of the course aggregate (+No.4 or + 4.75mm sieve) has one fractured face and 90% has two or more fractured faces.

(c) Does not apply to Mix Types SF 9.5 A or S 9.5 B

Page 10-36, **Subarticle 1012-1(C)1**

Insert the following after the fourth paragraph:

When natural sand is utilized in “C” or “D” level asphalt mixes, do not exceed the maximum natural sand percentage in the mix design and/or production aggregate blend detailed in Table 1012-1A.

Table 1012-1A

Uncompacted Void Content of Fine Aggregate AASHTO T 304 Method A	Maximum Percent Natural Sand Included in Mix Design and/or Production*
Less than 42.0	10
Equal to 42.0 to 44.9	15
Equal to 45.0 and greater	20

*Maximum percent natural sand may be exceeded with approval from Pavement Construction Engineer upon satisfactory evaluation of pavement performance testing

FINE AGGREGATE ANGULARITY

Page 10-36, **Subarticle 1012-1(C)6**

Delete reference to AASHTO TP 33 Method A and substitute AASHTO T 304, Method A.

Page 10-37, **Subarticle 1012-1(H)**

Delete this Subarticle. It is a duplicate of Subarticle 1012-1(F) located on Page 10-36.

ASPHALT BINDER

Page 10-46, **Article 1020-2**

Delete the first paragraph and substitute the following:

Use Performance Graded Asphalt Binder meeting the requirements of AASHTO M 320. See Article 610-3 for the specified grades. Submit a Quality Control Plan for asphalt binder production in conformance with the requirements of AASHTO R 26 to the Materials and Tests Unit.

RR31

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:

1-01-02_R

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 Standard Specifications or Project Special Provisions.

RR43

FORCE ACCOUNT WORK

10-18-05

Revise the *Standard Specifications* as follows:

Page 1-67, Article 109-3, delete this article and replace with the following:

All force account work shall be performed as directed by the Engineer including the numbers and types of equipment, the numbers and classifications of labor and foremen, and material requirements.

All work to be paid for on a force account basis will be paid for in the following manner:

- (A) **Labor** For all authorized labor and foremen in direct charge of the specific operations, the Contractor will receive the rate of base (actual) wages (or scale) actually being paid by the Contractor for each hour that the labor and foremen are actually engaged in the specific force account work.

In addition to reimbursement for each hour that the labor and foremen are actually engaged in the specific force account work, the Contractor may receive compensation for travel time to and from the project if and only if the labor and foremen needed are outside a 75 mile radius as included in Section 109-3(B). The base location will be established and approved by the Engineer prior to performing the specific force account work. If the approved labor and foremen travel to another project upon completion of the specific force account work, payment for travel time may not exceed the travel time that would have been required to return to the point of origin in accordance with Section 109-3(B). When travel time is approved by the Engineer, it shall be included in the total hours approved and worked for that specific week. The Engineer will approve the mode of travel.

Prior to beginning the specific force account work, the Contractor shall submit in writing for the Engineer's approval a list of all wage rates applicable to the work. Approval will not be granted where these wage rates are not actually representative of wages being paid elsewhere on the project for comparable classes of labor performing similar work.

Payment for overtime will be allowed when approved by the Engineer prior to performing the specific force account work. Overtime for labor and foremen will be paid based on the company's policy for overtime payment. Verification of such payment will be tracked by submission of weekly payrolls as required on federal projects and as requested on all other projects. Failure to submit payrolls as required or requested shall act as a bar to the Contractor for payment of overtime for labor and foremen. If the labor or foremen is employed partly on specific force account work and partly on other work, the amount of overtime to be reimbursed will be prorated based upon the number of hours worked on the specific force account work during the payroll period.

An additive amount equal to the Contractor's actual labor burden rate, up to a maximum of 60 percent, will be paid to the Contractor for all base (actual) wages paid to labor and foremen for the specific force account work. No additive will be provided for overtime payments. The labor burden rate(s) will include costs associated with the employee's actual base wages benefits, including FICA, unemployment contributions, Social Security and Medicare taxes and company

fringe benefits. Company fringe benefits are the actual costs paid to, or on behalf of, workmen by reason of health and welfare benefits, pension fund benefits, or other benefits, when such amounts are required by prevailing wage laws generally applicable to the classes of labor employed on the work. The Contractor's actual labor burden rate(s) shall be submitted to and approved by the Engineer prior to beginning the work. When the Contractor cannot verify actual labor burden rate(s), an amount equal to 35 percent of the total base (actual) wage paid for labor and foremen will be added to the total base wages paid to the Contractor. These percentage additives will be full compensation for overhead, benefits, contingencies, and all other costs associated with labor for the specific force account work.

