

PROJECT SPECIAL PROVISIONS

ROADWAY

CLEARING AND GRUBBING – METHOD III:

(4-6-06)

SP2 R02

Perform clearing on this project to the limits established by Method “III” shown on Standard No. 200.03 of the *2006 Roadway Standard Drawings*.

BURNING RESTRICTIONS:

(7-1-95)

SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

LUMP SUM GRADING

Lump sum grading shall be performed in accordance with Section 226 Comprehensive Grading of the *2006 Standard Specifications* except as follows:

Delete all references to Section 225, Unclassified Excavation.

EMBANKMENTS:

(5-16-06)

SP2R18

Revise the *2006 Standard Specifications* as follows:

Page 2-22, Article 235-4(B) Embankment Formation, add the following:

- (16) Do not place rock or broken pavement in embankment areas where piles or drilled shaft foundations are to be constructed. This shall include but not be limited to piles and foundations for structures, metal signal poles, overhead sign structures, and high mount lighting.

SHALLOW UNDERCUT:

(9-18-07)

SP2R35

Description

Undercut to a depth of 6 to 24 inches and place fabric for soil stabilization and Class IV Subgrade Stabilization at locations shown on the plans or as directed by the Engineer.

28

Materials

Refer to Division 10 of the *Standard Specifications*.

Item	Section
Select Material, Class IV	1016
Fabric for Soil Stabilization, Type 4	1056

Use Class IV Select Material for Class IV Subgrade Stabilization. If Class IV Subgrade Stabilization does not meet the requirements of Article 1010-2 of the *Standard Specifications*, the Engineer, at his discretion, may consider the material reasonably acceptable in accordance with Article 105-3 of the *Standard Specifications*.

Construction Methods

Perform undercut excavation in accordance with Section 225 of the *Standard Specifications*. Place fabric for soil stabilization in accordance with Article 270-3 of the *Standard Specifications* before backfilling. Backfill with Class IV Subgrade Stabilization by end dumping subgrade stabilization material on the fabric. Do not operate heavy equipment on the fabric until it is covered with Class IV Subgrade Stabilization. Compact subgrade stabilization material to 92% of AASHTO T180 as modified by the Department or to the highest density that can be reasonably obtained.

Maintain Class IV Subgrade Stabilization in an acceptable condition and minimize the use of heavy equipment on subgrade stabilization material in order to avoid damaging the backfill. Provide and maintain drainage ditches and drains as required to prevent entrapment of water in backfill.

Measurement and Payment

Class IV Subgrade Stabilization will be measured and paid for at the contract unit price per ton. The quantity to be paid for will be the actual number of tons of subgrade stabilization material that has been incorporated into the completed and accepted work. The material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. This work includes but is not limited to furnishing, hauling, handling, placing, compacting and maintaining the subgrade stabilization material.

Undercut Excavation will be measured and paid for in accordance with Section 226 of the *Standard Specifications*.

Fabric for Soil Stabilization will be measured and paid for in accordance with Section 270 of the *Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
Class IV Subgrade Stabilization	Ton

FALSE SUMPS:

(7-1-95)

SP2 R40

Construct false sumps in accordance with the details in the plans and at locations shown in the plans or at other locations as directed by the Engineer.

Payment for the work of construction of the false sumps will be made at the contract unit price per cubic yard for *Unclassified Excavation* or *Borrow Excavation* depending on the source of material, or included in *Grading-Lump Sum*.

ENGINEERED SOIL MIX SPECIFICATION:

(11-20-07)

SPI

Description

This work shall consist of furnishing and installing the Engineered Soil Mix (ESM) in the Bio-Retention Basin as shown on the plans and as directed by the Engineer.

Material

(A) The Contractor shall provide an ESM with the following physical properties:

- (1) Sandy loam, loamy sand to be premixed to contain a minimum 80 to 85% of sand by volume, fines (clay and silt) content between 8 to 12% by volume and organic matter content between 3 to 5% by volume.
- (2) pH value between 5.5 to 7.5.
- (3) Magnesium –32 ppm minimum.
- (4) Phosphorus (P₂O₅)—not to exceed 69 ppm
- (5) Potassium (K₂O)—78 ppm minimum
- (6) Soluble salts –not to exceed 500 ppm.

