



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

September 15, 2017

**Addendum No. 3**

RE: Contract # C204039

WBS # 34243.3.2

STATE FUNDED

**Polk County (I-4729A)**

I-26/US-74/NC-108 Interchange Modifications in the Town Of Columbus

**September 19, 2017 Letting**

To Whom It May Concern:

Reference is made to the proposal form furnished to you on this project.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 3 Dated 09-15-2017".
GT-8.1 thru GT-8.6	Special Provision added entitled "SIMULATED STONE FORM LINER FINISH".

Please void the Proposal Cover and staple the revised Proposal Cover thereto. Please add New Page Nos. GT-8.1 thru GT-8.6 after existing Page No. GT-7.2.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:  
*Ronald E. Davenport, Jr.*  
F81B6038A47A442...

Ronald. E. Davenport, Jr., PE  
State Contract Officer

Mailing Address:  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACT STANDARDS AND DEVELOPMENT  
1591 MAIL SERVICE CENTER  
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900  
Fax: (919) 250-4127  
Customer Service: 1-877-368-4968

Location:  
1020 BIRCH RIDGE DR.  
RALEIGH, NC 27610

Website: www.ncdot.gov

RED/jjr  
Attachments

cc: Mr. Lamar Sylvester, PE  
Mr. Brian Burch, PE  
Mr. Chris Werner, PE  
Mr. Ken Kennedy, PE  
Mr. Jon Weathersby, PE  
Ms. Jaci Kincaid  
Project File (2)

Mr. Ray Arnold, PE  
Ms. Theresa Canales, PE  
Mr. Brian Hanks, PE  
Mr. Mike Gwyn  
Ms. Penny Higgins  
Mr. Mitchell Dixon  
Ms. Lori Strickland

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH, N.C.

PROPOSAL

**INCLUDES ADDENDUM No. 1 DATED 08-31-2017**  
**INCLUDES ADDENDUM No. 2 DATED 09-14-2017**  
**INCLUDES ADDENDUM No. 3 DATED 09-15-2017**

DATE AND TIME OF BID OPENING: **SEPTEMBER 19, 2017 AT 2:00 PM**

CONTRACT ID      C204039  
WBS                34243.3.2

FEDERAL-AID NO. STATE FUNDED

COUNTY            POLK

T.I.P. NO.        I-4729A

MILES             0.679

ROUTE NO.        I 26

LOCATION           I-26/US-74/NC-108 INTERCHANGE MODIFICATION IN THE TOWN  
OF COLUMBUS.

TYPE OF WORK    GRADING, DRAINAGE, PAVING, SIGNING, AND STRUCTURES.

**NOTICE:**

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

**BIDS WILL BE RECEIVED AS SHOWN BELOW:**

**THIS IS A ROADWAY PROPOSAL**

**5% BID BOND OR BID DEPOSIT REQUIRED**

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**SIMULATED STONE FORM LINER FINISH****(SPECIAL)****1.0 GENERAL**

The work covered by this special provision consists of constructing textured surfaces on precast and formed reinforced concrete surfaces as indicated on the Plans and in this Special Provision. The Contractor shall furnish all materials, labor, equipment, and incidentals necessary for the construction of architectural concrete surface treatment using simulated stone masonry form liners (molds) as a cast-in-place (CIP) or precast element and a compatible concrete coloring system.

The architectural concrete surface treatment should match the appearance (stone size and shape, stone color, and stone texture, pattern, and relief) of natural stone and rock as in a custom form that has been constructed to simulate the rock headwall at Appalachian State University, George M. Holmes Convocation Center or as directed by the Engineer. Grout pattern joints (mortar joints) and bed thickness should re-create the appearance and color of cast-in-place and/or precast concrete surfaces as indicated in the Plans, this Special Provision, or as directed by the Engineer.