- (B) **Subsistence and Travel Allowances** The Contractor may receive payment for actual costs paid to, or on behalf of, labor and foremen by reason of subsistence and travel allowances under certain circumstances. When the Contractor is required to mobilize a crew for specific operations, the Engineer may approve reimbursement of subsistence, including meals and overnight lodging, if the specific force account work is determined to be outside of the scope of the original contract and the distance from the Contractor's base location to the project is more than 75 miles. Should the Contractor utilize forces currently working at the location of the specific force account work, the Engineer may approve the payment of subsistence, including meals and overnight lodging, if the work is determined to be outside of the scope of the original contract, the forces currently working at the location have routinely stayed overnight during the life of the project, and the distance from the Contractor's base location to the project is more than 75 miles. The Engineer will approve the mode of travel.

Payment will be made to the Contractor for subsistence, including meals and overnight lodging, paid in accordance with the Contractor's usual policy for authorized labor and foremen in direct charge of the specific operations.

Subsistence will be limited to the lesser of actual amount paid or the current maximum in-state rate for State employees. Verification of such costs paid to, or on behalf of, labor and foremen shall be submitted to the Engineer. If the labor or foremen are partly employed on specific force account work and partly on other work, the amount of subsistence to be reimbursed will be prorated based upon the number of hours worked on the specific force account work during the payroll period.

- (C) **Materials** For materials authorized and accepted by the Engineer and used, the Contractor will receive the actual cost of such materials, including sales tax and transportation charges paid by him (exclusive of equipment rentals as hereinafter set forth), to which costs 15 percent will be added. The Contractor shall furnish records to the Engineer to verify the quantities of materials used in the specific force account work, prices of the materials, sales tax, and costs of transportation for the materials.

If materials used in the specific force account work are not specifically purchased for such work but are taken from the Contractor's stock, the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, the quantity was actually used in the specific force account work, and the price and transportation cost claimed represent the actual cost to the Contractor.

- (D) **Equipment** For all equipment authorized by the Engineer to be used on the specific force account work the Contractor will receive rental payment. Hourly rental rates paid for equipment in use, which is Contractor owned or rented from another Contractor, will not exceed 1/176th of the monthly rate listed in the *Rental Rate Blue Book for Construction Equipment* that is current at the time the specific force account work is performed.

In determining the hourly rate, the regional adjustment factor and the rate adjustment factor for equipment age, as set forth in the current *Blue Book*, will both be applied to the basic rate. An additive payment equal to 100 percent of the *Blue Book* estimated operating cost per hour will also be paid for all hours equipment is in use. This additive payment will be full compensation for fuel, lubricants, repairs, servicing (greasing, fueling, and oiling), small tools, and other incidentals.

If rental rates for the equipment actually being used in the work are not listed in the *Blue Book*, the Contractor will receive the prevailing rental rates being paid for such equipment in the area where the project is located. An additive payment equal to 15 percent of the prevailing rental rate will also be paid for all hours equipment is in use. This additive payment will be full compensation for fuel, lubricants, repairs, servicing (greasing, fueling, and oiling), small tools, and other incidentals.

Hourly rental rates for equipment held in ready as directed by the Engineer will be 50 percent of the rate paid for equipment in use. An additive payment will not be made for equipment held in ready. When equipment is in use less than 40 hours for any given week and is held in ready as directed by the Engineer, payment for held in ready time will be allowed for up to 40 hours, less hours in use. When payment is made for equipment held in ready as directed by the Engineer, the payment for held in ready time will be allowed for up to 8 hours in a day less hours in use.

Hourly rental rates for idle equipment held in ready in accordance with Article 104-4 will be 50 percent of the rate paid for equipment in use. Hourly rental rates for idle equipment held in ready in accordance with Article 104-4 that is rented from a commercial rental agency will be paid for in accordance with the invoice rate for the equipment. An additive payment will not be made for idle equipment. When equipment is in use less than 40 hours for any given week and is held in ready as idle equipment in accordance with Article 104-4, payment for idle equipment time will be allowed for up to 40 hours, less hours in use. When payment is made for idle equipment held in ready in accordance with Article 104-4, the payment for idle equipment time held in ready will be allowed for up to 8 hours in a day less hours in use.

