STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

October 5, 2017

**Addendum No. 4**

| | |
|---|---|
| Contract No.: | C204003 |
| TIP No.: | R-4467 |
| County: | Perquimans |
| Project Description: | US 17 Business / NC 37 (North Church Street) from south of the Perquimans River Bridge to north of NC 37 (Winfall Boulevard); including the replacement of Bridge No. 8 |
| RE: | Addendum No. 4 to Final RFP |

**November 21, 2017 Letting**

To Whom It May Concern:

Reference is made to the Final Request for Proposals Including Addendum No. 1 dated July 18, 2017 recently furnished to you on the above project. We have since incorporated changes, and have attached a copy of Addendum No. 4 for your information. Please note that all revisions have been highlighted in gray and are as follows:

The first, second, and third pages of the *Table of Contents* have been revised. Please void the first, second, and third pages in your proposal and staple the revised first, second, and third pages thereto.

Page No. 5 of the *Submittal of Quantities, Fuel Base Index Price and Opt-Out Option Project Special Provision* has been revised. Please void Page No. 5 in your proposal and staple the revised Page No. 5 thereto.

Page No. 44 of the *Price Adjustments for Asphalt Binder Project Special Provision* has been revised. Please void Page No. 44 in your proposal and staple the revised Page No. 44 thereto.

Page Nos. 47, 66 and 70 of the *Lighting Project Special Provision* have been revised. Please void Page Nos. 47, 66 and 70 in your proposal and staple the revised Page Nos. 47, 66 and 70 thereto.

Page No. 92 of the *General Section* has been revised. Please void Page No. 92 in your proposal and staple the revised Page No. 92 thereto.

Page Nos. 112, 113 and 117 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 112, 113 and 117 in your proposal and staple the revised Page Nos. 112, 113 and 117 thereto.

Page Nos. 121, 122, 123 and 125 of the *Structures Scope of Work* have been revised. Please void Page Nos. 121, 122, 123 and 125 in your proposal and staple the revised Page Nos. 121, 122, 123 and 125 thereto.

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

*Telephone:* (919) 707-6900
*Fax:* (919) 250-4119
*Customer Service:* 1-877-368-4968

*Website:* www.ncdot.gov

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

Page Nos. 131 and 133 of the *Geotechnical Engineering Scope of Work* have been revised. Please void Page Nos. 131 and 133 in your proposal and staple the revised Page Nos. 131 and 133 thereto.

Page Nos. 145, 151 and 152 of the *Environmental Permits Scope of Work* have been revised. Please void Page Nos. 145, 151 and 152 in your proposal and staple the revised Page Nos. 145, 151 and 152 thereto.

Page No. 184 of the *Signing Scope of Work* has been revised. Please void Page No. 184 in your proposal and staple the revised Page No. 184 thereto.

Page No. 205 of the *Lighting Scope of Work* has been revised. Please void Page No. 205 in your proposal and staple the revised Page No. 205 thereto.

The *Subsurface Drainage Standard Special Provision* has been deleted. Please void Page No. 221 in your proposal and staple the revised Page No. 221 thereto.

Page No. 285 of the *Division One of Standard Specifications* has been revised. Please void Page No. 285 in your proposal and staple the revised Page No. 285 thereto.

If you have any questions or need additional information, I can be reached by telephone at (919) 707-6900.

Sincerely,

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

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

cc: Chris Werner, PE
Ron McCollum, PE
Jerry Jennings, PE
David Hering, LG, PE
Teresa Bruton, PE
File

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## SUBMITTAL OF QUANTITIES, FUEL BASE INDEX PRICE AND OPT-OUT OPTION

1/23/14 DB1 G43

(A) **Submittal of Quantities**

**Submit quantities** on the *Fuel Usage Factor Chart and Estimate of Quantities* sheet, located in the back of this RFP, following the Itemized Proposal Sheet.

The Design-Build Team shall prepare an Estimate of Quantities that they anticipate incorporating into the completed project and upon which the Price Proposal was based. The quantity breakdown shall include all items of work that appear in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet. Only those items of work which are specifically noted in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be subject to fuel price adjustments.

**Submittal** The submittal shall be signed and dated by an officer of the Design-Build Team. The information shall be copied and submitted in a separate sealed package with the outer wrapping clearly marked "Fuel Price Adjustment" and shall be delivered at the same time and location as the Technical and Price Proposal. The original shall be submitted in the Price Proposal.

**Trade Secret** Information submitted on the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be considered "Trade Secret" in accordance with the requirements of G.S. 66-152(3) until such time as the Price Proposal is opened.

(B) **Base Index Price**

The Design-Build Team's Estimate of Quantities will be used on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. The Design-Build Team shall certify that the quantities are reasonable for the specified period. The base index price for DIESEL #2 FUEL is $1.9815 per gallon.

(C) **Opt Out of Fuel Price Adjustment**

If the Design-Build Team elects not to pursue reimbursement for Fuel Price Adjustments, a quantity of zero shall be entered for all quantities in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet and the declination box shall be checked. Failure to complete this form will mean that the Design-Build Team is declining the Fuel Price Adjustments for this project.

- Reinforced Concrete Pipe class and the appropriate gage thickness for Corrugated Aluminum Alloy Pipe and Aluminized Corrugated Steel Pipe shall be selected based on fill height.

- Site specific conditions may limit a particular material beyond what is identified in this Project Special Provision. These conditions include, but are not limited to, abrasion, environmental, soil resistivity and pH, high ground water and special loading conditions. The Design-Build Team shall determine if additional restrictions are necessary.

- Slope drains shall be Corrugated Aluminum Alloy Pipe, Corrugated Polyethylene Pipe (HDPE Pipe) or Polyvinyl-Chloride Pipe (PVC Pipe).

- Transverse median drains, storm drainage system pipes and open-ended cross drains shall be Reinforced Concrete Pipe unless the pipe slope is greater than 10%, in which case the pipe shall be Corrugated Aluminum Alloy Pipe.

## PRICE ADJUSTMENTS FOR ASPHALT BINDER

(9-1-11) DB6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the 2012 *Standard Specifications for Roads and Structures.*

When it is determined that the monthly selling price of asphalt binder on the first business day of the calendar month during which the last day of the partial payment period occurs varies either upward or downward from the Base Price Index, the partial payment for that period will be adjusted. The partial payment will be adjusted by adding the difference (+ or -) of the base price index subtracted from the monthly selling price multiplied by the total theoretical quantity of asphalt binder authorized for use in the plant mix placed during the partial payment period involved.

The base price index for asphalt binder for plant mix is $**364.00** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on October 1, 2017.

## PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX

(9-1-11) (Rev. 3-13-13) DB6 R26

Revise the 2012 *Standard Specifications for Roads and Structures* as follows:

**Page 6-18, Article 609-11 and Page 6-35, Article 610-14**

Add the following paragraph before the first paragraph:

The "Asphalt Price" used to calculate any price adjustments set forth in this section shall be $40.00 per theoretical ton. This price shall apply for all mix types.