All the individual components as well as the ESM shall be reasonably free of weed seed or toxic substances or any other material which would be harmful to plant growth, and shall be maintained free from such during stockpiling, transport, and installation. If the ESM is to be stockpiled, the location chosen for stockpiling shall be reasonably free of weed seed, vegetation, toxic substances, or any other material which would be harmful to plant growth. Prior to stockpiling, the Engineer shall approve the stockpile location.

Engineered Soil Mix shall fall within the SM, ML, SC, classification of the unified soil classification system. (USCS). The mixed soil shall have a permeability of 1.0 ft per day (0.5 inches /hr) though a conservative value of 0.5 feet per day is used in the design. The soil shall be free of stones, stumps, roots, or other woody material over 1" in diameter. The soil shall be free from brush or seeds from noxious weeds including but not limited to, Johnson Grass, Mugwort, Nutsedge, and Canadian Thistle.

- (B) Samples** At least 45 days prior to the start of construction of Bio-Retention facilities, the Contractor shall submit a 2 lb. sample of each component, along with the source of the component, to the Engineer for testing. A particle analysis shall be performed on each component. An inspection of the source for each component may also be performed. Once a stockpile of the ESM has been sampled, no material shall be added to the stockpile.
- (C) Mixing** The ESM components shall be thoroughly mixed by a mechanical device designed specifically for producing uniform ESM. The process for mixing shall be submitted in writing to the Engineer prior to mixing. An on site inspection of the mixing procedure may be required prior to approval of the mixing process. No samples shall be prepared prior to receiving approval of the mixing process.
- (D) Testing**
- (1) At least one test for phosphorus, potassium, organic matter, and soluble salts shall be made for the Department on the Engineered Soil prepared by mixing. Prior to proceeding with preparing an ESM sample, the Engineer will approve each component.
 - (2) After approval of the soil mix components and approval of the mixing process have been obtained, a sample of the combined mixture shall be prepared for testing. Approximately two cubic feet shall be submitted to the Engineer for analysis. The remaining ESM shall not be prepared until results of the testing are received and approved by the Engineer. Should variations outside of the given ranges specified above occur, the contractor shall be responsible for making the necessary adjustments to the initial input percentages of the components in order to bring the ESM within the specified ranges. Should the pH fall outside of the acceptable range, it may be modified with lime (to raise) or iron sulfate plus sulfur (to lower). The lime or iron sulfate shall be mixed uniformly into the ESM prior to use in Bio-Retention facilities. Should the ESM not meet the minimum requirement for magnesium, it may be modified with magnesium sulfate. Likewise, should the ESM not meet the minimum requirement for potassium, it may be modified with potash. Magnesium sulfate and potash shall be mixed uniformly into the ESM prior to use in Bio-Retention facilities. Engineered Soil Mix that fails to meet the minimum requirements shall be replaced at no additional cost. Mixing of the corrective additives to the soils mix is incidental and shall be at no additional cost. Mixing of the ESM to a homogeneous consistency shall be performed to the satisfaction of the Engineer.
 - (3) During the mixing operation, the Contractor will be responsible for maintaining the ESM that meets the specifications. Random samples will be taken by the Engineer in order to test for mix uniformity and to verify that it remains within the specified ranges for the physical properties.

- (E) **Existing soil characteristics** The existing soil in the location of Bio-Retention area will be tested by the Department, to determine the particle size analysis and to classify the percentage of sand, silt or loam and clay. If the percentages of existing sand, silt and clay fall within the range of percentages as specified above, only the chemical nutrients shall be added.

Construction Methods Bio-Retention facilities shall not be constructed until all contributing drainage areas are stabilized as shown on the plans and to the satisfaction of the Engineer. No heavy equipment shall operate within the perimeter of a Bio-Retention facility during excavation, underdrain placement, backfilling, planting, or mulching of the facility.