In the event the Contractor does not possess or have readily available such equipment necessary for the performance of the work and such equipment is rented from a commercial rental agency, the Contractor will receive payment based on the approved invoice rate for the equipment.

An additive payment equal to 15 percent of the calculated hourly invoice rate will also be paid for all hours equipment is in use. This additive payment will be full compensation for fuel, lubricants, repairs, servicing (greasing, fueling and oiling), small tools, and other incidentals. The commercial rental agency shall not be the Contractor or an affiliate of the Contractor.

No compensation will be made for the use of equipment not authorized by the Engineer.

The Contractor will be reimbursed for the actual transportation costs for equipment which the Contractor is directed to furnish. Such payment will be limited to transportation costs from the nearest source of available equipment. If equipment is not returned to the point of origin, but is transported to another location, transportation costs will not exceed the cost of return to the point of origin. Rental for such equipment will not be paid when the equipment is being transported. The Contractor shall furnish records to the Engineer to verify the actual transportation costs for equipment.

The Contractor shall provide to the Engineer for approval a listing of all equipment and attachments to be utilized in the prosecution of the work. The list shall include the manufacturer's name, type, model, serial number, and year of manufacture. The list shall also include the invoice rate for equipment rented from a commercial rental agency. It shall be the Contractor's responsibility to verify the age of the equipment in a manner acceptable to the Engineer. Where such verification is not available, the rate adjustment factor used will be for the oldest equipment listed in the Blue Book.

The above prices and payments will be full compensation for fuel, lubricants, cutting edges, all repairs, and all other operating and maintenance costs other than operator's wages.

- (E) **Owner-Operated Equipment** For all owner-operated equipment authorized by the Engineer to be used on the specific force account work, the Contractor will receive rental payment equal to the existing contract rate(s) with no additive as provided in Items 109-3(A), 109-3(B), 109-3(D) and 109-3(H). When existing contract rate(s) have not been established, the contractor shall submit the proposed rate(s) for the owner-operated equipment with sufficient documentation as deemed necessary by the Engineer for approval.

For fully maintained and operated trucks used for the specific force account work, the Contractor will receive rental payment equal to the existing contract rate(s) with no additive as provided in Items 109-3(A), 109-3(B), 109-3(D) and 109-3(H). When existing contract rate(s) have not been established, the prevailing industry rate(s) for fully maintained and operated trucks will be used for the specific force account work with approval of the Engineer.

For the purposes of force account work, owner-operated equipment, including fully maintained and operated trucks, will be considered subcontractors. No additional additives other than those allowed under Item 109-3(G) will be allowed.

- (F) **Miscellaneous** No additional allowance will be made for general superintendence, the use of manually powered tools, or other costs for which no specific allowance is herein provided.

- (G) **Subcontracting** For administrative costs of the Contractor in connection with approved subcontract work at any level and the use of owner-operated equipment at any level, the Contractor will receive an additive amount in accordance with the rate schedule shown below of the total cost of such subcontracted work. The total cost of such subcontracted work will include applicable labor and additive, bond and insurance, materials, and equipment costs incurred by the subcontractor; overhead and profit computed in accordance with Items 109-3(A) through 109-3(D), 109-3(F), 109-3(H) and 109-3(I); and costs for owner-operated equipment, including fully maintained and operated trucks in accordance Item 109-3(E). No additional additives will be allowed.

<u>Total Cost of Subcontract Work</u>	<u>Rate Schedule</u>
\$0 - \$10,000	10%
Above \$10,000	\$1,000 + 5% Above \$10,000

- (H) **Overhead and Profit** An additive payment equal to 10 percent of the specific force account total will be paid to the Contractor. This specific force account total is exclusive of the portion of the work included with Item 109-3(C), Materials, Item 109-3(E), Owner-Operated Equipment and Item 109-3(G), Subcontracting. This payment will be full compensation for all costs including but not limited to home office and field overhead, burdens, and profit associated with the specific force account work.

An additive payment equal to 10 percent of the specific force account total for approved subcontract work will also be paid to the subcontractor for overhead and profit. This specific force account total for subcontract work is exclusive of the portion of the work included with Item 109-3(C), Materials and Item 109-3(E), Owner-Operated Equipment. This payment will be full compensation for all costs including but not limited to home office and field overhead, burdens, and profit associated with the specific force account subcontracted work. No additional additives will be allowed.

- (I) **Bond and Insurance** For property damage and liability insurance premiums and bond premiums on the specific force account work, the Contractor will receive the actual cost. The Contractor shall furnish satisfactory evidence to the Engineer of the rate or rates paid for such insurance and bond.

