

**PROJECT SPECIAL PROVISIONS****ROADWAY****COMPREHENSIVE GRADING:**

Comprehensive grading shall be performed in accordance with Section 226 of the Standard Specifications with the following exceptions:

Delete any reference to Section 230 "Borrow Excavation" from Section 226.

Borrow material shall be in accordance with Section 230.

**CLEARING AND GRUBBING – METHOD III:** (4-6-06)

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

SP2 R02

**TEMPORARY DETOURS:** (8-15-00)

Construct the temporary detours required on this project in accordance with the typical sections in the plans or as directed by the Engineer.

Payment for the construction of the detours will be made at the contract unit prices for the various items involved. After the detours have served their purpose, remove the portions deemed unsuitable for use as a permanent part of the project as directed by the Engineer. Salvage and stockpile the aggregate base course removed from the detours at locations within the right of way, as directed by the Engineer, for removal by State Forces. Pipe culverts removed from the detours remain the property of the Contractor. Remove pipe culverts from the project when they are no longer needed. Place pavement and earth material removed from the detour in embankments or dispose of in waste areas furnished by the Contractor. No direct payment will be made for removing the aggregate base course, earth material and pavement, as the cost of same shall be included in the lump sum price bid for *Grading*. Pipe culverts that are removed will be measured and will be paid for at the contract unit price per linear foot for *Pipe Removal*.

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Such prices and payments will be full compensation for the work of removing, salvaging, and stockpiling aggregate base course; removing any pipe culverts; and for placing earth material and pavement in embankments or disposing of earth material and pavement in waste areas.

SP2 R31

**SHALLOW UNDERCUT:** (2-19-02) (Rev 7-18-06)

Perform undercut excavation and place a combination of fabric for soil stabilization and Class IV Subgrade Stabilization at locations as directed. Work includes performing undercut excavation, disposing of unsuitable material, furnishing and placing fabric for soil stabilization; and furnishing, placing and compacting Class IV Subgrade Stabilization.

**Materials**

| <b>Item</b>                     | <b>Section</b>  |
|---------------------------------|---|
| Fabric for Soil Stabilization   | 270   |
| Class IV Subgrade Stabilization | 1016-3, Class IV, or Material meeting gradation requirements of Table 520-1, Column C |

**Construction Methods**

Perform undercut excavation in accordance with Section 225 and/or Section 226.

Place fabric for soil stabilization in accordance with Section 270.

Place Class IV Subgrade Stabilization by back dumping material on previously placed fabric.

Compact material to 95% of AASHTO T-99, Method "D" density or compact material to the highest density that can be reasonably obtained.

**Measurement and Payment**

*Undercut Excavation* will be measured and paid for in accordance with Section 225 and/or Section 226 of the *Standard Specifications*.

*Fabric for Soil Stabilization* will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

*Class IV Subgrade Stabilization*, as accepted in place, will be measured and paid for by the ton in accordance with Section 106-7 of the *Standard Specifications*.

Payment will be made under:

| <b>Pay Item</b>                 | <b>Pay Unit</b> |
|---------------------------------|-----------------|
| Undercut Excavation             | Cubic Yard      |
| Class IV Subgrade Stabilization | Ton             |
| Fabric For Soil Stabilization   | Square Yard     |

SP2 R35

**FALSE SUMPS:** (7-1-95)

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*.

SP2 R40

**SHOULDER AND FILL SLOPE MATERIAL:** (5-21-02)

**Description**

Perform the required shoulder and slope construction for this project in accordance with the applicable requirements of Section 560 and Section 235 of the *Standard Specifications* except as follows:

Construct the top 6 inches of shoulder and fill slopes with soils capable of supporting vegetation.

Provide soil with a P.I. greater than 6 and less than 25 and with a pH ranging from 5.5 to 6.8. Remove stones and other foreign material 2 inches or larger in diameter. All soil is subject to test and acceptance or rejection by the Engineer.

Obtain material from within the project limits or approved borrow source.

