Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

August 30, 2016

Addendum No. 1

Contract No.: DA00314

WBS Element: 17BP.1.R.62

Replacement of Bridge #3 over Albemarle Canal in Washington County

To Whom It May Concern:

Reference is made to the proposal previously furnished for this project.

The following revisions have been made to the proposal:

Page No. 106, "Construction of Superstructure" has been revised to include "elastomeric concrete and foam joint seals" in the description of work. Please void existing Page No. 106 and replace with revised Page No. 106.

Page No. 108, "Concrete Wearing Surface" has been revised to include "grooving bridge deck and approach slabs" under "Basis of Payment". Please void existing Page No. 108 and replace with revised Page No. 108.

Page No. 110, "Elastomeric Concrete" has been revised to clarify "Basis of Payment". Please void existing Page No. 110 and replace with revised Page No. 110.

Page No. 113, "Foam Joint Seals" has been revised to clarify "Basis of Payment". Please void existing Page No. 113 and replace with revised Page No. 113.

If you choose the "Electronic Bid Preparation with Manual Delivery Method" or "Traditional Paper Bid Method," please acknowledge receipt of Addendum #1 in the space provided on the Addendum Acknowledgement Form.

If you choose the "Electronic Bid Preparation with Manual Delivery Method," place DA00314.001 in the same folder with DA00314.EBS, so that Expedite Bid will properly apply the addendum.

Sincerely,

DocuSigned by:
W. B. Hobbs
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W. B. Hobbs, PE
Division Project Manager

WBH/ces
Attachment

cc: A. W. Roper, PE
C. S. Mebane, PE
R. W. Midgett, PE

CONSTRUCTION OF SUBSTRUCTURE: **REVISED 8/30/2016**

Description:

The work covered by this special provision consists of furnishing all labor, equipment, materials, and incidentals necessary to complete the construction of the substructure as is defined in Article 101-3 of the *2012 Standard Specifications for Roads and Structures*.

Materials:

All material shall conform to the Specifications or any applicable contract special provision.

Construction Methods:

All work shall be performed in accordance with the contract plans and the Standard Specifications or any applicable contract special provision.

Basis of Payment:

All work covered by this section will be paid for at the contract lump sum price for "Construction of Substructure" except as noted below.

Piles will be paid for in accordance with other provisions in this Contract.

CONSTRUCTION OF SUPERSTRUCTURE:

Furnish and erect prestressed concrete cored slabs, prestressed concrete box beams, concrete wearing surface, elastomeric bearings, elastomeric concrete, foam joint seals, cast in place concrete barrier rails, and applicable grouting.

Complete all work in accordance with the contract plans and the Standard Specifications except payment for these items will be as described below.

No measurement will be made for these items. The price and payment below will be full compensation for all work covered by this provision including but not limited to furnishing all materials, labor, tools, equipment and all incidentals necessary to complete the work.

The removal of the existing structure shall be paid at the contract lump sum price for "Removal of Existing Structure."

Payment will be made under:

Pay Item	**Pay Unit**
Construction of Superstructure	Lump Sum

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BASIS OF PAYMENT

The Placement of the Concrete Wearing Surface is considered incidental to the "Construction of Superstructure" and no additional compensation will be granted.

This will be full compensation for all work covered by this Special Provision and applicable parts of the Standard Specifications, including but not limited to furnishing and placing concrete, epoxy coated reinforcing steel, joint filler and sealer, deck drains, bridge scuppers, and any other material; grooving bridge deck and approach slabs; erecting and removing all forms, curing concrete, protecting concrete in wind, rain, low humidity, high temperatures or other unfavorable weather.

ELASTOMERIC CONCRETE (12-18-12)

1.0 DESCRIPTION

Elastomeric concrete is a mixture of a two-part polymer consisting of polyurethane and/or epoxy and kiln-dried aggregate. Provide an elastomeric concrete and binder system that is preapproved. Use the concrete in the blocked out areas on both sides of the bridge deck joints as indicated on the plans.

2.0 MATERIALS

Provide materials that comply with the following minimum requirements at 14 days (or at the end of the specified curing time).

ELASTOMERIC CONCRETE PROPERTIES	TEST METHOD	MINIMUM REQUIREMENT
Compressive Strength, psi	ASTM D695	2000
5% Deflection Resilience	ASTM D695	95
Splitting Tensile Strength, psi	ASTM D3967	625
Bond Strength to Concrete, psi	ASTM D882 (D882M)	450
Durometer Hardness	ASTM D2240	50

BINDER PROPERTIES (without aggregate)	TEST METHOD	MINIMUM REQUIREMENT
Tensile Strength, psi	ASTM D638	1000
Ultimate Elongation	ASTM D638	150%
Tear Resistance, lb/in	ASTM D624	200

still tacky and within 2 hours after applying the primer. Trowel the elastomeric concrete to a smooth finish.