**2.0 SUBMITTALS**

**Shop Drawings** - The Contractor shall submit for review and acceptance, plan and elevation views and details showing overall simulated stone pattern, joint locations, form tie locations, and end, edge or other special conditions. The drawings should include typical cross sections of applicable surfaces, joints, corners, stone relief, stone size, pitch/working line, mortar joint and bed depths. If necessary, the Contractor shall revise the shop drawings until the proposed form liner patterns and arrangement have been accepted by the Engineer. Shop drawings should be of sufficient scale to show the detail of all stone and joints patterns. The size of the sheets used for the shop drawings shall be 22" x 34" (560mm x 864mm).

The form liner shall be patterned such that long continuous horizontal or vertical lines do not occur on the finished CIP exposed surface. The line pattern shall be random in nature and shall conceal construction joint lines in CIP work. Special attention should be given to details for wrapping form liners around corners.

Shop drawings shall be reviewed and accepted prior to fabrication of form liners.

**Sample Panels** – After the shop drawings have been reviewed and accepted by the Engineer, the Contractor shall construct 36" x 60" (610mm x 610mm) transportable sample panel(s) at the project site. The materials used in construction of the sample panel(s) shall comply with section 420 of the Standard Specifications. The sample panel(s) shall be constructed using approved form liners. Sample panels will be required for each different form liner pattern that is to be used on the project. Any sample panel that is not accepted by the Engineer is to be removed from the project site and a new sample panel produced at no additional expense to the Department.

Architectural surface treatments and patterns of the finished work shall achieve the same final effect as demonstrated on the accepted sample panel(s). Upon acceptance by the Engineer, the

sample panel(s) shall be used as the quality standard for the project. After the acceptance of the completed structure, the Contractor shall dispose of the sample panels as directed by the Engineer.

### **3.0 MATERIALS**

#### **Form Liner**

Form liners are to be a high-quality reusable product manufactured of high-strength urethane that attaches easily to the forming system and shall not compress more than ¼ inch when the wall is poured at 10 vertical feet per hour.

The form liners are to be patterned after the above referenced wall, or as directed by the Engineer. The custom form liner is to be constructed according to this Special Provision and as supplied by:

Hunt Valley Distributors, LLC  
3705 Crondall Lane  
Owings Mills, MD 21117  
410.356.9677

