PROJECT SPECIAL PROVISIONS

ROADWAY

LUMP SUM GRADING:

(8-17-10) 226 SP2 R16

Lump sum grading shall be performed in accordance with Section 226 Comprehensive Grading of the *2012 Standard Specifications* except as follows:

Delete all references to Section 230, Borrow Excavation and Section 250, Removal of Existing Concrete Pavement.

SHOULDER RECONSTRUCTION PER SHOULDER MILE:

(11-16-10) (Rev. 1-17-12) 560 R1 R07 F(Rev.)

Description

This work consists of reconstructing each shoulder (including median shoulders as applicable) in accordance with Standard Drawing No. 560.01 and 560.02 of the *2012 Roadway Standard Drawings*, from the existing edge of pavement out to a width of 6', except that the rate of slope and width will be as shown on typical section, or to the existing shoulder point, whichever is nearer, as long as the desired typical is achieved, and when completed, seeding and mulching. This work shall be performed immediately after the resurfacing operations are complete as directed by the Engineer.

Materials

The Contractor shall furnish all earth material necessary for the construction of the shoulders in accordance with Section 1019 of the *2012 Standard Specifications*. All soil is subject to test and acceptance or rejection by the Engineer.

The Contractor shall obtain any additional material which may be required from within the project limits where widening operations are being performed, from NCDOT approved borrow pits or from NCDOT stockpiles. Contractor shall be responsible for loading, hauling and placement of material. A list of current stockpile locations may be obtained by contacting the Columbus County Maintenance Yard at 910-642-7597.

Construction Methods

Obtain material from within the project limits or approved borrow source. Prior to adding borrow material, the existing shoulder shall be scarified to provide the proper bond and shall be compacted to the satisfaction of the Engineer. Material shall be placed using a widening machine or similar device.

A vegetative buffer shall be maintained between the disturbed area along the edge of pavement and the ditch shoulder point to minimize erosion. The Contractor will not be allowed to cut the existing shoulders, or pull the existing ditches to generate material for the shoulder reconstruction operation.

Where the existing roadway is being widened, material from the widening trench may be windrowed or stockpiled on the adjacent shoulder for shoulder reconstruction use. However, the vegetative buffer must be maintained at all times. If it cannot be maintained, proper erosion control features shall be used. Windrowed material may be spread with a motor grader.

Any excess material generated by the shoulder reconstruction shall be disposed of by the Contractor in an approved disposal site at the Contractor's expense.

Measurement and Payment

Shoulder Reconstruction will be measured and paid as the actual number of miles of shoulders that have been reconstructed. Measurement will be made along the surface of each shoulder to the nearest 0.01 of a mile. Such price will include disposing of any excess material in an approved disposal site, and for all labor, tools, equipment, and incidentals necessary to complete the work.

Borrow Excavation will be paid in accordance with Section 230 of the *2012 Standard Specifications* for earth material furnished by the Contractor. The requirements of Article 104-5 of the *2012 Standard Specifications* pertaining to revised contract prices for overrunning minor items will not apply to the item of *Borrow Excavation.*

Incidental Stone Base will be measured and paid as provided in Article 545-6 of the *2012 Standard Specifications.*

Seeding and Mulching will be measured and paid as shown elsewhere in the contract documents.

Payment will be made under:

Pay Item	**Pay Unit**
Shoulder Reconstruction	Shoulder Mile
Borrow Excavation	Cubic Yard

INCIDENTAL STONE BASE:

(7-1-95) (Rev.7-18-06) 545 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 Section 545 of the *2012 Standard Specifications.*

Measurement and Payment

Incidental Stone Base will be measured and paid in accordance with Article 545-6 of the *2012 Standard Specifications.*

SHOULDER WEDGE:
(9-20-11) (Rev. 1-17-12) 610 R6 R03

Revise the *2012 Standard Specifications* as follows:

Page 6-26, Article 610-8, add the following after line 43:

Attach a device, mounted on screed of paving equipment, capable of constructing a shoulder wedge with an angle of not more than 30 degrees along the outside edge of the roadway, measured from the horizontal plane in place after final compaction on the final surface course. Use an approved mechanical device or a device provided by the Department which will form the asphalt mixture to produce a wedge with uniform texture, shape and density while automatically adjusting to varying heights. If the device is provided by the Department, then the Contractor shall return the device to the Engineer after completion of all shoulder wedge construction.

