



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

November 1, 2004

**Addendum No. 1**

RE: Contract ID: C200964  
WBS # 33322.3.2  
F.A. # BRZ-STP-1603 (3)  
Nash County (B-3879)  
Bridge over Stoney Creek and  
Approaches on SR-1603.

**November 16, 2004 Letting**

To Whom It May Concern:

Reference is made to the proposal furnished to you on the above-mentioned project.

The following revision has been made to the proposal form:

Page No. 57A, 57B and 57C have been added to include the Project Special Provision entitled "Reinforced Bridge Approach Fills". Please add Page's 57A, 57B and 57C after Page No. 57 in your proposal.

On page No. 6 of the item sheets, a new pay item is being added. By copy of this addendum, the following pay item is hereby added: "124-002900000-N-SP Reinforced Bridge Approach Fills Station 22+61.00-L-(Quantity=Lump Sum). The Contractor's bid price must include this new pay item. The Contract will be prepared accordingly.

The Expedite file has been updated to reflect this revision. Please download the Expedite addendum file and follow the instructions for applying the addendum. Bid Express will not accept your bid unless all addendum's have been applied.

Sincerely,

A handwritten signature in black ink, appearing to read "R. A. Garris".

R. A. Garris, PE  
Contract Officer

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACTS & PROPOSALS  
1591 MAIL SERVICE CENTER  
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4124  
FAX: 919-250-4127

WEBSITE: [WWW.DOH.DOT.STATE.NC.US](http://WWW.DOH.DOT.STATE.NC.US)

**LOCATION:**  
CENTURY CENTER COMPLEX  
BUILDING B - ENTRANCE B 15  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC

Page No. 2 (C200964)  
Nash County

RAG/jr/pa  
Attachments

cc: Mr. W. S. Varnedoe, PE  
Mr. S. D. DeWitt, PE  
Mr. E. C. Powell, PE  
Mr. J. H. Trogdon, PE  
Ms. D. M. Barbour, PE  
Mr. Art McMillan, PE  
Mr. J. V. Barbour, PE  
Mr. Mark Staley (2)  
Mr. Aydren Flowers  
Mr. R. E. Davenport, Jr., PE  
Ms. Marsha Byrd  
Ms. Taylor Mishoe  
Project File (2)

**REINFORCED BRIDGE APPROACH FILLS:**

03-18-03

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:

<u>Property</u>	<u>Requirements</u>	<u>Test Method</u>
Thickness	25 mils (0.6 mm) Minimum	ASTM D1593
Tensile Strength at Break	100 lb/inch (18 KN/M) Minimum	ASTM D638
Puncture Strength	40 lbs (0.2KN) Minimum	FTMS 101 C 2065
Moisture Vapor Transmission Rate	0.018 ounce/yard <sup>2</sup> (0.615 gm/ m <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.

<u>Fabric Property</u>	<u>Requirements</u>	<u>Test Method</u>
Minimum Flow Rate	2 gallons/min/square foot (1358 cm <sup>3</sup> /sec/square meter)	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 (300mm) above the existing water elevation.

#### 4" (100mm) 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:

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) perpendicular to the backwall face. Overlap geomembrane or fabric splices perpendicular to the backwall face a minimum of 18 inches (450 mm). 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 (250 mm) 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 (250 mm) thick with low ground pressure equipment. Use hand operated equipment to compact the fill material within three feet (0.9 m) 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 (200 mm) 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 must 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 (150 mm) of fill material. Compaction must 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 is 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 (100 mm) 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 must 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 (100-mm) 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:

Compensation:

All work covered by this provision will be paid for at the contract lump sum price for "Reinforced Bridge Approach Fills, Station \_\_\_\_\_". 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:  
Reinforced Bridge Approach Fills, Station \_\_\_\_\_

Lump Sum  
SP4R01