**Utilities**

Except for telephone service, make arrangement for necessary internet and utility connections, maintain internet and utilities, pay internet and utility service fees and bills, and make arrangements for final disconnection of internet and utilities. Furnish a telephone in each field office and permit the work necessary to install it. Installation and service fees for the telephone will be paid for by the Department.

**Storage Facility for Test Equipment**

Provide the field office with a storage facility, separate from the office for storage of test equipment, other than the nuclear gage. Provide a facility that has a minimum floor space of 64 square feet, is weatherproof, tightly floored and roofed, and has a tamper resistant key operated lock.

**Miscellaneous Items**

The field office must also include the following:

1. A certification that the office is free of asbestos and other hazardous materials.
2. A broom, dust pan, mop and bucket, and general cleaning supplies.
3. Provide and maintain an all-weather parking area for six vehicles, including graveled access to the paved surface.

## LIGHTING

(3-22-17) DB14 R002-2

### 1.00 DESCRIPTION

The work covered by this section consists of furnishing, installing, and connecting into place a lighting system utilizing decorative concrete post top light standards with LED luminaires and canopy or parking garage LED luminaires on the swing span to provide roadway and sidewalk lighting on a bridge and along a realigned roadway. Furnishing, installing, and connecting into place navigational lighting, channel lighting and swing span lighting are also included in this section.

Perform all work in accordance with this project special provision, the Lighting Scope of Work found elsewhere in this RFP, the plans developed by the Design-Build Team, the National Electrical Code, and the 2012 NCDOT *Standard Specifications for Roads and Structures*. Install decorative concrete post top light standards according to the manufacturer's instructions.

The Contractor performing the work described in this project special provision shall have a license of the proper classification from the North Carolina State Board of Examiners of Electrical Contractors.

The licensed Electrical Contractor must be available on the job site when the work is being performed or when requested by the Engineer. The licensed Electrical Contractor shall have a set of plans and special provisions in possession on the job site, and must maintain accurate As-Built Plans.

9.30 CONSTRUCTION METHODS

Contact the local utility company and obtain the required electrical service, as stated in Section 1400-9 of the 2012 NCDOT *Standard Specifications for Roads and Structures*.

Install combination panel foundation as shown in Roadway Standard Drawing 1408.01, Sheet 3.

Permanently attach a label to the enclosure door showing the work order number, control system letter designation and location of the enclosure.

Locate each combination panel in an easily accessible area. Install any non-factory installed components of the combination panel securely, with all conductors properly terminated and identified. Attach all components to the post with galvanized or stainless steel hardware. Provide and install a padlock for the controller, with eight keys all keyed alike. Consult with Division Traffic Services to determine if a specific key will be required.

Operate the lighting system without interruption or failure attributable to poor workmanship or defective material for two consecutive weeks, as stated in Section 1400-6 of the 2012 NCDOT *Standard Specifications for Roads and Structures*. The Engineer will perform insulation resistance tests, as stated in Section 1400-5 of the 2012 NCDOT *Standard Specifications for Roads and Structures*.

## 10.00 CHANNEL LIGHTING LUMINAIRE

10.10 DESCRIPTION

The work covered by this section includes furnishing and installing all materials necessary to provide a pair of LED flood luminaires mounted on top corners of the Bridge Tender's House to illuminate both ends of the channel during swing span operations. These luminaires shall be manually controlled to operate prior to swing span opening to verify the channel is clear of marine traffic and when the swing span is open. These luminaires will also aid remote operators in visually recognizing when vessels have cleared the channel, so the swing span can be returned to the closed position.

10.20 MATERIALS

10.2.1 LUMINAIRE REQUIREMENTS

A. General Requirements

- LM-79 photometric test reports shall be provided for all LED luminaires. LM-79 luminaire photometric reports shall be produced by an independent test laboratory and include the following:

  - Name of test laboratory. The test laboratory must hold National Voluntary Laboratory Accreditation Program (NVLAP) accreditation for the

10.40 CONSTRUCTION METHODS

Mount one luminaire on the north corner and one luminaire on the west corner of the Bridge Tenders House using galvanized hardware. Aim north side luminaire toward tip of north bumper of the pivot pier. Aim west side luminaire toward tip of the west bumper of the pivot pier.

Provide wiring of the appropriate size from the luminaire mounting point to the inside of the Bridge Tenders House control room. Wiring shall be installed in appropriately sized conduit specified in the Minimum Technical Requirements. Install flashing around any conduit extending through the roof to the luminaires.

Luminaire shall interface with swing span control system, and shall be operated prior to and during swing span openings, whether openings are initiated locally or remotely.

## 11.00 NAVIGATIONAL LIGHTING

11.10 DESCRIPTION

The work covered by this section includes furnishing and installing a navigation lighting system on the Perquimans River Bridge swing span, pivot pier and draw piers, including all wiring, conduit, wiring devices, transformers, enclosures, grounding system, controls, protective devices, lights, etc., in compliance with Code of Federal Regulations (CFR), Title 33, Part 118, Section 118.70 which is further clarified in U.S. Coast Guard (USCG) Publication *Bridge Lighting and Other Signals*. Navigation lights must operate from sunset to sunrise and during periods of low visibility.

Refer to the Minimum Technical Requirements for additional navigational lighting requirements.

11.20 MATERIALS

The Design-Build Team shall furnish only materials and equipment of new stock meeting ANSI, NEC, NEMA, and UL requirements, and approved by the Engineer.

Furnish marine type products manufactured of corrosion resistant materials.

Furnish only fasteners manufactured from ASTM 316 stainless steel with yield strength 35,000 psi or higher.

Furnish framework for supporting boxes, switches, and other externally mounted electrical devices fabricated from ASTM A709 Grade 36 hot-dip galvanized structural steel.

*Guidelines*, which by reference are incorporated and made a part of this contract. All submittals shall be made simultaneously to the Design-Build Unit and the Resident Engineer. The Department will not accept subsequent submittals until prior submittal reviews have been completed for that item. The Design-Build Team shall inform the Design-Build Unit in writing of any proposed changes to the NCDOT preliminary designs, Technical Proposal and / or previously reviewed submittals and obtain approval prior to incorporation. The Design-Build Team shall prioritize submittals in the event that multiple submittals are made based on the current schedule. All submittals shall include pertinent Special Provisions. No work shall be performed prior to Department review and acceptance of the design submittals.

**OVERVIEW**

The Design-Build Project, R-4467, consist of realigning and widening US 17 Business / NC 37 (North Church Street) from south of the Perquimans River Bridge to north of NC 37 (Winfall Boulevard), a distance of approximately 0.8 mile. The proposed improvements also consist of replacing and lengthening the bridge over the Perquimans River (Bridge No. 8). The replacement structure will include a swing span section over the navigational channel and bridge the adjacent earthen causeway.