- (A) **Excavation** The Bio-Retention facility shall be excavated to the dimensions, side slopes, and elevations shown on the plans. The method of excavation shall minimize the compaction of the bottom of the Bio-Retention facility. Excavators and backhoes, operating on the ground adjacent to the Bio-Retention facility, shall be used to excavate the facility if possible. Low ground-contact pressure equipment may also be used for excavation. No heavy equipment will be allowed on the bottom of the Bio-Retention facility. Excavated materials shall be removed from the Bio-Retention facility site. Prior to placing the underdrain and the ESM, the bottom of the excavation shall be tilled to a minimum depth of 12" to alleviate any compaction of the facility bottom. Any substitute method for tilling shall be approved by the Engineer prior to use. Any ponded water shall be removed from the bottom of the facility and the soil shall be friable prior to tilling.
- (B) **Placement and Compaction of the Engineered Soil Mixture** The ESM shall be placed and graded using low ground-contact pressure equipment or by excavators and/or backhoes operating on the ground adjacent to the Bio-Retention facility. No heavy equipment shall be used within the perimeter of the Bio-Retention facility before, during, or after the placement of the ESM. The ESM shall be placed in horizontal layers not to exceed 12" for the entire area of the Bio-Retention facility. The ESM shall be compacted by saturating the entire area of the Bio-Retention facility after each lift of ESM is placed until water flows from the underdrain. Water for saturation shall be applied by spraying or sprinkling. Saturation of each lift shall be performed in the presence of the Engineer. An appropriate sediment control device shall be used to treat any sediment-laden water discharged from the underdrain. If the ESM becomes contaminated during the construction of the facility, the contaminated material shall be removed and replaced with uncontaminated material at no additional cost. Final grading of the ESM shall be performed after a 24-hour settling period. Final elevation shall be within 1 inch of the elevation shown on the plans.
- (C) **Installation** The ESM shall be installed in order that the finish grade after settlement shall be as specified on the plans and as directed by the Engineer.

Care shall be taken during installation to avoid damage to existing components within the Bio-Retention Basin. Filter fabric shall be maintained in accordance with 270-3 of the *Standard Specifications* during the ESM filling operation.

If during stockpiling, the installation process, or after installation weeds begin to germinate, they shall be treated with a post-emergence total vegetation control herbicide before they reach 8" (20 cm) in height. If a bio-mass of 8" (20 cm) or more should develop it shall be physically removed. Herbicide shall be approved by the Engineer prior to beginning use.

Measurement and Payment

Engineered Soil Mix will be measured and paid for will be the actual number of cubic yards of ESM that has been installed and accepted. Such prices and payments will be full compensation for furnishing, placing, amending, all labor, equipment, herbicide treatments and all incidentals necessary to complete the work satisfactorily.

Payment will be made under:

Pay Item	Pay Unit
Engineered Soil Mix	Cubic Yard

GEOTEXTILE FABRIC:

9-18-07

SPI

Description

This work consists of furnishing and placing of *Geotextile Fabric* of the type specified, over previously prepared areas as directed.

Materials

The product shall be a woven silt film geotextile and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The mat shall have the following physical properties:

Property	Test Method	Value	Unit
Tensile Strength (Grab)	ASTM D4632	200	lbs
Elongation	ASTM D4632	15	%
Puncture	ASTM D4833	95	lbs
Mullen Burst	ASTM D3786	460	psi
Trapezoidal Tear	ASTM D4533	75	lbs
UV Resistance	ASTM D4355	70	%
Apparent Opening Size (AOS) ³	ASTM D4751	40	US Std. Sieve
Permittivity	ASTM D4491	0.05	Sec ⁻¹
Water Flow Rate	ASTM D1682	4	Gpm/ft ²

Submit a certification (Type 1, 2, or 3) from the manufacturer showing:

- (A) The chemical and physical properties of the mat used, and
- (B) conformance of the mat with this specification.

Construction Methods

(A) Preparation

Basin excavation shall be completed in accordance with details of the project plans. In all instances excavation shall be performed in such a way so as to prevent large voids from occurring in the sides and bottom of the basin. The surface of the soil shall be smooth, firm, stable and free of rocks, clods, roots or other obstructions that would prevent the geotextile from lying in direct contact with the soil surface.

(B) Installation

In the placement of the geotextile for drainage applications, the geotextile shall be placed loosely with no wrinkles or folds, and with no void spaces between the geotextile and the ground surface. Successive sheets of geotextiles shall be overlapped a minimum of 12 inches, with the upstream sheet overlapping the downstream sheet. Overlaps shall be sewn or otherwise bonded. All seams shall be subject to the approval of the Engineer. Should the geotextile be damaged during installation or drainage aggregate placement, a geotextile patch shall be placed over the damaged area extending beyond the damaged area a minimum distance of 12 inches, or the specified seam overlap, whichever is greater.