Payment for use of this device will be incidental to the other pay items in the contract.

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:
(11-21-00) (Rev. 7-19-11) 609 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__	4.4%
Asphalt Concrete Intermediate Course	Type I 19.0__	4.8%
Asphalt Concrete Surface Course	Type S 4.75A	6.8%
Asphalt Concrete Surface Course	Type SF 9.5A	6.7%
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 *2012 Standard Specifications.*

MATERIAL TRANSFER VEHICLE:

The Contractor shall utilize a Material Transfer Vehicle (MTV) for the placement of the asphalt concrete intermediate course and asphalt concrete surface course on US 74, unless otherwise approved by the Engineer.

The requirements of Section 610 of the *Standard Specifications* shall apply.

ASPHALT PLANT MIXTURES:
(7-1-95) 609 R6 R20

Place asphalt concrete base course material in trench sections with asphalt pavement spreaders made for the purpose or with other equipment approved by the Engineer.

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:
(11-21-00) 620 R6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2012 Standard Specifications.*

The base price index for asphalt binder for plant mix is **$ 634.29** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **April 1, 2012.**

FINAL SURFACE TESTING NOT REQUIRED:
(5-18-04) (Rev. 5-15-12) 610 R6 R45

Final surface testing is not required on this project.

WEDGE COURSE:
(7-1-95) R6 R52

Place a wedge course at locations ahead of the paving operation as required by the Engineer.

RESURFACING EXISTING BRIDGES:
(7-1-95) (Rev. 3-20-12) R6 R61A

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) (Rev. 3-20-12) 610 R6 R67A

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.

ASPHALT CONCRETE SURFACE COURSE, TYPE xxx (Leveling Course):
(7-1-95) 610 R6 R85

Place a leveling course of *Asphalt Concrete Surface Course, Type* ___ at locations shown on the sketch maps and as directed by the Engineer. The rate of this leveling course is not established but will be determined by allowing the screed to *drag* the high points of the section. It is anticipated that some map numbers will be leveled from beginning to end while others may only require a leveling course for short sections.

The Asphalt Concrete Surface Course, Type __ (Leveling Course) shall meet the requirements of Section 610 of the *2012 Standard Specifications* except payment will be made at the contract unit price per ton for *Asphalt Concrete Surface Course, Type __ (Leveling Course).*

ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A:
(2-21-12) 610, 1012 SPI 6-09

Revise the *2012 Standard Specifications* as follows:

Page 6-21, Table 610-2, SUPERPAVE AGGREGATE GRADATION CRITERIA, add the following:

Standard Sieves (mm)	Mix Type (Nominal Max. Aggregate Size)	
	4.75 mm (C)	
	Min.	*Max.*
50.0	-	-
37.5	-	-
25.0	-	-
19.0	-	-
12.5	-	-
9.50	100.0	
4.75	90.0	100.0
2.36	65.0	90.0
1.18	-	-
0.600	-	-
0.300	-	-
0.150	-	-
0.075	4.0	8.0

C. For Type S4.75A, a minimum of 50% of the aggregate components shall be material manufactured from the crushing of stone.

Page 6-22, Table 610-3, SUPERPAVE MIX DESIGN CRITERIA, add the following:

Mix Type	Design ESALs millions	Binder PG Grade	Compaction Levels G_{mm} @		Max. Rut Depth (mm)	Volumetric Properties			
						VMA	VTM	VFA	$\%G_{mm}$
			N_{ini}	N_{des}		% Min.	%	Min. - Max.	@ N_{ini}
S4.75A(E)	<0.3	64 -22	6	50	-	20.0	7.0 - 15.0	-	-

E. Mix Design Criteria for Type S4.75A may be modified subject to the approval of the Engineer

Page 6-22, Table 610-3, SUPERPAVE MIX DESIGN CRITERIA, replace line 4, note C, with the following:

C. TSR for Type S4.75A, Type B25.0 and Type B25.0C mixes is 80% minimum.

Page 6-23, Table 610-5, PLACEMENT TEMPERATURES FOR ASPHALT, replace "SF9.5A, S9.5B" in the "Asphalt Concrete Mix Type" column with "S4.75A, SF9.5A and S9.5B".