Project services shall include, but are not limited to:

- **Design Services –** completion of construction plans
- **Construction Services –** necessary to build and ensure workmanship of the designed facility
- **Intelligent Transportation System –** design and construction of ITS components necessary to remotely operate the swing span section of the bridge over the Perquimans River
- **Permit Preparation / Application –** development of all documents for required permits
- **Right of Way –** acquisition of right of way necessary to construct project
- **As-Constructed Drawings**
- **As-Built Plans**

  - The R-4467 Environmental Assessment (EA) was approved on February 25, 2013

NCDOT is currently developing the R-4467 State Finding of No Significant Impact (SFONSI) which is anticipated to be approved in November 2017. It is important for Proposers to note, at this time, the proposed Project remains in the environmental process and that final environmental approvals have not been secured. Additional alternatives, including a no-build alternative, are always considered in the environmental process, and it is possible that the project scope may need to be modified to comply with the environmental process, or that a no-build alternative may be adopted. Nothing contained in the RFP is intended to modify, limit, or otherwise constrain the environmental process or commit NCDOT to undertake any action with respect to this project.

**Construction Engineering Inspection** will be provided by the NCDOT Division personnel or will be performed under a separate contract.

**GENERAL SCOPE**

The scope of work for this project includes design, construction and management of the project. The design work includes all aspects to realign and widen US 17 Business / NC 37 (North Church Street) from south of the Perquimans River Bridge to north of NC 37 (Winfall Boulevard), a distance of approximately 0.8 mile. The design work also includes all aspects to replace and lengthen the bridge over the Perquimans River (Bridge No. 8) which shall consist of a swing span section over the navigational channel and bridging the adjacent earthen causeway. The designs shall meet all appropriate latest versions of AASHTO *Policy on Geometric Design of Highways and Streets*, AASHTO *LRFD Bridge Design Specifications, Manual of Uniform*

- At the existing US 17 Business / NC 37 (Winfall Boulevard) intersection, the Design-Build Team shall terminate NC 37 (Winfall Boulevard) with a cul-de-sac designed and constructed to accommodate a school bus U-Turn maneuver. Between the aforementioned cul-de-sac and the proposed intersection with realigned NC 37 (Winfall Boulevard / -Y2-), the Design-Build Team shall retain the entire existing NC 37 (Winfall Boulevard) typical section pavement structure to accommodate a two-lane facility designed and constructed to meet current standards. The Design-Build Team will not be required to design and construct a cul-de-sac / turn-around at the northern limit of the aforementioned existing NC 37 pavement to be retained.

- Between approximately Sta. 26+00 -ALT B- and the southern terminus of existing Bridge No. 8, the Design-Build Team shall (1) remove, and dispose of, the existing US 17 Business pavement structure, (2) re-grade the existing roadbed, including but not limited to the pavement area, embankments, and / or roadway ditches and (3) return the area to a condition similar to its surroundings.

- Between approximately Sta. 32+00 -ALT B- and the northern terminus of the proposed bridge, the Design-Build Team shall adhere to the following requirements:

  - The Design-Build Team shall remove, and dispose of, the existing US 17 Business pavement structure, including but not limited to the existing abandoned roadway adjacent to the existing bridge, all steel decking, and all steel and concrete piles used to support the pavement structure.

  - The Design-Build Team shall remove, and dispose of, all timber piles within the existing abandoned roadway adjacent to the existing bridge.

  - The Design-Build Team shall either 1) remove, and dispose of, or 2) cut off, at an elevation below the surrounding natural ground, all timber piles within the portion of the aforementioned limits that is north of the existing bridge.

  - Within the portion of the aforementioned limits that is north of the existing bridge, the Design-Build Team shall retain and regrade the existing causeway to an elevation at or above the surrounding natural ground or water surface elevation, whichever is higher, including but not limited to backfilling all voids in the retained causeway with sand and / or soil to eliminate all depressions. The aforementioned causeway regrading may be performed in a manner to treat stormwater runoff from the proposed bridge. (Reference the Hydraulics Scope of Work found elsewhere in this RFP)

  - The Design-Build Team will not be required to remove existing rip rap.

- On the Waddell remnant property located on the east side of the first end bent, the Design-Build Team shall design and construct a new driveway and parking lot. The parking lot shall provide two ten-foot wide by 20-foot long parking spaces. **NOTE ** Deleted requirement to construct a structure adjacent to the parking lot to house a standby generator.

- The Design-Build Team shall design and construct a minimum 15-foot wide concrete driveway from a public roadway to the existing or relocated Hertford Public Works pump station. (Reference the Pavement Management and Utilities Coordination Scopes of Work found elsewhere in this RFP)

- The Design-Build Team shall encompass the aforementioned Hertford Public Works pump station driveway, the aforementioned proposed parking lot, including the associated driveway, and the proposed portion of Bear Garden Road within right of way. (Reference the Right of Way Scope of Work found elsewhere in this RFP)

- The Design-Build Team shall inform the Design-Build Unit, in writing, of all proposed design revisions, including but not limited to the following:

  - Excluding the modifications required herein, the Design-Build Team shall note in the Technical Proposal any proposed deviations to the preliminary design shown on the Preliminary Roadway Plans provided by the Department. The Design-Build Team shall be responsible for all activities, as deemed necessary by the Department, resulting from changes to the NCDOT preliminary design, including but not limited to, public involvement, NEPA re-evaluation and / or coordination with other stakeholders. The Department will not honor any requests for additional contract time or compensation for completion of the required activities resulting from changes to the NCDOT preliminary design.

  - After the contract has been Awarded, the Design-Build Team shall inform the Design-Build Unit, in writing, of all proposed changes to the design shown in the Technical Proposal.

  - After the Department has reviewed and accepted the Design-Build Team's design submittals, the Design-Build Team shall inform the Design-Build Unit, in writing, of any changes to previously reviewed submittals.

- For the southernmost curve on the proposed bridge, design exceptions will be allowed for the horizontal stopping sight distance and a 2.0% superelevation. Excluding the aforementioned design parameters, design exceptions will not be allowed for the mainline. NCDOT prefers not to have design exceptions for the -Y- Lines. If the Design-Build Team anticipates any design exceptions, they shall be clearly noted in the Technical Proposal. Prior to requesting / incorporating a design exception into the Final Plans, the Design-Build Team must obtain prior conceptual approval from the Design-Build Unit. If conceptual approval is obtained, the Design-Build Team shall be responsible for the development and approval of all design exceptions.

- Provided all hydraulic requirements are met, the Design-Build Team will be allowed to design and construct minimum ditch widths for the facility functional classification. (Reference the Hydraulic Scope of Work found elsewhere in this RFP)

Contract Standards and Development Unit may have special details available that can be provided to the Design-Build Team upon request.