Placement of drainage aggregate shall proceed immediately following placement of the geotextile. The geotextile shall be covered with a minimum of 12 inches of loosely placed aggregate. If a perforated collector pipe is to be installed, a bedding layer of drainage aggregate should be placed below the pipe, with the remainder of the aggregate placed to the minimum required construction depth.

(C) Protection

Atmospheric exposure of the geotextile to the elements following lay down shall be limited to 14 days to prevent damage.

Measurement and Payment

Geotextile Fabric will be measured and paid for as the actual number of square yards measured along the surface of the ground over which Geotextile Fabric is installed and accepted. Overlaps will not be included in the measurement, and will be considered as incidental to the work. Such payment shall be full compensation for furnishing and installing the mat, including overlaps, and for all required maintenance.

Payment will be made under:

Pay Item

Geotextile Fabric

Pay Unit

Square Yard

POLYPROPYLENE WOVEN MONOFILAMENT GEOTEXTILE FABRIC:

(9-18-07)

SPI

Description

This work consists of furnishing and placing of *Polypropylene Woven Monofilament Geotextile Fabric* of the type specified, over previously prepared areas as directed.

Materials

The product shall be a woven polypropylene geotextile and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The mat shall have the following physical properties:

Property	Test Method	Value	Unit
Tensile Strength (Grab)	ASTM D4632	370 x 220	lbs
Elongation	ASTM D4632	25 x 15	%
Puncture	ASTM D4833	115	lbs
Mullen Burst	ASTM D3786	470	psi
Trapezoidal Tear	ASTM D4533	115 x 75	lbs
UV Resistance	ASTM D4355	90	%
Apparent Opening Size (AOS) ³	ASTM D4751	30	US Std. Sieve
Percent Open Area (POA)	CW-02215 Mod. ⁴	11	%
Permittivity	ASTM D4491	1.10	Sec ⁻¹
Water Flow Rate	ASTM D1682	110	Gpm/ft ²

Submit a certification (Type 1, 2, or 3) from the manufacturer showing:

- (A) The chemical and physical properties of the mat used, and
- (B) conformance of the mat with this specification.

Construction Methods**(A) Preparation**

Prepare surfaces on which polypropylene woven monofilament geotextile fabric is to be placed to smooth condition as indicated or as directed by the Engineer. Remove debris, depressions, and obstructions that could damage the polypropylene woven monofilament geotextile fabric.

(B) Installation

Install polypropylene woven monofilament geotextile fabric shall be installed at the proper elevation and alignment as shown on the Drawings or as directed by the Engineer.

Successive sheets of polypropylene woven monofilament geotextile fabric shall be overlapped a minimum of 12 inches, with the upstream sheet overlapping the downstream sheet. Overlaps shall be sewn or otherwise bonded. All seams shall be subject to the approval of the Engineer. Should the polypropylene woven monofilament geotextile fabric be damaged during installation or engineered soil placement, a geotextile patch shall be placed over the damaged area extending beyond the damaged area a minimum distance of 12 inches, or the specified seam overlap, whichever is greater.

Placement of engineered soil should proceed immediately following placement of the polypropylene woven monofilament geotextile fabric. The polypropylene woven monofilament geotextile fabric should be covered with a minimum of 12 inches of loosely placed engineered soil. Select construction equipment that will prevent excess rutting.

On side slopes, anchor polypropylene woven monofilament geotextile fabric at top, then unroll. Keep polypropylene woven monofilament geotextile fabric free of wrinkles and folds.

Cut polypropylene woven monofilament geotextile fabric using upward cutting hook blade.

Use sandbags or other weights to prevent wind displacement.

(C) Protection

Atmospheric exposure of the polypropylene woven monofilament geotextile fabric to the elements following lay down shall be limited to 14 days to prevent damage.

Vehicles and construction equipment shall not be operated directly over installed polypropylene woven monofilament geotextile fabric without approval of the Engineer.