An annualized composite percentage may be used to determine the cost for bond and insurance. Insurance costs will be limited to the direct costs associated with the specific force account work. The Contractor shall furnish satisfactory evidence to the Engineer of the annualized composite percentage for the bond and insurance.

- (J) **General** The Engineer will maintain the payment records of work performed on a force account basis. The Contractor shall compare records of work with the Engineer at the end of each day on which such work is in progress.

Any contention the Contractor may have for an extension in the completion date, intermediate completion date, or intermediate completion time, due to performance of specific force account work will be considered as provided in Article 108-10. RG105

RESURFACING EXISTING BRIDGES:

7-1-95

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 which 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. RR61

PAVING INTERSECTIONS:

7-1-95

Surface all unpaved intersections back from the edge of the pavement on the main line of the project a minimum distance of 50 feet. The pavement placed in the intersection must 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. RR67

ADJUSTMENT OF MANHOLES, METER BOXES, AND VALVE BOXES:

Utility adjustments on this project shall be made in accordance with Article 858-3 of the 2002 Standard Specifications and Division 7 Standard Drawing 858.01 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 **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.

RR103 REVISED

RETROFITTING WHEELCHAIR RAMPS WITH DETECTABLE WARNINGS (RAISED TRUNCATED DOMES)

10-21-03

DESCRIPTION

This work shall consist of retrofitting existing concrete wheelchair ramps with detectable warnings in accordance with the details, Standard Specifications and these provisions.

MATERIALS

Detectable warnings may be either truncated dome concrete paving blocks or stamped concrete. Use Class B concrete in accordance with the Standard Specifications.

Truncated Domes shall have a base diameter of no less than 0.9 inches (23 mm) to no more than 1.4 inches (36 mm), a top diameter of no less than 50 % to no more than 65% of the base diameter, and a height of 0.2 inches (5 mm). Truncated domes shall have center-to-center spacing of no less than 1.6 inches (41 mm) to no more than 2.4 inches (61 mm), and a base to base spacing of 0.65 inches (16 mm) minimum, measured between the most adjacent domes on square grid.

CONSTRUCTION METHODS

Place detectable warnings in accordance with Section 825-4 of the Standard Specifications. Sawcut to the full depth of the concrete and adjust the existing subgrade to the proper grade prior to placing concrete to be stamped or installing paving blocks. Truncated domes shall be installed 24 inches (600 mm) in length of along the bottom of the curb ramps in accordance with the details and plans.

Obtain 70 percent contrast visibility with adjoining surfaces, either light-on-dark, or dark-on-light sequence covering the entire ramp. The detectable warnings shall have the same or nearly the same contrast as the existing ramp.

METHOD OF MEASUREMENT

The quantity of detectable warning domes to be paid for will be the actual number of retrofitted wheelchair ramps, which have been completed and accepted.

BASIS OF PAYMENT

When detectable warning domes are installed on existing concrete wheelchair ramps, they will be paid for at the contract unit price per each for "Retrofit existing wheelchair ramps". Such price and payment will be full compensation for excavation and backfilling; sawing, repairing and/or replacing the existing sidewalk or curbs within the pay limits for retrofit shown on the detail; pavement repairs; furnishing and placing detectable warnings, construction joints and removal and disposal of existing sidewalk and curb and gutter when required and for all materials labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

Pay item	Pay Unit	
Retrofit Existing Wheelchair Ramps	Each	RR105

WHEELCHAIR RAMPS FOR RESURFACING PROJECTS: 08-19-03

DESCRIPTION

The work covered by this provision consists of the construction of Portland cement concrete wheelchair ramps with detectable warnings on resurfacing projects and includes but is not limited to the removal and disposal of any existing sidewalk, curb and/or gutter, and pavement which is necessary for construction of wheelchair ramps as well as the repair of the existing curb and/or gutter after construction of the wheelchair ramp.

MATERIALS

Provide materials meeting the requirements of Division 10 of the Standard Specifications shown below:

Portland Cement Concrete.....	Section 1000
Curing Agents.....	Section 1026
Joint Fillers.....	Article 1028-1
Joint Sealers.....	Article 1028-2

Detectable warnings may be either truncated dome concrete paving blocks or stamped concrete. Use Class B concrete in accordance with the Standard Specifications. Raised Truncated Domes shall conform to the following:

Truncated Domes shall have a base diameter of no less than 0.9 inches to no more than 1.4 inches, a top diameter of no less than 50% to no more than 65% of the base diameter, and a height of 0.2 inches. Truncated domes shall have a center-to-center spacing of no less than 1.6 inches to no more than 2.4 inches, and a base to base spacing of 0.65 inches measured between the most adjacent domes on square grid.