The joint opening in the elastomeric concrete shall match the formed opening in the concrete deck prior to sawing the joint.

5.0 FIELD SAMPLING

Provide additional production material to allow freshly mixed elastomeric concrete to be sampled for acceptance. A minimum of six 2 inch cube molds and three 3x6 inch cylinders will be taken by the Department for each day's production. Compression, splitting tensile, and durometer hardness testing will be performed by the Department to determine acceptance. Materials failing to meet the requirements listed above are subject to removal and replacement at no cost to the Department.

6.0 BASIS OF PAYMENT

Payment for the placement of elastomeric concrete will be included in the contract lump sum price for "Construction of Superstructure". Such price and payment will be full compensation for furnishing all materials, labor, tools and equipment necessary for the placement of elastomeric concrete.

FOAM JOINT SEALS (9-27-12)

SEALS

Use preformed seals compatible with concrete and resistant to abrasion, oxidation, oils, gasoline, salt and other materials that are spilled on or applied to the surface. Use a resilient, UV stable, preformed, impermeable, flexible, expansion joint seal. The joint seal shall consist of low-density, closed cell, cross-linked polyethylene non-extrudable, foam. The joint seal shall contain no EVA (Ethylene Vinyl Acetate). Cell generation shall be achieved by being physically blown using nitrogen. No chemical blowing agents shall be used in the cell generation process.

Use seals manufactured with grooves 1/8"± wide by 1/8"± deep and spaced between 1/4" and 1/2" apart along the bond surface running the length of the joint. Use seals with a depth that meets the manufacturer's recommendation, but is not less than 70% of the uncompressed width. Provide a seal designed so that, when compressed, the center portion of the top does not extend upward above the original height of the seal by more than 1/4". Provide a seal that has a working range of 30% tension and 60% compression and meets the requirements given below.

TEST	TEST METHOD	REQUIREMENT
Tensile strength	ASTM D3575-08, Suffix T	110 – 130 psi
Compression Set	ASTM D1056 Suffix B, 2 hr recovery	10% - 16%
Water Absorption	ASTM D3575	< 0.03 lb/ft^2

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Begin installation by protecting the top edges of the concrete deck adjacent to the vertical walls of the joint as a means to minimize clean up. After opening both cans of the bonding agent, stir each can using separate stirring rods for each component to prevent premature curing of the bonding agent. Pour the two components, at the specified mixing ratio, into a clean mixing bucket. Mix the components with a low speed drill (400 rpm max.) until a uniform gray color is achieved without visible marbling. Apply bonding agent to both sides of the elastomeric concrete as well as both sides of the joint seal, making certain to completely fill the grooves with epoxy. With gloved hands, compress the joint seal and with the help of a blunt probe, push the seal into the joint opening until the seal is recessed approximately 1/4" below the surface. When pushing down on the joint seal, apply pressure only in a downward direction. Do not push the joint seal into the joint opening at an angle that would stretch the material. Seals that are stretched during installation shall be removed and rejected. Once work on placing a seal begins, do not stop until it is completed. Clean the excess epoxy from the top of the joint seal immediately with a trowel. Do not use solvents or any cleaners to remove the excess epoxy from the top of the seal. Remove the protective cover at the joint edges and check for any excess epoxy on the surface. Remove excess epoxy with a trowel, the use of solvents or any cleaners will not be allowed.

The installed system shall be watertight and will be monitored until final inspection and approval. Do not place pavement markings on top of foam joint seals.

BASIS OF PAYMENT

Payment for the installation of foam joint seals will be included in the contract lump sum price for "Construction of Superstructure." Such price and payment will be full compensation for furnishing all materials, labor, tools and equipment necessary for the installation of foam joint seals.

EXCAVATION AND EMBANKMENT:

Description:

Furnish all labor, equipment, materials, and incidentals necessary to complete applicable items of work defined in Division 2, Division 5, Section 410, Section 412, Section 414, and Section 416 of the *2012 Standard Specifications for Roads and Structures.*

Materials:

All material shall conform to the Specifications or any applicable contract special provision.

Construction Methods:

All work shall be performed in accordance with the Specifications or any applicable contract special provision.

Basis of Payment

All work covered by this section will be paid for at the contract lump sum price for "Generic Grading Item (Excavation and Embankment)".