- A 4:1 back slope shall extend from the back of the expressway gutter to the clear zone limit. Beyond that, a maximum 3:1 cut slope will be acceptable. The expressway gutter centerline shall be located at the hinge / shoulder point. Expressway gutter shall not be installed in fill sections. Expressway gutter shall only be used to minimize impacts to existing structures, and / or cultural, historical or otherwise protected landmarks or topographic features.

- Shoulder berm gutter shall not be installed in cut sections.

- At all locations with paved shoulders that extend beyond the typical width (i.e. to the face of single face barrier and guardrail, edge of expressway / shoulder berm gutter, etc.), the Design-Build Team shall taper the wider paved shoulder width to the typical paved shoulder width using an 8:1 taper. (Reference the Pavement Management Scope of Work found elsewhere in this RFP)

- Cut and fill slope transitions shall not exceed one increment (e.g. 3:1 to 4:1) per 50 feet.

- The Design-Build Team shall design and construct horizontal and vertical curves at all Points of Intersections (PIs) on the horizontal and vertical alignments, respectively.

- All paved shoulders shall be tapered at 8:1 to the existing pavement at tie-in points.

- Unless noted otherwise elsewhere in this RFP, all guardrail placement shall be in accordance with the 2012 NCDOT *Roadway Standard Drawings* and / or approved details in lieu of standards. Along all 3:1 fill slopes, constructed at fill heights that are equal to or greater than 12 feet, the Design-Build Team shall install guardrail. Along all fill slopes steeper than 3:1, constructed at fill heights that are equal to or greater than six feet, the Design-Build Team shall install guardrail. The guardrail design shall be submitted for review with the Preliminary Plans submittal.

**NCDOT Information Supplied**

- The NCDOT will provide the R-4467 Environmental Assessment (EA) and the R-4467 State Finding of No Significant Impacts (SFONSI) when approved. The NCDOT will also provide the latest list of environmental commitments, municipal agreements, and all pertinent approvals and correspondence. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall adhere to all commitments stated in the environmental documents.

- The NCDOT will provide electronic surveys to the Design-Build Team. Any supplemental surveys, including but not limited to additional topography, existing and proposed roadway, structure sites, underground and overhead utilities, existing and proposed drainage, wetland delineation, right of way, parcel names, and deed research and descriptions shall be the responsibility of the Design-Build Team to acquire and process. The Design-Build Team shall modify / incorporate boundary information used for the determination and valuation of

## STRUCTURES SCOPE OF WORK (10-2-17)

**Throughout this RFP, references to the approach spans shall denote the sections of the bridge outside of the limits of the swing span section of the bridge.**

**Throughout this RFP, references to the bridge and / or the Perquimans River Bridge shall denote the entire bridge.**

**Throughout this RFP, references to the Minimum Technical Requirements shall denote the October 5, 2017 R-4467 Swing Span Minimum Technical Requirements document provided by the Department.**

**Project Details**

The Design-Build Team shall design and construct a bridge to replace the existing bridge over the Perquimans River (Bridge No. 8). The replacement structure shall include a swing span section over the navigational channel of the Perquimans River and bridge the adjacent earthen causeway as shown on the Preliminary Roadway Plans provided by the Department.

The bridge typical section shall consist of two 12-foot travel lanes, minimum four-foot shoulders on both sides of the bridge, and a 5.5-foot raised concrete sidewalk along the east side of the bridge. On both sides of the bridge, the bridge rails shall be 42-inch Oregon Rail, per standard drawings BMR1011_12. However, the final bridge rail designs must be reviewed and endorsed by the State Historic Preservation Officer, as required by Section 106 commitments to be provided by the Department, prior to incorporation.

The bridge shall meet the accepted roadway typical section and grades. Bridge geometry (width, length, skew, span arrangement, etc.) shall be in accordance with the requirements herein and the Structure Recommendations and / or the Hydraulic Bridge Survey Report prepared by the Design-Build Team and accepted by the Department.

The minimum vertical clearance for the swing span section of the bridge shall be 12’-0” above the mean high water elevation. The minimum vertical clearance for the portions of the approach span sections of the bridge constructed (1) over the Perquimans River and (2) within the limits of proposed deck drains shall be 12’-0” above the mean high water elevation. Outside the aforementioned areas, the minimum vertical clearance of the bridge shall be 4’-0” above mean high water or final finished grade, whichever is higher.

The minimum vertical roadway clearance from the top surface of the roadway to the lowest element of the swing span truss, including but not limited to all non-structural attachments, shall be 15’-6”.

The Design-Build Team shall design and construct two six-foot wide by ten-foot long observation areas, level with the sidewalk, along the east side of the bridge. Unless noted otherwise elsewhere in this RFP, the observation areas shall be located at approximately the locations shown on the Preliminary Roadway Plans provided by the Department. If the horizontal alignment required to obtain the minimum navigational channel depth prevents locating one of the aforementioned observation areas south of the swing span section of the bridge, in the Department’s sole discretion, the Design-Build Team shall relocate that observation area to a location near the turtle log. The observation areas shall not be located between the traffic gates for the swing span.

All proposed retaining walls located within the historic district shall be designed and constructed with non-stained concrete and stamped with an ashlar stone pattern.

The Design-Build Team shall design and construct aesthetic treatments on the bridge in accordance with the following requirements:

- Decorative street lighting and outriggers to support the decorative street lighting shall be provided along the approach spans in accordance with the Lighting Scope of Work found elsewhere in this RFP.

- Decorative treatments for the Bridge Tender's house shall be provided in accordance with the Section 106 commitments to be provided by the Department.

- In accordance with the Section 106 commitments to be provided by the Department, a stationary flagpole, with appropriate lighting, shall be provided on the eastern side of the southern approach span. The flagpole shall be at least as tall as the existing flagpole. The Design-Build Team shall provide and install all-weather U.S. and N.C. flags on the aforementioned flagpole that are at least as large as the existing flags. (Reference the Lighting Scope of Work found elsewhere in this RFP)

Unless noted otherwise elsewhere in this RFP or Minimum Technical Requirements, vessel impact design will not be required for the bridge substructure and superstructure.

The bridge foundations, bulkhead, and retaining walls shall be designed for scour as detailed in the Hydraulics and Geotechnical Scopes of Work found elsewhere in this RFP.

Waterline pile footings over open water shall be constructed such that the bottom of the pile footing is no higher than one foot above the mean low water elevation. Precast soffits used as falsework and forms for waterline footings shall meet all corrosion protection and reinforcing steel requirements. Precast soffits shall be sacrificial and shall not contribute to footing strength. All steel precast soffit supports to remain within the cast-in-place footing shall be epoxy coated.

The Design-Build Team shall not use concrete pile splices and buildups.