Where the material has been obtained from an authorized stockpile or from a borrow source, measurement and payment will be made as provided in Section 230 of the Specifications "Borrow Excavation".

SP2 R45

**PIPE ALTERNATES:** (7-18-06)

**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**

| <b>Item</b>                               | <b>Section</b> |
|---|----------------|
| HDPE Pipe, Type S or D                    | 1044-7         |
| 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 *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 *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**

The quantity of \_\_\_\_ "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 *Standard Specifications*.

The quantity of \_\_\_\_ "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 *Standard Specifications*.

Payment will be made under:

| <b>Pay Item</b>  | <b>Pay Unit</b> |
|--|-----------------|
| ____ " Aluminized Corrugated Steel Pipe Culverts, ____ " Thick | Linear Foot     |
| ____ " HDPE Pipe Culverts                                      | Linear Foot     |

SP3 R35

**REINFORCED BRIDGE APPROACH FILL:** (3-18-03) (Rev.7-18-06)

**Description**

This work consists of all work necessary to construct reinforced bridge approach fills in accordance with these provisions and the plans, and as directed by the Engineer.

**Materials****Geomembrane**

Provide geomembrane that is impermeable, composed of polyethylene polymers or polyvinyl chloride, and meets the following physical requirements:

| <b>Property</b>                  | <b>Requirements</b>                           | <b>Test Method</b> |
|----------------------------------|---|--------------------|
| Thickness                        | 25 mils Minimum                               | ASTM D1593         |
| Tensile Strength at Break        | 100 lb/inch Minimum                           | ASTM D638          |
| Puncture Strength                | 40 lbs Minimum                                | ASTM D 4833        |
| Moisture Vapor Transmission Rate | 0.018 ounce/yard <sup>2</sup> per Day Maximum | ASTM E96           |

**Fabric**

Refer to Section 1056 for Type 2 Engineering Fabric and the following:

Use a woven fabric consisting of strong rot-proof synthetic fibers such as polypropylene, polyethylene, or polyester formed into a stable network such that the filaments or yarns retain their relative positions to each other.

| <b>Fabric Property</b> | <b>Requirements</b>       | <b>Test Method</b> |
|------------------------|---------------------------|--------------------|
| Minimum Flow Rate      | 2 gallons/min/square foot | ASTM D 4491        |

Lamination of fabric sheets to produce the physical requirements of a fabric layer will not be accepted. Furnish letters of certification from the manufacturer with each shipment of the fabric and geomembrane attesting that the material meets the requirements of this provision; however, the material is subject to inspection, test, or rejection by the Engineer at any time.

During all periods of shipment and storage, wrap the geomembrane and fabric in a heavy-duty protective covering to protect the material from ultraviolet rays. After the protective wrapping has been removed, do not leave the material uncovered under any circumstances for longer than 4 days.

**Select Material**

Provide select material meeting the requirements of Class III, Type 1 or Type 2, or Class V select material of Section 1016 of the *Standard Specifications*. When select material is required under water, use select material class V only, up to one foot above the existing water elevation.

**4 inch Diameter Corrugated Drainage Pipe and Fittings**

Provide pipe and fittings that meet all the applicable requirements of Section 815 or 816 of the *Standard Specifications*.

## Construction Methods

Place the geomembrane and fabric as shown on the plans or as directed by the Engineer. Perform the excavation for the fabric reinforced fill to the limits shown on the plans. Provide an excavated surface free of obstructions, debris, pockets, stumps, and cleared of all vegetation. The geomembrane or fabric will be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation, handling or storage. Lay all layers smooth, and free from tension, stress, folds, wrinkles or creases. Place all the fabric layers with the machine direction (roll direction) parallel to the centerline of the roadway. A minimum roll width of 10.0 feet for the fabric is required. Overlap geomembrane or fabric splices parallel to the centerline of the roadway a minimum of 18 inches. Geomembrane or fabric splices parallel to the backwall face will not be allowed.