Measurement and Payment

Polypropylene Woven Monofilament Geotextile Fabric will be measured and paid for as the actual number of square yards measured along the surface of the ground over which Polypropylene Woven Monofilament Geotextile Fabric is installed and accepted. Overlaps will not be included in the measurement, and will be considered as incidental to the work. Such payment shall be full compensation for furnishing and installing the mat, including overlaps, and for all required maintenance.

Payment will be made under:

Pay Item	Pay Unit
Polypropylene Woven Monofilament Geotextile Fabric	Square Yard

PIPE TESTING:

4-17-07

SP3R33

Revise the *2006 Standard Specifications* as follows:

Page 3-3, Article 300-6, add the following as a new paragraph before **(A)**:

The Department reserves the right to perform forensic testing on any installed pipe.

PIPE ALTERNATES:

(7-18-06) (Rev 4-17-07)

SP3 R36

Description

The Contractor may substitute Aluminized Corrugated Steel Pipe, Type IR or HDPE Pipe, Type S or Type D up to 48 inches in diameter in lieu of concrete pipe in accordance with the following requirements.

Material

Item	Section
HDPE Pipe, Type S or D	1032-10
Aluminized Corrugated Steel Pipe, Type IR	1032-3(A)(7)

Aluminized Corrugated Steel Pipe will not be permitted in counties listed in Article 310-2 of the *2006 Standard Specifications*.

Construction Methods

Aluminized Corrugated Steel Pipe Culverts and HDPE Pipe Culverts shall be installed in accordance with the requirements of Section 300 of the *2006 Standard Specifications* for Method A, except that the minimum cover shall be at least 12 inches. Aluminized Corrugated Steel Pipe Culvert and HDPE Pipe Culvert will not be permitted for use under travelways, including curb and gutter.

Measurement and Payment

_____ "*Aluminized Corrugated Steel Pipe Culvert* to be paid for will be the actual number of linear feet installed and accepted. Measurement will be in accordance with Section 310-6 of the *2006 Standard Specifications*.

_____ "*HDPE Pipe Culvert* to be paid for will be the actual number of linear feet installed and accepted. Measurement will be in accordance with Section 310-6 of the *2006 Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
___ " Aluminized Corrugated Steel Pipe Culverts, ___" Thick	Linear Foot
___ " HDPE Pipe Culverts	Linear Foot

HDPE PIPE, ELBOWS, CAPS, COUPLERS, AND JOINTS

(9-27-07)

SPI

Furnish and install HDPE pipe, elbows, caps, couplers, and joints in accordance with the *2006 Standard Specifications*, the contract plans, and as directed by the Engineer.

Material

Item	Section
HDPE Pipe, Elbows, Caps, Couplers, and Joints	1032-10

Measurement and Payment

___ " *HDPE Pipe Culverts*, ___ *HDPE Pipe Culverts Perforated*, to be paid for will be the actual number of linear feet installed and accepted. Measurement will be in accordance with Section 310-6 of the *2006 Standard Specifications*.

HDPE Elbows, Caps, Couplers, and Joints to be paid will be the actual number per each installed and accepted.

Pay Item	Pay Unit
___ " HDPE Pipe Culverts	Linear Foot
___ " HDPE Pipe Culverts, Perforated	Linear Foot
___ " 45 degree Elbows HDPE	EA
___ " Caps HDPE	EA
___ " Couplers HDPE	EA
___ " 'Y' Joint HDPE	EA

AGGREGATE BASE COURSE:

12-19-06

SP5 R03

Revise the *2006 Standard Specifications* as follows:

Page 5-11, Article 520-5 Hauling and Placing Aggregate Base Material, 6th paragraph, replace the first sentence with the following:

Base course that is in place on November 15 shall have been covered with a subsequent layer of pavement structure or with a sand seal. Base course that has been placed between November 16 and March 15 inclusive shall be covered within 7 calendar days with a subsequent layer of pavement structure or with a sand seal.

ASPHALT PAVEMENTS - SUPERPAVE:

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

SP6 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	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	D5821 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.
Sieve (mm)									
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:

(11-21-00)

SP6 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*.

ASPHALT PLANT MIXTURES:

(7-1-95)

SP6 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)

SP6 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**.