The NCDOT will make available a stockpile of 30" square prestressed concrete piles for the Design-Build Team's use. A list of pile lengths and quantities, as well as the pile detail sheet for the stockpile of 30" square prestressed concrete piles, will be provided to the Design-Build Teams. The use of the aforementioned prestressed concrete piles shall be in accordance with the following:

- The Design-Build Team may use a portion of the available piles for the construction of the R-4467 Project, pending review and acceptance of a design that adheres to all requirements. The purchase cost shall be deducted from monies due to the Design-Build Team at a cost of $26.00 per linear foot. The Department will deduct the cost of the concrete piles removed from the stockpile by the Design-Build Team from the lump sum price bid for the entire project in the first monthly payment after the concrete piles are removed.

- The Design-Build Team may take ownership of **all** the available concrete piles, at no cost to

the Design-Build Team. Should the Design-Build Team choose to take ownership of all the available piles, the Design-Build Team shall (1) accept ownership of all the piles at the date of Contract Execution and (2) remove all the piles from the current storage facility, or enter into an executed lease agreement with the current storage facility, no later than May 31, 2018. The Design-Build Team may use all or a portion of the piles to construct the R-4467 Project, pending review and acceptance of a design that adheres to all requirements.

- The Design-Build Team shall be responsible for all transportation, handling, loading and unloading costs, as well as all disposal costs should the concrete piles be unsuitable and / or not used for any reason. The Design-Build Team shall assume all risks associated with the use of the concrete piles. The Department will not honor any requests for additional contract time or compensation for any efforts associated with using the concrete piles, including but not limited to additional design effort, additional construction effort, and / or additional coordination and approvals.

- The Design-Build Team shall indicate in the Technical Proposal if they intend to (1) take ownership of **all** the concrete piles or (2) use a portion the concrete piles and the quantity to be used. If the Design-Build Team does not indicate their intention to take ownership of the concrete piles or use a portion of the concrete piles and the quantity to be used in the Technical Proposal, the concrete piles may not be available to the Design-Build Team; and the Department will not honor any requests for additional contract time or compensation due to their unavailability.

From the beginning of the existing timber bulkhead located on the southeast side of the existing bridge continuously to the most eastern of (1) the limits of the existing timber bulkhead located on the Waddell property or (2) the northeast Waddell property corner, the Design-Build Team shall design and construct a painted galvanized steel sheet pile bulkhead or a concrete sheet pile bulkhead. The aforementioned new bulkhead shall (1) be designed and constructed with cast-in-place coping and (2) be installed at the location of the existing bulkhead or in front of the existing bulkhead at an offset distance not to exceed two-feet. The top elevation of the new bulkhead shall be at or above the existing natural ground elevation behind the existing bulkhead. A maximum three-inch lateral deflection will be allowed at the top of the bulkhead. If the Design-Build Team elects to construct the new bulkhead in front of the existing bulkhead, the area between the new and existing bulkhead shall be backfilled with sand and / or soil. (Reference the *Painting Over Hot Dip Galvanized Surfaces* Project Special Provision found elsewhere in this RFP)

The number of expansion joints for the approach spans shall be kept to a minimum. Structures shall be integral if the criteria listed in the NCDOT *Structures Management Unit Manual* is met. When required by the criteria in Section 6.2.3.2 of the NCDOT *Structures Management Unit Manual*, the Design-Build Team shall use expansion joints, except Bullets 3 and 4 in the aforementioned Section shall apply to all roadways.

The Design-Build Team shall use one type of expansion joint throughout the approach spans. Expansion joints shall have a maximum four-inch joint opening and a minimum ¾" opening. Creep and shrinkage movement may be excluded from the total movement calculations. The Design-Build Team shall indicate the type and number of bridge expansion joints in the Technical Proposal. For joint requirements at the interface between the approach spans and the swing span, reference the Minimum Technical Requirements.

- Excluding the bridge rail and associated components, and high strength bolts, nuts and washers, all structural steel and steel components of the bridge shall be metalized with a 15 mil DFT of 99% Aluminum and 1.5mil DFT seal coating in accordance with the 2012 NCDOT *Standard Specifications for Roads and Structures* and the *Thermal Sprayed Coatings* Special Provision. Additionally, all metalized surfaces in contact with concrete shall be painted in accordance with the 2012 NCDOT *Standard Specifications for Roads and Structures*. All truss elements shall be considered exposed surfaces for repair, and shall have a uniform appearance, in the Department's sole discretion, prior to final acceptance of the project.

- All high strength bolts, nuts and washers shall be galvanized.

- Provide calcium nitrite [$Ca(NO_2)_2$] corrosion inhibitor and substitute fly ash and microsilica for a portion of the portland cement in accordance with rates and locations shown below:

| | $Ca(NO_2)_2$ ($gal/yd^3$) | Microsilica | Fly Ash |
|---|---|---|---|
| Deck Slab | 3.0 | - | 20% [1] |
| End Diaphragms | 3.0 | - | 20% [1] |
| Bent Diaphragms | 3.0 | - | 20% [1] |
| Median and Parapets | 3.0 | - | 20% [1] |
| Prestressed Concrete Girders | 3.0 | - | - |
| Prestressed Concrete Piles | 3.0 | 5% [2] | - |
| Interior Bent Caps | 3.0 | - | 20% [1] |
| Bent Columns | 3.0 | 5% [2] | 20% [2] |
| Bent Footings | 3.0 | 5% [2] | 30% [2] |
| Precast Footing Soffits | 3.0 | 5% [2] | 30% [2] |

[1] The rate of substitution shall be 1.2 pound of pozzolan per 1.0 pound of cement
[2] The rate of substitution shall be 1.0 pound of pozzolan per 1.0 pound of cement

**Movable Span**

The Design-Build Team shall design and construct the swing span in accordance with the requirements herein and the Minimum Technical Requirements.

Alternative Technical Concepts proposing a movable span design other than a swing span will not be permitted.

The swing span truss shall be a structural truss. Alternative Technical Concepts proposing a faux truss or aesthetic truss for the swing span will not be permitted.

settlement of more than six (6) inches is calculated in the roadway foundations design recommendation report developed by the Design-Build Team. Where computed settlement is greater than six (6) inches, monitor settlement across the width of the embankment at maximum spacing interval of 250 feet by settlement gauges or other approved methods. Submit documentation describing the method and procedures to the Geotechnical Engineering Unit, via the Design-Build Unit, for review and acceptance prior to construction of the embankment. Roadway embankment waiting periods shall not be ended until less than two (2) inches of settlement is anticipated following pavement construction and less than 0.10 inch of settlement is measured over a period of four weeks.