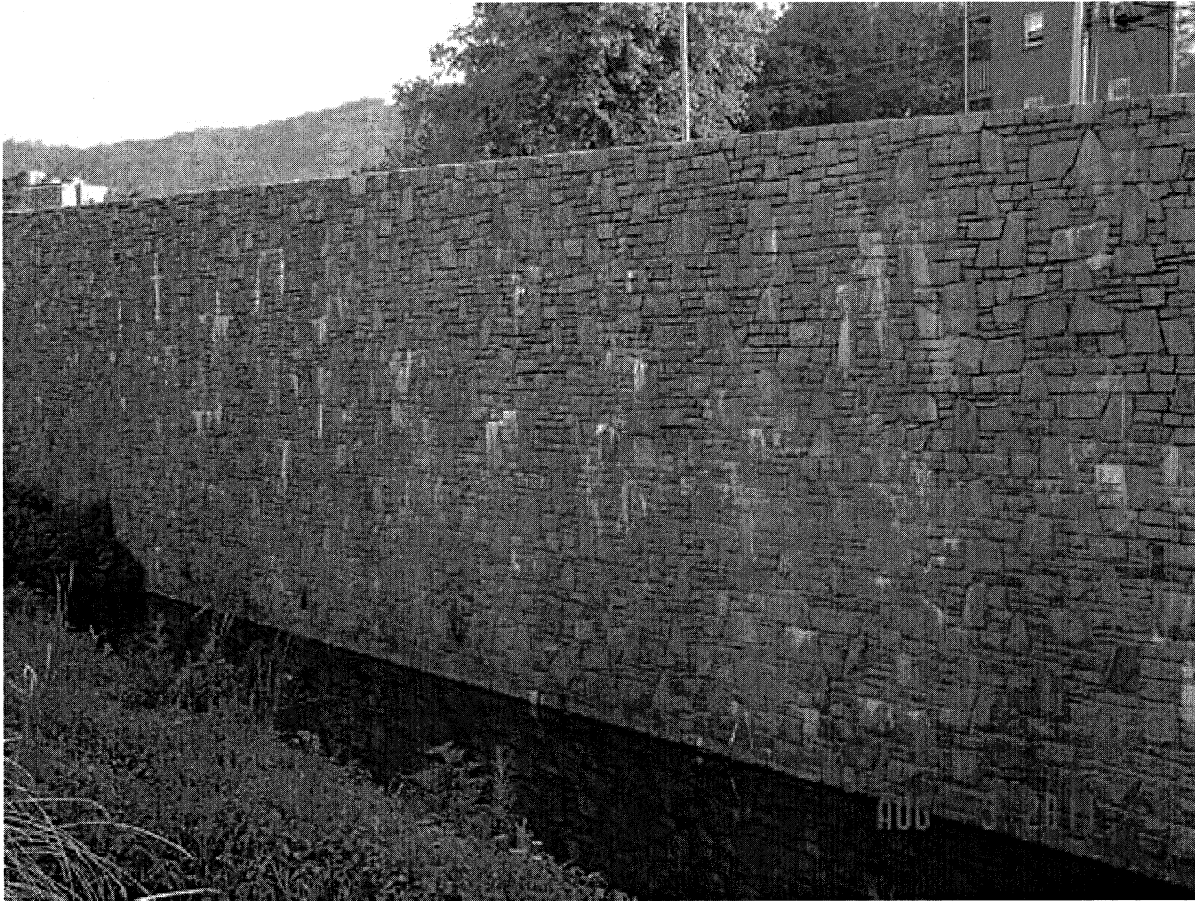
The Contractor has the option of supplying stone-textured surface treatment as specified above or an approved equal by one of the alternative manufactures listed below. One form liner pattern will be used on this project.

Custom Rock International  
1156 Homer Street  
St. Paul, Minnesota 55116  
800.637.2447

Fitzgerald Prime Form and Construction Supply Company  
1341 East Pomona Street  
Santa Ana, California 92705  
714.547.6710  
Fax 714.547.7958

Greenstreak Plastics  
3400 Tree Court Industrial Boulevard  
St. Louis, Missouri 63112  
314.225.9400 / 800.325.9504  
Fax 800.551.5145

Symons Corporation  
200 East Touhy Avenue  
Des Plaines, Illinois 60018  
847.296.3200  
Fax 847.635.9287



Example 1: Stone Wall at Appalachian State University, Boone, North Carolina

### **Color Stain**

The final coloration is to be approved by the Engineer.

Color stains shall be a special penetrating stain mix as provided by the manufacturer and shall be in multiple colors of gray, brown, white, and black to achieve a full, natural color variation in the finished surface. The stain shall create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, acid, alkali, fungi, sunlight, or weathering. Stain mix shall meet the requirements for mildew resistance of Federal Test Method Standard 144, Method 6271, and requirements for weathering resistance of 1,000 hours accelerated exposure measures by Weatherometer in accordance with ASTM G 26. Color samples must be submitted for approval. Concrete stains shall be supplied by one of the following or as approved by the Engineer.

Sherwin Williams  
H & C Shield Plus  
101 Prospect Ave., NW  
Cleveland, OH 44115

Canyon Tone Stain  
United Coatings  
E 1901 Cataldo  
Green Acres, Washington 90016

Cementrate Acrylic Stain  
Fosroc, Inc.  
55 Skyline Drive  
Plainview, New York 11803

Hydroshield Stain  
Robson-Downes Associates, Inc.  
Oxford, Maryland 21654

**Form Release Agent**

Form release agent shall be a nonstaining petroleum distillate free from water, asphaltic, and other insoluble residue, or an equivalent product. Form release agents shall be compatible with the color system applied and any special surface finish.