MASONRY DRAINAGE STRUCTURES:

(10-16-07)

SP8R01

Revise the *2006 Standard Specifications* as follows:

Page 8-31, Article 840-4 Measurement and Payment, add the following at the end of the second paragraph:

For that portion of *Masonry Drainage Structure* measured above a height of 10.0 feet, payment will be made at 1.3 times the contract unit price per linear foot for *Masonry Drainage Structure*.

SLUICE GATE:

(7-1-95)

SP8 R20

Description

The work consists of the construction of a sluice gate on an endwall in accordance with the details in the plans, the applicable requirements of Section 838 of the *2006 Standard Specifications*, in accordance with the manufacturer's recommendations and as directed by the Engineer. Provide a gate that forms a watertight seal when closed.

Measurement and Payment

_____ " *Sluice Gate* will be measured and paid for as each for the actual number of sluice gates that have been incorporated into the completed and accepted work. Such prices and payment will be full compensation for all materials, labor, equipment and incidentals necessary to complete the work. The endwall will be measured and paid for in accordance with Article 838-4 of the *2006 Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
_____ " <i>Sluice Gate</i>	Each

RETICULINE FRAME AND GRATE:

(9-27-07)

SPI

Description

Furnish and install reticuline frames and grates in accordance with this provision and the plan detail sheets, at locations designated on the plans.

Material

The frame and grate shall be fabricated using steel meeting the requirements of ASTM A588, A572, A242, or A441. The grate shall be non-traffic bearing, a minimum of 2 inches thick with a minimum bar spacing of 1 inch and a maximum of 3 inches.

The frame and grate shall be provided by U.S. Foundry or East Jordan Iron Works.

Measurement and Payment

Measurement and payment shall be in accordance with Section 840 of the *2006 Standard Specifications*.

NATURAL ROCK ENERGY DISSIPATER:

(9-26-07)

SPI

Description

This work consists of the construction and maintenance of natural rock energy dissipaters.

Materials

Refer to Divisions 2 &10 of the *2006 Standard Specifications*

Item	Section
Rip Rap Class II (natural rock)	1042
Filter Fabric for Drainage, Type 2	1056
Drainage Ditch Excavation	240

Construction Methods

Natural rock energy dissipaters shall be constructed in accordance with the detail shown in the plans or as directed by the Engineer. From the outlet invert of a culvert (or bottom of a ditch) excavation will drop to a specified depth. Excavation will continue to widen through the dissipater. Natural Rock will be placed along the banks and bottom of the dissipater and along the apron.

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Measurement and Payment

The quantity of energy dissipater material(s) may be affected by site conditions during construction of the project. The quantity of materials may be increased, decreased, or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

Rip Rap Class II (natural rock) will be measured and paid for in accordance with Section 876 of the *2006 Standard Specifications*.

Filter Fabric for Drainage will be measured and paid for in accordance with Section 876 of the *2006 Standard Specifications*.

Drainage ditch excavation will be measured and paid for in accordance with Section 240 of the *2006 Standard Specifications*.

Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials (including berm material), labor, and equipment. No direct payment will be made for the rock cross vanes as such work will be included in the cost of the other items necessary to construct the natural rock energy dissipaters.

CREEK STONE FOR FOREBAY:

General:

The work covered by this item consists of furnishing and installing "Creek Stone for Forebay" as shown on the plans, the details, and as described herein.

Materials:

Creek Stone shall consist of Cane Creek Stone available from local North Carolina sources in a size range of approximately 5 to 17 inches in length by 5 to 17 inches in width and no less than 6 inches in depth. No more than 5.0% of the material furnished can be less than the minimum size specified nor no more than 10.0% of the material can exceed the maximum size specified. The Creek Stone shall be applied at a depth of 18 inches at locations shown on the plans and as directed by the engineer in the field. **A representative sample and the source of the Cane Crk. Stone shall be submitted for the Engineer's approval prior to delivery and placement.**

Method of Measurement and Basis of Payment:

The work of furnishing and installing the Creek Stone for Forebay as shown on the plans and as approved by the Engineer, when completed and accepted, will be paid for at the unit price per ton for "Creek Stone for Forebay". Such price and payment will be full compensation for all work covered by this special provision, including but not limited to furnishing all labor, materials, equipment for installation, coordination with engineers and any other incidentals necessary or required to complete the work.