Unless required otherwise elsewhere in this RFP, soil improvement techniques to mitigate long term settlement problems or to transfer the embankment load to a deeper bearing stratum are allowed outside the limits of the proposed bridge shown on the Preliminary Roadway Plans provided by the Department. If the Design-Build Team's proposed bridge does not extend to Station 58+30 -ALTB-, as shown on the Preliminary Roadway Plans provided by the Department, the Design-Build Team shall provide a soil improvement plan from the proposed northern bridge terminus to Station 58+30 -ALTB-. At a minimum, the soil improvement plan shall include either deep soil mixing or a column / pile supported embankment with a load transfer platform. Immediately north of the aforementioned soil improvement plan, the Design-Build Team shall provide a 50-foot transition zone that prevents a significant "bump" from forming in the embankment. Soil improvement techniques shall follow the current industry standard practices and the guidelines of *Ground Improvement Methods FHWA publication NHI-04-001 or Geosynthetic Design and Construction Guidelines FHWA-HI-95-038.*

Except where existing pavement is to be retained, undercut all unsuitable or unstable soils to the extent that is required to improve the stability of embankments or subgrades. At a minimum, undercut unsuitable soils to a depth of three feet below subgrade.

Document and provide spring boxes or other subsurface drainage features for all springs located under proposed fill sections.

Reinforced bridge approach fills shall be required for end bents on all bridges except when mechanically stabilized earth (MSE) retaining walls are used at bridge end bents.

**C. Permanent Retaining Wall Structures**

Walls adjacent to streams / rivers shall be designed for scour. Walls shall bear or extend at least five feet below the geotechnically-adjusted scour elevation.

For design and construction of mechanically stabilized earth (MSE) retaining walls, refer to the NCDOT *Policy for Mechanically Stabilized Earth Retaining Walls* which can be found at the NCDOT Geotechnical Engineering Unit's website at:

**https://connect.ncdot.gov/resources/Geological/Pages/Products.aspx**

Construct MSE walls using coarse aggregate if groundwater is above the bottom of the wall. Provide subsurface drainage at the back of the reinforced volume for all MSE retaining walls.

concrete ditch with a minimum 12-inch depth at the top of all retaining walls, and a four-foot bench between the wall and fill / cut slopes steeper than 6:1.

Precast or cast-in-place coping shall be required for walls without a cast-in-place face, with the exception of when a barrier is integrated into the top of the wall. Extend coping or cast-in-place face a minimum of 12 inches above where the finished or existing grade intersects the back of the wall.

For all proposed walls and existing walls to be retained, a fence or handrail shall be required on top of the facing, coping or barrier or immediately behind the wall, if there is no slope behind the wall.

Deep foundations shall be used for end bents when abutment retaining walls are employed. When using abutment retaining walls, design and construct the end bent and the wall independent of each other. When using abutment retaining walls, the end bent foundation shall be designed and constructed with one of the following deep foundations: (1) a single row of plumb piles with brace piles battered toward the wall, (2) a single row of plumb piles with MSE reinforcement connected to the back of the cap, (3) integral abutment with a single row of plumb piles and no reinforcement connected to the back of the cap in accordance with FHWA GEC 11 pages 6-8 through 6-10, or (4) drilled piers. Regardless of foundation type, the abutment wall shall be designed to satisfactorily resist the additional pressure resulting from lateral foundation displacement. Wing walls independent of abutment retaining walls shall be required unless accepted otherwise by the NCDOT. Do not consider lateral support from any fill placed around drilled piers behind abutment retaining walls when analyzing end bent stability. All pile foundations for end bents with abutment retaining walls shall penetrate a minimum of ten feet into natural ground.

## D. Temporary Structures

Design temporary retaining structures, which include earth retaining structures and cofferdams, in accordance with current allowable stress design AASHTO *Guide Design Specifications for Bridge Temporary Works*, the *Temporary Shoring* Standard Special Provision found elsewhere in this RFP and the applicable NCDOT Project Special Provisions available upon request by the Design-Build Team. The only submittal required to use the standard sheeting design is the “Standard Shoring Selection Form”.

Traffic control barrier on top of walls shall be in accordance with the NCDOT Work Zone Traffic Control Unit details available upon request by the Design-Build Team. If anchored barrier is required, then anchor the barrier in accordance with 2012 NCDOT Roadway Standard Drawing No. 1170.01.

## ENVIRONMENTAL PERMITS SCOPE OF WORK (10-3-17)

**** NOTE ** Prior to submitting the Preliminary Roadway Plans to the Department, the Design-Build Team shall meet with the appropriate NCDOT Design-Build Unit, Division, and NCDOT Environmental Analysis Unit Archaeology Group, Historic Architecture Group, and the Environmental Coordination and Permitting Group personnel to discuss processes, construction methods and expectations.**

### General

The Design-Build Team shall be responsible for preparing all documents necessary for the Department to obtain the environmental permits required for the project construction. Permit applications shall be required for (1) the US Coast Guard (USCG) Bridge Permit; and (2) the US Army Corps of Engineers (USACE) Section 404 Permit, the USACE Section 10 Permit (Rivers and Harbors Act), the NC Department of Environmental Quality, Division of Water Resources (NCDWR) Section 401 Water Quality Certification, and the Division of Coastal Management (DCM) Coastal Area Management Act (CAMA) Major Development Permit.

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall not begin ground-disturbing activities, including utility relocation in jurisdictional areas, until the environmental permits have been issued (this does not include investigative borings covered under a Nationwide Permit No. 6 and utility relocation work outside jurisdictional resources noted below).

The Design-Build Team shall coordinate with the Design-Build Unit to determine if a Preconstruction Notification (PCN) is required for the Nationwide Permit No. 6. If a PCN is required, the Design-Build Team shall submit all necessary documents and forms to the Design-Build Unit for submittal to the appropriate agencies and shall not perform any geotechnical investigative work within the jurisdictional resource(s) requiring a PCN prior to obtaining the required approval. If a PCN is not required, the Design-Build Team may proceed with geotechnical investigations inside and outside jurisdictional resources, provided all of the Nationwide Permit No. 6 General Conditions are adhered to and the DCM Field Representative for Transportation Projects has given written approval.

The Design-Build Team may begin utility relocation work prior to obtaining the aforementioned permits provided that (1) the Department is notified in writing and provides approval prior to beginning work; (2) such activities are outside jurisdictional resources; (3) a meeting is held with the Department and permitting agencies prior to beginning work, if necessary.

The Department will allow no direct contact between the Design-Build Team and representatives of the environmental agencies. No contact between the Design-Build Team and the environmental agencies shall be allowed either by phone, e-mail or in person, without representatives of the Department's Natural Environment Section (NES) - Environment Coordination and Permitting Group (ECAP) or the Division's Environmental Officer present. A representative from the Design-Build Unit shall be included on all correspondence.

