



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

October 8, 2010

**Addendum No. 1**

RE: Contract ID C202606

WBS # 47065.3.1

F. A. # BRSTP-0133(9)

**Brunswick County (BK-5129)**

Replace Fender System Bridge #14 on NC-133 Over Atlantic Intracoastal Waterway  
Between Southport and Oak Island

**October 19, 2010 Letting (Advertisement extended from September 21, 2010 Letting)**

To Whom It May Concern:

This project was originally scheduled for a September 21, 2010 bid opening. It was decided to extend the advertisement, make some changes and open bids on Tuesday, October 19, 2010 at 2:00 PM.

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

The following revisions have been made to the plans:

On the Title Sheet the letting date has been revised. Please void the existing Title Sheet and staple the revised Title Sheet thereto.

On Sheet No. S-1 the "Total Bill of Material" and the note concerning the "stainless steel bolts" has been revised. Please void Sheet No. S-1 in your plans and staple the revised Sheet No. S-1 thereto.

The following revisions have been made to the Proposal:

The bid opening date on the proposal cover sheet has been revised from "September 21, 2010" to "October 19, 2010". Please void the existing cover sheet and staple the revised cover sheet (Dated Revised 10-8-10) thereto.

On Page No. 30 a sentence was added to the first paragraph of the project special provision entitled "Plastic Fender System". Please void Page No. 30 in your proposal and staple the revised Page No. 30 thereto.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACT STANDARDS AND DEVELOPMENT UNIT  
1591 MAIL SERVICE CENTER  
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4128  
FAX: 919-250-4119  
WEBSITE: [WWW.NC DOT.ORG](http://WWW.NC DOT.ORG)

**LOCATION:**  
CENTURY CENTER COMPLEX  
ENTRANCE B-2  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC 27610

On Page No. 31 some changes were made to "Table 1". Please void Page No. 31 in your proposal and staple the revised Page No. 31 thereto.

On Page No. 32 some changes were made to "Table 2". Please void Page No. 32 in your proposal and staple the revised Page No. 32 thereto.

On Page No. 34 the paragraph "5.0 Basis of Payment" has been revised. Please void Page No. 34 in your proposal and staple the revised Page No. 34 thereto.

On Page No. 35 the last paragraph of the project special provisions entitled "As-Built Plans" and "Spare Parts Package" has been changed. Please void Page No.35 in your proposal and staple the revised Page No. 35 thereto.

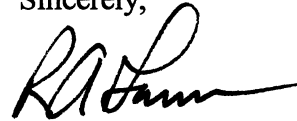
By copy of this addendum the following pay items are hereby revised and new pay items hereby added:

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
2-886000000-N-SP	Plastic Fender System	Lump Sum	<b>DELETED</b>
2-886000000-N-SP	Plastic Lumber	<b>NEW ITEM</b>	Lump Sum
4-866000000-N-SP	Plastic Piles	<b>NEW ITEM</b>	Lump Sum

The Contractor's bid must be based on these new pay items. The contract will be prepared accordingly.

The Expedite File has been updated to reflect the change of let date. Do not use the EBS file you previously downloaded. Please download the new Expedite EBS file associated with the October 19, 2010 letting and then download and apply the addendum file dated 10/08/10. Bid Express will not accept your bid unless the new EBS file is used and the addendum has been applied.

Sincerely,



R. A. Garris, PE  
Contract Officer

RAG/jag  
Attachments

- cc: Mr. Jon Nance, PE
- Mr. Ron Hancock, PE
- Mr. H. A. Pope, PE
- Ms. D. M. Barbour, PE
- Mr. Art McMillan, PE
- Mr. J. V. Barbour, PE
- Mr. G. R. Perfetti, PE
- Mr. Dan Holderman, PE
- Project File (2)

- Mr. R.E. Davenport, PE
- Ms. Natalie Roskam, PE
- Mr. Larry Strickland
- Ms. Penny Higgins
- Ms. Jaci Kincaid
- Mr. Ronnie Higgins
- Ms. Lori Strickland

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

PROPOSAL

*Revised 10-8-10*

DATE AND TIME OF BID OPENING: **OCTOBER 19, 2010 AT 2:00 PM**

CONTRACT ID C202606  
WBS 47065.3.1

FEDERAL-AID NO. BRSTP-0133(9)

COUNTY BRUNSWICK

T.I.P. NO. BK-5129

MILES 0.000

ROUTE NO. NC 133

LOCATION BRIDGE #14 ON NC-133 OVER ATLANTIC INTRACOASTAL WATERWAY  
BETWEEN SOUTHPORT AND OAK ISLAND.

TYPE OF WORK REMOVAL & REPLACEMENT OF FENDER SYSTEM.

**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. NOT WITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING, REGARDLESS OF FUNDING SOURCES.