**Form Ties For CIP Forms**

Form ties shall be set back a minimum of 2" (51 mm) from the finished concrete surface. The ties shall be designed so that all material in the device to a depth of at least 2" (51mm) back of the concrete face (bottom of simulated mortar groove) can be disengaged and removed without spalling or damaging the concrete. The Contractor shall submit the type of form ties to the Engineer for approval.

A pre-installation conference with manufacturer representative and the Engineer to assure understanding of simulated stone masonry form liner use, color application, requirements for construction of sample panel(s), and to coordinate the work. The Contractor shall be required to disclose their source of simulated stone masonry manufacturer and final coloration contractor at the Preconstruction Conference.

### 3.0 CONSTRUCTION

#### **Simulated Stone Form Liner System and Surface Finish**

The Contractor shall demonstrate his workmanship by first constructing a sample panel of the simulated stone masonry form liner pattern and coloration. The sample panel shall be constructed on site a minimum of six weeks prior to the construction of the walls. The sample panel shall measure 3' height by 5' length by 8" thick and shall be unreinforced, vertically cast, and of concrete construction to determine the surface texture resulting from the use of form liners. Sample panels shall be cast, finished, and stained until approved by the Engineer. The approved sample panel shall remain on site as the basis for comparison for work constructed on the project. The architectural surface treatment and pattern of the finished work shall achieve the same final effect as demonstrated on the approved sample panel. Upon completion of all work, the panel shall be removed from the site.

The simulated stone form liners are to be capable of withstanding anticipated concrete pour pressures without leakage or without causing physical or visual defects. The simulated stone form liners are to be removable without causing concrete surface deterioration or weakness in the substrate. Form release agents, form stripping methods, patching materials, as well as related construction are to be in accordance with the manufacturer's recommendations or as directed by the Engineer.

Linear butt joints shall be carefully blended into the approved pattern and finished off the final concrete surface. No visible vertical or horizontal seams or conspicuous form marks created by butt joining will be permitted.

The Contractor shall submit the type of form ties to be used in this construction to the Engineer for approval prior to use. Form tie holes shall be finished in accordance with standard concreting practices and shall be acceptable to the Engineer. All patching material shall exactly match the color and appearance of the concrete surface.

Concrete surfaces shall be clean, free of laitance, dirt, dust, grease, efflorescence, paint, or other foreign material, following manufacturer's specifications for surface preparation prior to application of color stain. The surface area shall also be free of blemishes, discolorations, surface voids, and unnatural form marks. The Contractor is advised that sandblasting will not be allowed for cleaning concrete surfaces. Pressure washing for removal of laitance shall be used.

The contractor shall provide a Color Application Artist who is trained in the special techniques to achieve realistic surface appearances, if requested by the Engineer. To avoid contaminating or damaging the wall surfaces, color stain application shall be scheduled when all concrete work is completed, the concrete has cured a minimum of 28 days, the surface has been determined to be acceptable for coloring, and after adjacent earthwork is complete. The Contractor is to coordinate coloring applications without interference from other work. The Contractor is required to apply coloring to an appropriate test area of 50 square feet and as designated by the Engineer, which will serve as a quality standard for the remaining surface to be colored. Upon



approval of the test area by the Engineer, the remaining surfaces may be colored. Stains shall be applied when ambient air temperatures are in accordance with manufacturer's specifications or as directed by the Engineer. The number of coats of stain applied shall be in accordance with manufacturer's specifications or as directed by the Engineer. Treated surfaces located adjacent to exposed soil or pavement shall be temporarily covered to prevent dirt or soil splatter from rain.

Following the completion of all work, repairs of any damage made by other construction operations shall be made to the form lined and colored surfaces as directed by the Engineer.

**4.0 MEASUREMENT AND PAYMENT**

This work will not be measured for payment, but shall be included in the per square foot or linear foot bid price for the pertinent walls and barrier rails, respectively, as shown on plans. Payment will include the furnishing and use of all form liners, coloring stains, the construction, finishing, and removal of all sample panels, and all equipment, materials, labor, and incidentals necessary to complete the work in conformance with the Contract Documents.