Project R-4467 is no longer in the Merger Process used by the environmental agencies and the Department to obtain environmental permits. Before removing the project from the Merger Process, the Department obtained all necessary concurrence up to, and including, Concurrence Point 2A. On Non-Merger Projects, the Department has committed to coordination efforts with the environmental agencies. Thus, the Design-Build Team shall participate and present

**Moratorium** – From February 15th to June 30th of each year, an in-stream work moratorium for anadromous fish species shall be imposed for the Perquimans River. ("In-stream work" shall be defined as any activity that occurs in the Perquimans River, including any areas of standing water with an active / contiguous connection to the river)

**Mitigation Responsibilities of the Design-Build Team**

As required by the NEPA Process and the USACE / EPA Section 404(b)(1) Guidelines, to offset potential wetland and stream impacts, the Department has reviewed the roadway project corridor for potential on-site mitigation opportunities. Since no on-site mitigation opportunities were identified, the Department will acquire the compensatory mitigation for unavoidable impacts to wetlands and surface waters due to the project construction from the NC Division of Mitigation Services. This amount of mitigation acquired will be based on impacts, as identified in the R-4467 State Finding of No Significant Impact (SFONSI) when issued.

Any changes proposed by the Design-Build Team to any design or construction details provided by the Department shall be approved by the Department prior to being submitted to the environmental agencies for their approval.

Should additional jurisdictional impacts result from revised design and / or construction methods, suitable compensatory mitigation for wetlands and surface waters shall be the sole responsibility of the Design-Build Team. Therefore, it is important to note that additional mitigation will have to be approved by the environmental agencies and such approval shall require, at a minimum, the preparation and approval of a Mitigation Plan before permits are approved and before construction may commence. To mitigate for these additional jurisdictional impacts, the Design-Build Team shall be responsible for all costs associated with acquiring suitable mitigation. Construction of any on-site mitigation shall be performed by a contractor that has successfully constructed similar on-site mitigation. In the absence of suitable on-site mitigation, the Design-Build Team shall be responsible for acquiring additional mitigation from the NC Division of Mitigation Services or an approved compensatory mitigation banking resource.

The Design-Build Team shall analyze all new areas to be impacted that have not been analyzed during the NEPA Process, including but not limited to borrow sites, waste sites, haul roads and staging areas that are located outside the project right of way. This analysis shall include performing all environmental assessments. These assessments shall require the Design-Build Team to engage the services of an NCDOT prequalified environmental consultant to conduct a full environmental investigation to include, but not be limited to, Federally Listed Threatened and Endangered Species, wetlands, streams, avoidance and minimization in jurisdictional areas, compensatory mitigation, CAMA consideration, and historical, archaeological, and cultural resources surveys in these areas. The environmental consultant shall obtain concurrence through NES, from the National Marine Fisheries Service, to document compliance with Section 7 of the *Endangered Species Act* for those species requiring such concurrence. In addition, the Design-Build Team shall identify additional mitigation required, identify the amount of time beyond the aforementioned 12-month period, and fulfill all other requirements that the environmental

agencies impose to obtain the permit. Any contract time extensions resulting from additional environmental assessments required by the Design-Build Team's design and / or construction methods impacting areas outside those previously analyzed through the NEPA Process shall be solely at the Department's discretion.

**Commitments**

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize wetland and surface water impacts; and to provide full compensatory mitigation of all remaining wetland and surface water impacts. Avoidance measures were taken during the planning and NEPA Process and minimization measures were incorporated as part of the preliminary design provided by the Department. The Design-Build Team shall incorporate these avoidance and minimization features, plus any minimization identified during the interagency hydraulic design review meeting and the interagency permit impacts meeting, into the design and / or construction methods at no additional cost or contract time extension.

All work by the Design-Build Team must be accomplished in strict compliance with the plans submitted with the permit application and in compliance with all conditions of the permits and certifications issued by the environmental agencies. The Design-Build Team shall provide each of its contractors and / or agents associated with the construction or maintenance of this project with a copy of the permits and certifications.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall strictly adhere to these commitments, as well as others, including but not limited to, those included in the R-4467 Environmental Assessment, the R-4467 State Finding of No Significant Impact (SFONSI) when issued, all permits, all interagency meetings, and all site visits. If the R-4467 SFONSI includes any commitments that are not also included in the July 2017 Draft SFONSI Project Commitments and /or the October 6, 2017 R-4467 Draft Memorandum of Agreement provided by the Department, any additional design effort and / or construction effort required to adhere to the new commitments will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2012 *Standard Specifications for Roads and Structures.*

**Historic Resources**

The Hertford Historic District boundary shall be clearly delineated and labeled on the Roadway Plans developed by the Design-Build Team.

If the Design-Build Team discovers any previously undocumented historic or archaeological resources while conducting the authorized work, they shall immediately suspend activities in that area and notify, in writing, the NCDOT Archaeology Group Leader, the NCDOT Historic Architecture Group Leader, and the NCDOT Project Development Engineer, as listed below, who will initiate any required State / Federal coordination after a timely initial assessment. The Design-Build Team shall also immediately notify a representative from the Design-Build Unit. Inadvertent or accidental discovery of human remains shall be handled in accordance with North Carolina General Statutes 65 and 70. All questions regarding these discoveries shall be addressed to Mr. Matthew Wilkerson, NCDOT Archaeology Group Leader at (919) 707-6089, Ms. Mary Pope Furr, NCDOT Historic Architecture Group Leader at (919) 707-6068, or Mr. Jay McInnis, PE, NCDOT Project Development Engineer at (919) 707-6029.

In case of conflicting design parameters, and / or ranges, in the various resources, the proposed design shall adhere to the most conservative values, unless noted otherwise elsewhere in this RFP.

**Signing Requirements for Technical Proposal**

The Design-Build Team shall select a Private Engineering Firm (PEF) that has experience in the preparation, design, and sealing of Signing Plans for NCDOT on comparable projects. The Technical Proposal shall list projects, where the Signing Plans were developed by the PEF, including description and similarity to the subject project.

The Design-Build Team shall include a Preliminary Signing Concept Map in the Technical Proposal. At a minimum, the aforementioned Concept Map shall include all proposed bridge mounted signs and ground mounted guide signs.

**Signing and Pavement Marking Plans Submittal Requirements**

The Design-Build Team shall provide 25% Pavement Markings Plans that have been reviewed and accepted by the Department with the 50% Preliminary Signing Plans submittal.

**Signs to be Furnished by Design-Build Team**

The Design-Build Team shall furnish signs in accordance with the specifications provided by the NCDOT.

**Signing Project Limits**

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design, fabricate and install all Type A, B, D, E and F signs and supports required through the construction limits of the mainline, all -Y- Lines, and all turn-arounds / cul-de-sacs. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design, fabricate and install all signs required beyond the roadway construction limits of the mainline and all -Y- Lines to ensure adequate advance signage and spacing is provided.

**Sign Designs**

The Design-Build Team shall include all sign designs in the Signing Plans. All sign designs shall be prepared using the latest version of GuideSign software.

The Design-Build Team shall design, fabricate and install all signs required for the mainline, all -Y- Lines, and all turn-arounds / cul-de-sacs, including Type A, B and D ground mounted signs. The Design-Build Team shall size, locate and install all Type E signs (warning and regulatory) and Type F signs (route marker assemblies).