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

**THIS IS A ROADWAY PROPOSAL**

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

**PLASTIC FENDER SYSTEM**

(SPECIAL)

**1.0 Description**

The work for providing the plastic fender system including the pile clusters consists of furnishing and installing structural plastic (SP) components including fiberglass reinforced plastic lumber (FRPL) and fiberglass reinforced plastic piles (FRPP) and all miscellaneous hardware to complete the work in accordance with the plans and this special provision. The work also includes providing, installing, and later removing temporary navigational lights as mentioned in the "Coordination with the US Coast Guard" special provision. The Department does not require the contractor to purchase different components of the plastic fender system from the same manufacturer.

**2.0 Materials**

Use plastic consisting of a mixture of one or more of the following recycled or virgin thermoplastics: high-density polyethylene, medium-density polyethylene, low-density polyethylene. SP shall contain appropriate colorants and UV inhibitors and shall meet the material property requirements specified in Table 1. SP products must not corrode, rot, warp, splinter or crack. The outer skin of both the FRPL and FRPP shall be black in color unless otherwise specified in the Contract Documents. The outer surface of both the FRPL and the FRPP shall be generally smooth, uniform and consolidated but may contain occasional small blisters or pockmarks.

Manufacture FRPL and FRPP as one continuous piece with no joints or splices and consisting of a dense outer skin surrounding a less dense core. Interior voids shall not exceed 1.0 inch in diameter. The total area of voids shall be less than 5% of the total cross sectional area of the member. FRPL and FRPP shall be free of twist and curvature. Steel reinforcement of either FRPL or FRPP is not permitted.

SP products shall contain glass filament and may be manufactured with or without fiberglass reinforcing rods. FRPL blocking, decking, posts, rails and stringers must meet the minimum structural properties listed in Table 4 and the dimensions and tolerances of Table 2. In addition, 10"x10" FRPL wales must meet the minimum structural properties listed in Table 3. 13" O.D. and 16" O.D. FRPP must meet the minimum structural properties listed in Table 5.

The contractor's attention is called to the fact that while the plans and special provisions reflect 16" O.D. FRPP being used in the fender system, the contractor may substitute larger diameter FRPP in order to meet the requirements of Table 5. The contractor may also substitute 12" O.D. FRPP for the 13" O.D. FRPP shown on the plans and special provisions. Substituted piles must meet all other requirements and their use shall not cause the 90' navigational channel to be encroached upon. Any and all costs associated with these pile substitutions including all related plan modifications are the responsibility of the contractor and no additional payment will be made. Plan modifications shall be submitted for review and approval by the Engineer.

Density ASTM D 792-00	Skin	55-63 pcf
Density ASTM D792-00	Core	48-56 pcf
Water Absorption ASTM D 570-98	Skin	2 hrs: <1.0% weight. increase 24 hrs: <3.0% weight. increase
Impact Resistance ASTM D256-06 Method A or ASTM D256-06 Method D	Skin	Greater than 0.55 ft-lbs/in Greater than 2.77 ft-lbs/in
Hardness ASTM D 2240-05	Skin	44-75 (Shore D)
Abrasion ASTM D 4060-07	Skin	Weight Loss: < 0.02 oz Cycles = 10,000 Wheel = CS17 Load: 2.2 lbs
Chemical Resistance ASTM D756-03	Skin/Core Sea Water Gasoline No. 2 Diesel	< 1.5% weight increase < 9.5% weight increase < 6.0% weight increase
Tensile Properties ASTM D 638-03	Core	Minimum 2200 psi at break
Compressive Modulus ASTM D 695-02	Core	Minimum 40 ksi
Static Coefficient of Friction ASTM D1894-06	Skin	Maximum 0.25, wet
Nail Pull-Out ASTM D6117	Skin/Core	Minimum 60 lbs

FRPL	Dimension	Tolerance
Length	Per order (80 ft maximum)	+6 -0 in
Width	See Contract Plans	± ¼ in
Height	See Contract Plans	± ¼ in
Corner Radius – FRPL (w/ rods) - FRPL (w/o rods)	1 ¼ in	± ½ in
	¼ in	± 1/16 in
Outer Skin Thickness – (if reinforced with rods)	3/16 in	± 1/8 in
Distance from outer surface to rod elements (if reinforced with rods)	1 1/2 in	± 5/8 in
Straightness (gap, bend or inside while lying on a flat surface)		<1 ½ in per 10 feet

Member Size	10 in x 10 in
Modulus of Elasticity as derived below	424 ksi
Stiffness, E.I.	3.28E+08 lb-in <sup>2</sup>
Flexural Strength or Flexural Yield Strength*	5.8 ksi
Weight	30-37 lb/ft

\*As defined in ASTM D6109.

Determine the modulus of elasticity for FRPL by conducting a three point or four point bend test as per ASTM D790 or D6109. The modulus for FRPL with reinforcing rods is to be taken at a strain of 0.01 inches per inch. The modulus for FRPL reinforced without reinforcing rods may be taken by one of the methods suggested in ASTM D6109.