CONSTRUCTION REQUIREMENTS

Construct wheelchair ramps in accordance with details in the plans and make all repairs prior to the resurfacing operation.

Construct wheelchair ramps at all locations that contain curb and gutter. Retrofit existing sidewalks only. Connect the ramp to the existing sidewalk when the sidewalk is in the right of way. Where it is necessary to remove a portion of existing sidewalks, curb and/or gutter and pavement, furnish a neat edge along the surface to be retained by sawing a neat cut approximately 2 inches deep with a concrete saw prior to removing the existing materials.

Construct concrete in accordance with Section 825 of the Standard Specifications and give it a sidewalk finish, except as otherwise provided. Perform brooming of the concrete surface transverse to the direction of traffic. Use a minimum joint spacing of 5 feet. Where existing sidewalks are being connected to the ramp, locate transverse joints so as to line up with existing joints in the adjacent sidewalk. Do not seal grooved joints.

Obtain 70 percent contrast visibility with adjoining surfaces, either light-on-dark, or dark-on-light sequence covering the entire surface of the ramp.

Do not place backfill adjacent to the constructed sidewalk, or wheelchair ramp until at least 3 curing days have elapsed as defined in Article 825-9 of the Standard Specifications. Place backfill no later than 4 calendar days after the completion of this 3 curing day time period. Compact backfill to a degree comparable to the adjacent undisturbed material.

METHOD OF MEASUREMENT

The quantity of wheelchair ramps to be paid for will be the actual number of wheelchair ramps installed, which have been completed and accepted. No separate measurement will be made for the removal and disposal or repair of existing curb and gutter, sidewalk and pavement or the connection to existing sidewalk in the right of way.

BASIS OF PAYMENT

The quantity of wheelchair ramps, measured as provided for above, will be paid for at the contract unit price each for Wheelchair Ramps. Such price and payment will be full compensation for all work covered by this provision including but not limited to excavation and backfilling; sawing, repairing and/or replacing the existing sidewalk or curbs within the pay limits for retrofit shown on the detail; pavement repairs; furnishing and placing concrete; furnishing and placing detectable warnings, construction joints and removal and disposal of existing sidewalk and curb and gutter when required and for all materials labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

Wheelchair Ramps.....Each

Payment for and construction of sidewalk necessary outside the pay limits shown on the detail will be in accordance with Section 848.

RR107

AGGREGATE PRODUCTION:

11-20-01

Provide aggregate from a producer who utilizes the new 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 utilize the new program. Participation in the new program does not relieve the producer of the responsibility of complying with all requirements of the Standard Specifications. Copies of this procedure are available upon request from the Materials and Test Unit.

RR109

CONCRETE BRICK AND BLOCK PRODUCTION:

11-20-01

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

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

RR112

DRUMS:

07-16-02

Revise the 2002 Standard Specifications as follows:

Page 10-195, Subarticle 1089-5(C)

Delete the first (1st) sentence of the first (1st) paragraph and insert the following:

“Provide a minimum of three orange and two white alternating horizontal circumferential stripes covering the entire outside with each drum.”

RR116

REMOVAL OF EXISTING PAVEMENT MARKERS:

7-1-95

The Contractor's attention is directed to the fact that there are pavement markers on this project.

Remove existing pavement markers ion preparation for paving. Repair any pavement damage due to removal of existing pavement marker **prior to the end of the work day**. Dispose of existing pavement markers as directed by the Engineer.

No direct payment will be made for this work, as it will be incidental to the paving operation and payment at the contract unit price for the various asphalt items in the contract will be full compensation for such work.

RR118

PAVEMENT MARKING GENERAL REQUIREMENTS:07-16-02_C

The provisions of Section 1205 of the 2002 Standard Specifications shall apply with the following exception:

Revise the 2002 Standard Specifications as follows:

Page 12-10, Subarticle 1205-3(J)

Delete the 1st sentence of the 1st paragraph and insert the following:

Have at least one member of every pavement marking crew working on a project certified through the NCDOT Pavement Marking Technician Certification Process. For more information contact the Traffic Control, Marking and Delineation Section of the North Carolina Department of Transportation at 919-250-4151 or <http://www.doh.dot.state.nc.us/construction/wztc/>

RR119