Payment will be made under:

Creek Stone for Forebay Ton

12-MONTH AGED HARDWOOD MULCH:

General

The work covered by this item consists of furnishing and installing the specified mulch for placement in accordance with the material and dimensions as shown on the plans, the details, and as described herein.

Materials

Mulch will be double shredded hardwood with less than 10% floatables. It shall have been aged for a minimum period of one year (for decomposition of non-hardwood materials). The mulch shall be clean of any foreign trash or debris. Submit sample for approval prior to placement.

Installation

Install the double shredded hardwood mulch to a finished depth of 4" or as defined by the plans and/or as directed by the Engineer. Rake and compact to create a continuous smooth finished grade.

Compensation

The work of furnishing and installing the 12 month aged hardwood mulch, when completed and accepted, will be paid for at the contract unit price per Cubic Yard for '12-Month Aged Hardwood Mulch'.

If additional mulch is furnished in bags, measurement will be as indicated on package label and multiplied by the number of sealed full bags that are utilized. If mulch is furnished in trucks, each truck will be measured by the Engineer and will bear a legible identification mark indicating its capacity. Each truck will be loaded to its measured capacity at the time it arrives at the site. Such price and payment will be full compensation for all work covered by this special provision; including but not limited to furnishing all labor, materials, and equipment and any other incidentals necessary or required to complete the work.

Payment will be made under:

12-Month Aged Hardwood Mulch CY

FENCE:

(3-6-06)

SP8 R86

Revise the *2006 Standard Specifications* as follows:

Page 8-54, Subarticle 866-3(A), second sentence,

Add *existing fencing* after stumps

STEEL U-CHANNEL POSTS:

(7-18-06)

SP9 R02

Revise the *2006 Standard Specifications* as follows:

Page 9-15 Subarticle 903-3(D) first paragraph, last sentence, delete the last sentence and add the following:

Use posts of sufficient length to permit the appropriate sign mounting height. Spliced posts are not permitted on new construction.

SHIPPING SIGNS:

5-15-07

SP9R03

Revise the *2006 Standard Specifications* as follows:

Page 9-2, Section 901-3(A), General, add the following as the 7th paragraph:

Ship all multi-panel signs to the project intact, completely assembled and ready to be hung. Fabricate signs taller than 12 ft as 2 separate signs with a horizontal splice, ready to be spliced and hung. No assembly other than a horizontal splice will be permitted.

AGGREGATE PRODUCTION:

(11-20-01)

SP10 R05

Provide aggregate from a producer who uses the current Aggregate Quality Control/Quality Assurance Program that 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)

SP10 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

SP10 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>

<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)

SP10 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.

ENGINEERING FABRICS TABLE 1056-1:

(7-18-06)

SP10 R40

Revise the *2006 Standard Specifications* as follows:

Page 10-100, Table 1056-1, replace the values for Trapezoidal Tear Strength with the following:

Physical Property	ASTM Test Method	Type 1	Type 2	Type 3		Type 4
				Class A	Class B	
Typical Applications		Shoulder Drain	Under Riprap	Temporary Silt Fence		Soil Stabilization
Trapezoidal Tear Strength	D4533	45 lb	75 lb	--	--	75 lb

CHANGEABLE MESSAGE SIGNS

(11-21-06)

SP11 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)

SP 12 R01

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.

PERMANENT SEEDING AND MULCHING:

(7-1-95)

SP16 R01

The Department desires that permanent seeding and mulching be established on this project as soon as practical after slopes or portions of slopes have been graded. As an incentive to obtain an early stand of vegetation on this project, the Contractor's attention is called to the following:

For all permanent seeding and mulching that is satisfactorily completed in accordance with the requirements of Section 1660, Seeding and Mulching, and within the following percentages of elapsed contract times, an additional payment will be made to the Contractor as an incentive additive. The incentive additive will be determined by multiplying the number of acres of seeding and mulching satisfactorily completed times the contract unit bid price per acre for Seeding and Mulching times the appropriate percentage additive.

Percentage of Elapsed Contract Time	Percentage Additive
0% - 30%	30%
30.01% - 50%	15%

Percentage of elapsed contract time is defined as the number of calendar days from the date of availability of the contract to the date the permanent seeding and mulching is acceptably completed divided by the total original contract time.