Within the project limits, the Design-Build Team shall design, fabricate and install bicycle warning signs (W11-1 and W16-1P) along the mainline.

the mainline, the spacing between light poles on the same side of the bridge approach spans shall not exceed 80 feet, while the spacing between light poles on the same side of the roadway south of the proposed bridge shall not exceed 150 feet.

Lighting for the roadway and sidewalk on the swing span shall be accomplished via canopy or parking garage type light fixtures mounted directly to the truss structure.

All light fixtures shall have light emitting diode (LED) light sources. The post top light fixtures shall be of similar octagonal lantern design as the high pressure sodium (HPS) fixtures currently installed on the existing bridge and along North Church Street in Hertford. Light fixtures shall be finished with black paint rated for marine environments.

**CHANNEL LIGHTING**

A pair of flood light fixtures shall be installed on the top or side of the Bridge Tender's House to illuminate the northern and western tips of the pivot pier and channel during swing operations. The flood light fixture shall have LED light sources and be a minimum of 40,000 rated lumens. These lights shall not operate dusk to dawn, but shall be manually controlled prior to and during swing span openings. Manual control may be initiated locally and remotely depending on swing span operator location.

The flood light fixture shall be rated for outdoor use and rated for UL 1598A Marine Outside Type (Salt Water) environments.

**NAVIGATIONAL LIGHTING**

The Design-Build Team shall provide and install navigational lighting meeting minimum U.S. Coast Guard requirements for swing bridges as detailed in the Code of Federal Regulations, Title 33, Chapter I, Subchapter J, Part 118, Section 118.70 (33 CFR 118.70).

**FLAG LIGHTING**

The Design-Build Team shall design, provide and install lighting sufficient enough to illuminate the U.S. and N. C. Flags installed on the bridge by the Design-Build Team so that the flags are recognizable from sunset to sunrise. (Reference U.S. Code, Title 4, Chapter 1, Section 6). This lighting shall not interfere with, or create disabling glare for, the Bridge Tender, the remote bridge operation, and / or vehicular and marine traffic. (Reference the Structures Scope of Work found elsewhere in this RFP) The flag light(s) shall be powered by the roadway lighting system installed on the bridge.

The flag light fixture(s) shall be: rated for outdoor use; rated for UL 1598A Marine Outside Type (Salt Water) environments; have a correlated color temperature (CCT) of 3000K to 4000K; black in color; rated for a minimum 70k hours; and have a minimum of 800 initial lumens.

**MESSENGER CABLE SYSTEM**

The Design-Build Team shall design, provide and install a messenger cable system in the outside bays beneath the bridge approach spans to deliver power to the light poles mounted on bridge outriggers.

**EXISTING LIGHTING**

Existing light poles and fixtures shall be dismantled and returned to the Town of Hertford.

**ELECTRICAL SERVICE**

Electrical service will be required at the northern and southern ends of the bridge. The Design-Build Team shall provide and install a lighting combination panel at each service location. The combination panel shall be equipped with a main breaker, feeder circuit breakers, flange mounted interlocked disconnect handle and a solid neutral bar. The Design-Build Team shall

## ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES

(6-07-12) DB6 R15

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_ | 4.4% |
| Asphalt Concrete Intermediate Course | Type I 19.0_ | 4.8% |
| Asphalt Concrete Surface Course | Type S 4.75A | 6.8% |
| Asphalt Concrete Surface Course | Type SA-1 | 6.8% |
| Asphalt Concrete Surface Course | Type SF 9.5A | 6.7% |
| Asphalt Concrete Surface Course | Type S 9.5_ | 6.0% |
| Asphalt Concrete Surface Course | Type S 12.5_ | 5.6% |

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the 2012 *Standard Specifications for Roads and Structures.*

## ASPHALT PLANT MIXTURES

(07-01-95) DB6 R20

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.

**** NOTE **** - Deleted *Subsurface Drainage* Standard Special Provision

## GUARDRAIL END UNITS, TYPE TL-2

(10-21-08) (Rev. 6-617) 862 DB8 R064

### Description

Furnish and install guardrail end units in accordance with the details in the plans developed by the Design-Build Team, the applicable requirements of Section 862 of the 2012 *Standard Specifications for Roads and Structures*, and at locations shown in the plans developed by the Design-Build Team.

### Materials

The Design-Build Team shall furnish guardrail end units listed on the NCDOT Approved Products List at **https://apps.dot.state.nc.us/vendor/approvedproducts/** or approved equal.

signature. If the individual operates under a firm name, the bid shall be signed in the name of the individual doing business under the firm name.

b. If the Price Proposal is by a corporation, it shall be executed in the name of the corporation by the President, Vice President, or Assistant Vice President. It shall be attested by the Secretary or Assistant Secretary. The seal of the corporation shall be affixed. If the Price Proposal is executed on behalf of a corporation in any other manner than as above, a certified copy of the minutes of the Board of Directors of said corporation authorizing the manner and style of execution and the authority of the person executing shall be attached to the Price Proposal or shall be on file with the Department.

c. If the Price Proposal is made by a partnership, it shall be executed in the name of the partnership by one of the general partners.

d. If the Price Proposal is made by a limited liability company, it shall be signed by the manager, member, or authorized agent and notarized.

e. If the Price Proposal is made by a joint venture, it shall be executed by each of the joint venturers in the appropriate manner set out above. In addition, the execution by the joint venturers shall appear below their names.

f. The Price Proposal execution shall be notarized by a notary public whose commission is in effect on the date of execution. Such notarization shall be applicable both to the Price Proposal and to the Non-Collusion Affidavit, Debarment Certification and Gift Ban Certification that is part of the signature sheets.

9. The Price Proposal shall not contain any unauthorized additions, deletions, or conditional bids.

10. The Proposer shall not add any provision reserving the right to accept or reject an award or to enter into a contract pursuant to an award.

11. The Price Proposal shall be accompanied by a bid bond on the form furnished by the Department or by a bid deposit. The bid bond shall be completely and properly executed in accordance with the requirements of Article 102-10 and as modified herein. The bid deposit shall be a certified check or cashier check in accordance with Article 102-10 and as modified herein.

12. The Price Proposal shall be placed in a sealed envelope and shall have been delivered to and received by the Department prior to the time specified in the Request for Proposals.

**Page 1-18, Article 102-10, 3rd paragraph, delete the fifth sentence and replace with the following:**

The condition of the bid bond or bid deposit is: the Principal shall not withdraw its bid within 100 days after the submittal of the same, and if the Department shall award a contract to the Principal, the Principal shall within 14 calendar days after the notice of award is received by him, give payment and performance bonds with good and sufficient surety as required for the faithful performance of the contract and for the protection of all persons supplying labor and materials in the prosecution of the work.