Page 6-28, Table 610-6, SUPERPAVE DENSITY REQUIREMENTS, add the following:

Superpave Mix Type	Minimum % of G_{mm} (Maximum Specific Gravity)
S4.75A	85.0(a,b)

(a) All S4.75A pavement will be accepted for density in accordance with Article 105-3.
(b) Compaction to the above specified density will be required when the S4.75A mix is applied at a rate of 100 lb/sy or greater.

Page 6-37, Article 610-16, MEASUREMENT AND PAYMENT, add the following:

Payment will be made under:

Pay Item	Pay Unit
Asphalt Concrete Surface Course, Type S4.75A	Ton

Page 10-26, Subarticle 1012-1(B)(4), FLAT AND ELONGATED PIECES, replace line 44, "for Types SF9.5A and S9.5B.", with the following:

"for Types S4.75A, SF9.5A and S9.5B."

Page 10-27, Table 1012-1, AGGREGATE CONSENSUS PROPERTIES, add the following:

Mix Type	Coarse Aggregate Angularity	Fine Aggregate Angularity % Minimum	Sand Equivalent % Minimum	Flat & Elongated 5 : 1 Ratio % Maximum
Test Method	*ASTM D 5821*	*AASHTO T 304*	*AASHTO T 176*	*ASTM D 4791*
S4.75A	-	40	40	-

PATCHING EXISTING PAVEMENT:
(1-15-02) (Rev.11-29-10) 610 R6 R88

Description

The Contractor's attention is directed to the fact that there are areas of existing pavement on this project that will require repair prior to resurfacing. Patch the areas that, in the opinion of the Engineer, need repairing. The areas to be patched will be delineated by the Engineer prior to the Contractor performing repairs.

Materials

The patching consists of Asphalt Concrete Base Course, Asphalt Concrete Intermediate Course, Asphalt Concrete Surface Course, or a combination of base, binder and surface course.

Construction Methods

Remove existing pavement at locations directed by the Engineer in accordance with Section 250 of the *2012 Standard Specifications*.

Place Asphalt Concrete Base Course, in lifts not exceeding 5.5 inches. Utilize compaction equipment suitable for compacting patches as small as 3.5 feet by 6 feet on each lift. Use an approved compaction pattern to achieve proper compaction. If patched pavement is to be open to traffic for more than 48 hours prior to overlay, use Asphalt Surface Course in the top 1.25 inches of the patch.

Schedule operations so that all areas where pavement has been removed will be repaired on the same day of the pavement removal and all lanes of traffic restored.

Measurement and Payment

Patching Existing Pavement will be measured and paid as the actual number of tons of asphalt plant mix complete in place that has been used to make completed and accepted repairs. The asphalt plant mixed material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. The above price and payment will be full compensation for all work covered by this provision, including but not limited to removal and disposal of all types of pavement; furnishing and applying tack coat; furnishing, placing, and compacting of asphalt plant mix; furnishing of asphalt binder for the asphalt plant mix; and furnishing scales.

Patching Existing Pavement will be considered a minor item. In the event that the item of Patching Existing Pavement overruns the original bid quantity by more than 100 percent, the provisions of Article 104-5 of the *2012 Standard Specifications* pertaining to revised contract unit price for overrunning minor items will not apply to this item. Any provisions included in the contract that provides for adjustments in compensation due to variations in the price of asphalt binder will not be applicable to payment for the work covered by this provision.

Payment will be made under:

Pay Item	**Pay Unit**
Patching Existing Pavement	Ton

CRACK REPAIR:
(5-15-12)

Description

Sawcut, remove and satisfactory dispose of the existing asphalt concrete pavement and concrete slab as shown in the "Existing Crack Repair Detail" in the plans and as directed by the Engineer.

Materials

Refer to Division 10.

Methods of Construction

Asphalt Concrete Base Course used in the repair shall be in accordance with the applicable requirements of Section 610 of the *2012 Standard Specifications*.

The Aggregate Base Course used in the repair shall conform to the applicable requirements of Section 520 of the *2012 Standard Specifications* and the following.

Revise the *2012 Standard Specifications* as follows:

Page 5-13, Subarticle 520-9(B) (4) Testing Procedures, replace the first sentence with the following:

> After the Contractor has completed compaction of the test section, the Engineer will conduct 1 density test at random within each crack repair, per each lane width.