Deposit and spread select material in successive, uniform, approximately horizontal layers of not more than 10 inches in depth, loose measurement, for the full width of the cross section, and keep each layer approximately level. Place and compact each layer of select material fill no more than 10 inches thick with low ground pressure equipment. Use hand operated equipment to compact the fill material within three feet of the backwall and wingwalls as directed by the Engineer. Compact select material to a density equal to at least 95% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. Compact the top eight inches of select material to a density to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. Density requirements are not applicable to select material, class V; however compact the fill with at least four passes of low ground pressure equipment on the entire surface as directed by the Engineer. The compaction of each layer of select material shall be inspected and approved by the Department prior to the placement of the next fill layer. No equipment will be allowed to operate on the drainage pipe or any geomembrane/fabric layer until it is covered with at least six inches of fill material. Compaction shall not damage the drainage pipe, geomembrane, or fabric under the fill. Cover the geomembrane/fabric with a layer of fill material within four days after placement of the geomembrane/fabric. Geomembrane and fabric that are damaged as a result of installation will be replaced as directed by the Department at no additional cost.

Place the geomembrane on the ground, and attach and secure it tightly to the vertical face of the backwall and wingwalls with adhesives, duct-tape, nails or any other method approved by the Engineer. Place the first fabric layer on the surface of the geomembrane with the same dimensions of the geomembrane. No material or void is allowed between the geomembrane and the first fabric layer. Place and fold the remaining fabric layers on the edges as shown on the plans or as directed by the Engineer. Provide vertical separation between fabric layers as specified on the plans. The number of fabric layers will be shown in the plans.

Place four inch diameter perforated drainage pipe along the base of the backwall and sloped to drain as shown on the plans. Completely wrap perforated drainage pipe and #78M stone with Type 2 Engineering Fabric as shown on the plan detail. Install a pipe sleeve through the bottom of or under the wing wall prior to placing concrete for the wing wall. The pipe sleeve shall be of adequate strength to withstand the wingwall load. Place the pipe sleeve in position to allow the

drainage pipe to go through the wing wall with a proper slope. Connect four-inch diameter nonperforated (plain) drainage pipe with a coupling to the perforated pipe near the inside face of the wingwall. Place the nonperforated drainage pipe through the pipe sleeve, extend down to the toe of the slope and connect, to a ditch or other drainage systems as directed by the Engineer. For bridge approaches in cut sections where no side slope is available, direct the drainage pipe outlet to the end slope down to the toe using elbows as directed by the Engineer.

**Measurement and Payment**

*Reinforced Bridge Approach Fill, Station \_\_\_\_\_* will be paid for at the contract lump sum price. Such price and payment will be full compensation for both approach fills at each bridge installation, including but not limited to furnishing, placing and compacting select material, furnishing and placing geomembrane and woven fabric, furnishing and placing pipe sleeve, drainage pipe, and stone, furnishing and installing concrete pads at the end of outlet pipes, excavation and any other items necessary to complete the work.

Payment will be made under:

|  |                 |         |
|--|-----------------|---------|
| <b>Pay Item</b>                                | <b>Pay Unit</b> |         |
| Reinforced Bridge Approach Fill, Station _____ | Lump Sum        | SP4 R01 |

**ASPHALT PAVEMENTS - SUPERPAVE** (7-18-06)

Revise the *2006 Standard Specifications* as follows:

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

*or ASTM D 2041*

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

| Mix Type | Course Aggregate Angularity <sup>(b)</sup> | Fine Aggregate Angularity % Minimum AASHTO T 304 Method A | Sand Equivalent % Minimum AASHTO T 176 | Flat & Elongated 5:1 Ratio % Maximum ASTM D 4791 Section 8.4 |
|----------|--|---|--|--|
| S 9.5 D  | ASTM D 5821<br>100/100                     | 45  | 50                                     | 10   |

**ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:** (11-21-00)

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*.

SP6 R15

**ASPHALT PLANT MIXTURES:** (7-1-95)

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.

SP6 R20

**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 \$369.29 per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on June 1, 2006.