Modulus of Elasticity (ASTM D6109)	300 ksi
Flexural Strength (ASTM D6109)	No fracture at 2500 psi
Compressive Strength (ASTM D6108)	2200 psi parallel to grain 700 psi perpendicular to grain
Screw / Nail Withdrawal (ASTM D6117)	400 lbs screw 250 lbs nail

The Department reserves the right to place a duly authorized inspector in the plant prior to shipment of any SP product for the purpose of determining preapproval. Notify the Engineer at least 7 days in advance of any shipment. Preapproval of SP products shall be on the basis of tests of materials, inspection of SP products, conformance with specified dimensions, appearance, and freedom from defect. Each individual SP piece shall be available for inspection by the inspector. The inspector shall have the authority to reject any or all SP products not manufactured in accordance with these specifications. Any SP products found to be defective in any manner at any time shall be rejected and replaced by an acceptable SP product or repaired in a manner approved by the engineer. All SP products preapproved by the inspector shall be stamped as approved. Preapproval does not guarantee final acceptance.

Final acceptance of all SP products shall be determined by the Engineer.

#### 4.0 Construction Details

Protect materials at all times against exposure to extreme heat or impact. Transport SP in a manner that will minimize scratching or damage to the outer surfaces, stack on dunnage above ground so that it may be easily inspected and store in a manner that will avoid damage. Handle and lift SP with nylon slings. Do not use sharp instruments in handling the product. SP damaged in shipping or handling will be rejected.

Cut, bevel, drill, countersink, and otherwise fabricate SP in accordance with the manufacturer's recommendations Set all material accurately to required levels and lines, with members plumb and true and accurately cut and fitted. Securely attach all composite lumber to substrate by anchoring and fastening as shown on plans. Perform all cutting and drilling in a manner that allows for the collection of all debris and dispose of properly.

After driving, cut off piles at the elevation shown on the plans using sawing or other means as approved by the Engineer. The cut shall be smooth and level to the satisfaction of the Engineer.

#### 5.0 Basis of Payment

The lump sum price bid for "Plastic Piles" will be the full compensation for all plastic piles and all equipment, tools, and work necessary for their installation. The lump sum price bid for "Plastic Lumber" will be full compensation for all other work but not limited to material, equipment, tools, disposal, fasteners, coordinating with the Coast Guard, as-built plans, spare parts package, and other necessary items or effort required for completing the work. No separate payment will be made for plates, bolts, screws, wire rope, or other hardware necessary to complete the work.

### **WIRE ROPE FOR FENDER PILE CLUSTER**

**(SPECIAL)**

Unless otherwise shown on the plans, galvanized aircraft quality wire rope with ultraviolet ray resistant polypropylene impregnation shall be used. The polypropylene plastic shall form a wall

of protection by using spacer wires in the outer gallery of each strand and shall be effectively bonded to the outer plastic jacket. The rope diameter shall be 1/2 inch and the outside diameter of the covering shall be 5/8 inch. The rope construction shall be a 6 by 19 independent wire rope core with nominal strength of 22,800 pounds. All ends shall be protected with heat shrinkable end caps, compatible with the rope's polypropylene. The caps shall provide an effective water-tight seal and shall be installed in accordance with the manufacturer's instructions. The rope shall conform to Federal Specifications W83420 for aircraft quality and the protective coating shall conform to ASTM A 475 (Type 1 coating).

**AS-BUILT PLANS****(SPECIAL)**

The Contractor shall provide As-Built plans to both the Resident Engineer and the Navigational Branch of the U.S. Army Corps of Engineers showing the location of the new fender system. A survey must be performed and referenced to the North Carolina State Plain Coordinate System NAD 1983 US survey feet horizontal datum and NGVD 1929 US survey feet vertical datum. The As-Built plans shall be submitted within thirty (30) days of completion of construction activities to the Resident Engineer and to the US Army Corps of Engineers, Wilmington District, 69 Darlington Ave., Wilmington, North Carolina 28403.

No separate payment will be made for the above work. All costs associated with providing the As-Built plans shall be considered incidental to the lump sum cost of the "Plastic Lumber".

**SPARE PARTS PACKAGE****(SPECIAL)**

In addition to the Bill of Materials list shown on the plans for materials required to build the plastic fender system, the Contractor shall also provide the Department with the following materials for future repair purposes.

Structural Plastic Lumber		
Mark	Size	Quantity
A1	10" X 10" X 32'	8
B	8" X 8" X 8"	21
C	2" X 6" X 16'	10
D	4" X 6" X 4'-4"	6
E	2" X 12" X 2'-6"	20
F2	6" X 10" X 16'	8

Wire rope as described above of sufficient length for use at one pile cluster.

The Contractor shall contact Mr. Chuck Francka at phone number 910-371-6580 at least 48 hours prior to delivery and shall deliver the materials to the bridge maintenance yard at 25 Old River Road, Leland, NC 28451. NCDOT forces will unload the materials.

No separate payment will be made for the above work. All costs associated with providing the Spare Parts Package shall be considered incidental to the lump sum cost of the "Plastic Lumber".