The Contractor shall take necessary measures to protect the exposed subgrade and base from damage resulting from surface water and/or rain during the period between the pavement removal and replacement. The Contractor shall complete the repair within a one mile section before moving to the next one mile section unless otherwise directed by the Engineer.

The Contractor shall thoroughly tamp any subgrade material loosened in the pavement removal process to the satisfaction of the Engineer before the pavement is replaced.

Measurement and Payment

Payment for asphalt pavement removal shall be included in the lump sum price bid for "Grading-Lump Sum".

Payment for concrete slab removal shall be at the contract unit price bid per square yard for "Removal of Existing Concrete Pavement".

The aggregate base course material used in making the repair will be measured and paid for in accordance with Section 520-11 of the *2012 Standard Specifications* and the following.

Revise the *2012 Standard Specifications* as follows:

Page 5-13, Subarticle 520-11 Measurement and Payment, revise the pay item to:

Aggregate Base Course, Crack Repair

The Asphalt Concrete Base Course material used in making the repair will be measured and paid in accordance with Section 610-16 of the *2012 Standard Specifications.*

Payment will be made under:

Pay Item	**Pay Unit**
Aggregate Base Course, Crack Repair	Ton
Asphalt Concrete Base Course, Type B25.0C, Crack Repair	Ton
Grading	Lump Sum
Removal of Existing Concrete Pavement	Square Yard

ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE xxx (Leveling Course):

(7-1-95) 610 R6 R85 (Rev.)

Place a leveling course of *Asphalt Concrete Intermediate Surface Course, Type* ___ at locations shown on the sketch maps and as directed by the Engineer. The rate of this leveling course is not established but will be determined by allowing the screed to *drag* the high points of the section. It is anticipated that some map numbers will be leveled from beginning to end while others may only require a leveling course for short sections.

The Asphalt Concrete Intermediate Course, Type __ (Leveling Course) shall meet the requirements of Section 610 of the *2012 Standard Specifications* except payment will be made at the contract unit price per ton for *Asphalt Concrete Intermediate Course, Type __ (Leveling Course).*

GUARDRAIL ANCHOR UNITS, TYPE 350:

(4-20-04) (Rev. 8-16-11) 862 R8 R65

Description

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2012 Standard Specifications*, and at locations shown in the plans.

Materials

The Contractor may at his option, furnish any one of the guardrail anchor units or approved equal.

Guardrail anchor unit (ET-Plus) as manufactured by:

Trinity Industries, Inc.
2525 N. Stemmons Freeway
Dallas, Texas 75207
Telephone: 800-644-7976

The guardrail anchor unit (SKT 350) as manufactured by:

Road Systems, Inc.
3616 Old Howard County Airport
Big Spring, Texas 79720
Telephone: 915-263-2435

Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Article 106-2 of the *2012 Standard Specifications*.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Article 105-2 of the *2012 Standard Specifications*.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2012 Standard Specifications* and is incidental to the cost of the guardrail anchor unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the *2012 Standard Specifications*.

Payment will be made under:

Pay Item	**Pay Unit**
Guardrail Anchor Units, Type 350	Each

MATERIALS:
(2-21-12) (Rev. 5-15-12) 1005, 1081 R10 R01

Revise the *2012 Standard Specifications* as follows:

Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE, replace with the following:

TABLE 1005-1
AGGREGATE GRADATION - COARSE AGGREGATE

Std. Size #	Percentage of Total by Weight Passing										Remarks
	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#40	#200	
4	100	90-100	20-55	0-15	-	0-5	-	-	-	-	-	A	Asphalt Plant Mix
467M	100	95-100	-	35-70	-	0-30	0-5	-	-	-	-	A	Asphalt Plant Mix
5	-	100	90-100	20-55	0-10	0-5	-	-	-	-	-	A	AST, Sediment Control Stone
57	-	100	95-100	-	25-60	-	0-10	0-5	-	-	-	A	AST, Str. Concrete, Shoulder Drain, Sediment Control Stone
57M	-	100	95-100	-	25-45	-	0-10	0-5	-	-	-	A	AST, Concrete Pavement
6M	-	-	100	90-100	20-55	0-20	0-8	-	-	-	-	A	AST
67	-	-	100	90-100	-	20-55	0-10	0-5	-	-	-	A	AST, Str. Concrete, Asphalt Plant Mix
78M	-	-	-	100	98-100	75-100	20-45	0-15	-	-	-	A	Asphalt Plant Mix, AST, Str. Conc, Weep Hole Drains
14M	-	-	-	-	-	100	35-70	5-20	-	0-8	-	A	Asphalt Plant Mix, AST, Weep Hole Drains, Str. Concrete
9	-	-	-	-	-	100	85-100	10-40	-	0-10	-	A	AST
ABC	-	100	75-97	-	55-80	-	35-55	-	25-45	-	14-30	4-12[B]	Aggregate Base Course, Aggregate Stabilization
ABC (M)	-	100	75-100	-	45-79	-	20-40	-	0-25	-	-	0-12[B]	Maintenance Stabilization
Light-weight[C]	-	-	-	-	100	80-100	5-40	0-20	-	0-10	-	0-2.5	AST

A. See Subarticle 1005-4(A).
B. See Subarticle 1005-4(B).
C. For Lightweight Aggregate used in Structural Concrete, see Subarticle 1014-2(E)(6).

Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7, delete the second and third sentences of the description for Type 3A.

Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30, replace the second paragraph with the following:

For epoxy resin systems used for embedding dowel bars, threaded rods, rebar, anchor bolts and other fixtures in hardened concrete, the manufacturer shall submit test results showing that the bonding system will obtain 125% of the specified required yield strength of the fixture. Furnish certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that there is no movement of the anchor bolt. For certification and anchorage, use 3,000 psi as the minimum Portland cement concrete compressive strength used in this test. Use adhesives that meet Section 1081.

List the properties of the adhesive on the container and include density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength.

Page 10-169, Subarticle 1081-3(G) Anchor Bolt Adhesives, delete this subarticle.

TEMPORARY TRAFFIC CONTROL DEVICES:

(1-17-12) 1105 R11 R05

Revise the *2012 Standard Specifications* as follows:

Page 11-5, Article 1105-6 Measurement and Payment, add the following paragraph after line 24:

Partial payments will be made on each payment estimate based on the following: 50% of the contract lump sum price bid will be paid on the first monthly estimate and the remaining 50% of the contract lump sum price bid will be paid on each subsequent estimate based on the percent of the project completed.

EROSION AND STORMWATER CONTROL FOR SHOULDER CONSTRUCTION AND RECONSTRUCTION:

(11-16-10) 105-16, 225-2, Division 16 R16 R03

Land disturbing operations associated with shoulder construction/reconstruction may require erosion and sediment control/stormwater measure installation. National Pollutant Discharge Elimination System (NPDES) inspection and reporting may be required.

Erosion control measures shall be installed per the erosion control detail in any area where the vegetated buffer between the disturbed area and surface waters (streams, wetlands, or open waters) or drainage inlet is less than 10 feet. The Engineer may reduce the vegetated buffer threshold for this requirement to a value between 5 and 10 feet. Erosion control measures shall be spot checked every 14 days until permanent vegetative establishment.

In areas where shoulder construction/reconstruction includes disturbance or grading on the front slope or to the toe of fill, relocating ditch line or backslope, or removing vegetation from the

ditch line or swale, NPDES inspection and monitoring are required every 14 days or within 24 hours of a rainfall event of 0.5" or greater. Maintain daily rainfall records. Install erosion control measures per detail.

In areas where the vegetated buffer is less than 10 feet between the disturbed area and waters of the State classified as High Quality Water (HQW), Outstanding Resource Water (ORW), Critical Areas, or Unique Wetlands, NPDES inspection and monitoring are required every 14 days or within 24 hours of a rainfall event of 0.5" or greater. The Engineer may reduce the vegetated buffer threshold for this requirement to a value between 5 and 10 feet. The plans or provisions will indicate the presence of these water classifications. Maintain daily rainfall records. Install erosion control measures per detail.

Land disturbances hardened with aggregate materials receiving sheet flow are considered non-erodible.

Sites that require lengthy sections of silt fence may substitute with rapid permanent seeding and mulching as directed by the Engineer.

NPDES documentation shall be performed by a Level II Erosion and Sediment Control/Stormwater certificate holder.

Materials used for erosion control will be measured and paid as stated in the contract.