SP6 R25

**GUARDRAIL ANCHOR UNITS, TYPE 350:** (4-20-04)

**Description**

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



**Materials**

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

Guardrail anchor unit (ET-2000) 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 Section 106-2 of the Standard Specifications.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Section 105-2 of the 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 Section 1088-3 of the *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 Articles 862-6 of the *Standard Specifications*.

Payment will be made under:

|                                  |                 |
|----------------------------------|-----------------|
| <b>Pay Item</b>                  | <b>Pay Unit</b> |
| Guardrail Anchor Units, Type 350 | Each            |

SP8 R65

**PREFORMED SCOUR HOLE WITH LEVEL SPREADER APRON:** (10-15-02) (Rev 7-18-06)

### Description

Construct and maintain preformed scour holes with spreader aprons at the locations shown on the plans and in accordance with the details in the plans. Work includes excavation, shaping and maintaining the hole and apron, furnishing and placing filter fabric, rip rap (class as specified in the plans) and permanent soil reinforcement matting.

### Materials

|               |                |
|---------------|----------------|
| <b>Item</b>   | <b>Section</b> |
| Plain rip rap | 1042           |
| Filter Fabric | 1056           |

The permanent soil reinforcement matting shall be permanent erosion control reinforcement mat and shall be constructed of 100% coconut fiber stitch bonded between a heavy duty UV stabilized cusped (crimped) netting overlaid with a heavy duty UV stabilized top net. The three nettings shall be stitched together on 1.5 inch centers UV stabilized polyester thread to form a permanent three dimensional structure. The mat shall have the following physical properties:

| <i>Property</i>                           | <i>Test Method</i> | <i>Value Unit</i> |
|---|--------------------|-------------------|
| Ground Cover                              | Image Analysis     | 93 %              |
| Thickness                                 | ASTM D1777         | 0.63 in           |
| Mass Per Unit Area                        | ASTM D3776         | 0.92 lb/sy        |
| Tensile Strength                          | ASTM D5035         | 480 lb/ft         |
| Elongation                                | ASTM D5035         | 49 %              |
| Tensile Strength                          | ASTM D5035         | 960 lb/ft         |
| Elongation                                | ASTM D5035         | 31 %              |
| Tensile Strength                          | ASTM D1682         | 177 lbs           |
| Elongation                                | ASTM D1682         | 22 %              |
| Resiliency                                | ASTM D1777         | >80 %             |
| UV Stability *                            | ASTM D4355         | 151 lbs           |
| Color(Permanent Net)                      |                    | UV Black          |
| Porosity (Permanent Net)                  | Calculated         | >95 %             |
| Minimum Filament Diameter (permanent net) | Measured           | 0.03 in           |

\*ASTM D1682 Tensile Strength and % strength retention of material after 1000 hours of exposure in a Xenon-arc weatherometer.

- 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 will be required.

**Soil Preparation**

All areas to be protected with the mat shall be brought to final grade and seeded in accordance with Section 1660. The surface of the soil shall be smooth, firm, stable and free of rocks, clods, roots or other obstructions that would prevent the mat from lying in direct contact with the soil surface. Areas where the mat is to be placed will not need to be mulched.

**Measurement and Payment**

*Performed Scour Holes with Level Spreader Aprons* will be measured and paid for as the actual number that have been incorporated into the completed and accepted work. Such price and payment will be full compensation for all work covered by this provision.

Payment will be made under:

| <b>Pay Item</b>                                 | <b>Pay Unit</b> |          |
|---|-----------------|----------|
| Performed Scour Hole with Level Spreader Aprons | Each            | SP8 R105 |

**AGGREGATE PRODUCTION:** (11-20-01)

Provide aggregate from a producer who uses the new 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 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.

SP10 R05

**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 that 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.

SP10 R10

**GLASS BEADS:** (7-18-06)

Revise the *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 D-1155.*

Delete the last paragraph.

SP10 R35

**ENGINEERING FABRICS TABLE 1056-1:** (7-18-06)

Revise the *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              |

SP10 R40