



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

February 13, 2013

**Addendum No. 1**

Contract No.: C 203166  
TIP Nos.: I-5338 & I-5311  
County: Wake  
Project Description: I-40 / US 64 pavement reconstruction from west of SR 1319 (Jones Franklin Road) to I-440 / US 64 (Exit 301) and the I-440 / US 64 pavement reconstruction from I-40 / US 64 (Exit 301) to north of US 64 / US 264 (Knightdale Bypass)  
RE: Addendum No. 1 to Final RFP

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated January 29, 2013 recently furnished to you on the above project. We have since incorporated changes, and have attached a copy of Addendum No. 1 for your information. Please note that all revisions have been highlighted in gray and are as follows:

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

Page Nos. 1, 5 and 44 of the *Project Special Provisions* have been revised. Please void Page Nos. 1, 5 and 44 in your proposal and staple the revised Page Nos. 1, 5 and 44 thereto.

Page Nos. 97, 98, 99, 101 and 102 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 97, 98, 99, 101 and 102 in your proposal and staple the revised Page Nos. 97, 98, 99, 101 and 102 thereto.

Page Nos. 109 and 110 of the *Structures Scope of Work* have been revised. Please void Page Nos. 109 and 110 in your proposal and staple the revised Page Nos. 109 and 110 thereto.

Page Nos. 115 and 120 of the *Transportation Management Scope of Work* have been revised. Please void Page Nos. 115 and 120 in your proposal and staple the revised Page Nos. 115 and 120 thereto.

MAILING ADDRESS:  
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RALEIGH NC

TIP I-5338 & I-5311  
Addendum 1  
Page 2 of 2

Page No. 138 of the *Hydraulics Scope of Work* has been revised. Please void Page No. 138 in your proposal and staple the revised Page No. 138 thereto.

Page No. 142 of the *Geotechnical Engineering Scope of Work* has been revised. Please void Page No. 142 in your proposal and staple the revised Page No. 142 thereto.

Page Nos. 175 and 176 of the *Erosion and Sedimentation Control Scope of Work* have been revised. Please void Page Nos. 175 and 176 in your proposal and staple the revised Page Nos. 175 and 176 thereto.

Page Nos. 185 and 188 of the *Environmental Permits Control Scope of Work* have been revised. Please void Page Nos. 185 and 188 in your proposal and staple the revised Page Nos. 185 and 188 thereto.

Page No. 192 of the *Traffic Signals Scope of Work* has been revised. Please void Page No. 192 in your proposal and staple the revised Page No. 192 thereto.

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

Sincerely,



R. A. Garris, PE  
Contract Officer

RAG/lib

cc: Mr. Wally Bowman, PE  
Mr. Victor Barbour, PE  
Mr. Rodger Rochelle, PE  
Ms. Teresa Bruton, PE  
Mr. Lonnie Brooks, PE  
File

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**\*\*\* PROJECT SPECIAL PROVISIONS \*\*\*****CONTRACT TIME AND LIQUIDATED DAMAGES**

07/12/07

DB1 G04A

The date of availability for this contract is April 29, 2013, except that the Design-Build Team shall not begin ground disturbing activities, including utility relocations, (this does not include permitted investigative borings covered under a Nationwide Permit No. 6, sealing existing pavement cracks, or utility relocations in upland areas) until a meeting is held between the NCDOT, the regulatory agencies and the Design-Build Team; and the required permits have been acquired, as stipulated in the Environmental Permits Scope of Work contained elsewhere in this Request for Proposals (RFP). The Design-Build Team shall consider this factor in determining the proposed completion date for this project.

The completion date for this contract is defined as the date proposed in the Technical Proposal by the proposer who is awarded the project. The completion date thus proposed shall not be later than November 1, 2016.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and/or intermediate contract times. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Twenty Thousand Dollars (\$ 20,000.00)** per calendar day. As an exception to this amount, where the contract has been determined to be substantially complete as defined by the Special Provision entitled "Substantial Completion" found elsewhere in this RFP, the liquidated damages will be reduced to **Five Thousand Dollars (\$ 5,000.00)** per calendar day.

Where the Design-Build Team who is awarded the contract has proposed a completion date for the contract as required above, but also has proposed an earlier date for substantial completion, then both of these proposed dates will become contract requirements.

Liquidated damages of **Twenty Thousand Dollars (\$ 20,000.00)** per calendar day will be applicable to the early date for substantial completion proposed by the bidder. Liquidated damages of **Five Thousand Dollars (\$ 5,000.00)** per calendar day will be applicable to the final completion date proposed by the bidder where the Design-Build Team has proposed an earlier date for substantial completion.

**OTHER LIQUIDATED DAMAGES AND INCENTIVES**

(3/22/07) (Rev. 02/14/08)

DB1 G11

**Refer to the ITS SOW for more information on the following liquidated damages:**

Liquidated Damages for Intermediate Contract Time #1 for failure to repair a damaged NCDOT FOC, NCDOT ITS device or NCDOT DMS and restore communication within 48 hours are \$1,500.00 per 24-hour period or any portion thereof.

**(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 \$3.2793 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* 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.

**(D) Change Option**

The proposer will not be permitted to change the option after the Price Proposal and the copy of the *Fuel Usage Factor Chart and Estimate of Quantities* sheet are submitted.

**(E) Failure to Submit**

Failure to submit the *completed Fuel Usage Factor Chart and Estimate of Quantities* sheet separately and in the Price Proposal will result in the Technical and Price Proposal being considered irregular by the Department and the Technical and Price Proposal may be rejected.

**INDIVIDUAL MEETINGS WITH PROPOSERS**

(9-1-11)

DB1 G048

The Department will provide at least two Question and Answer Sessions to meet with each proposer individually to specifically address questions regarding the draft Requests for Proposals.

The Department will attempt to arrange for a meeting between each individual proposer and the affected utility owners.

The Department will afford each proposer one additional meeting with the Department to discuss project specifics and address the proposers' concerns and questions. This meeting may occur at any time after the first Question and Answer Session with the proposers and before two weeks prior to the date of Technical and Price Proposals submission. The proposer shall request this meeting in writing to the State Contract Officer, providing the Department a minimum of one week advance notice of the requested date. The proposer shall also state in the request those disciplines within the Department that are requested to be in attendance. The Department makes

**Submittals for Review During Construction**

The Design-Build Team shall submit the unconfined compressive strength and dynamic cone penetrometer test results for review and acceptance.

**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 \$546.56 per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on February 1, 2013.

**PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX**

(9-1-11)

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 \$35 per theoretical ton. This price shall apply for all mix types.

**OVERLAY SURFACE PREPARATION**

(12-18-12)

**Description**

This provision addresses the surface preparation activities required prior to the placement of latex modified concrete.

**Definitions**

Scarification shall consist of the removal of any asphalt wearing surface and concrete surface to a uniform depth within ½" of the plan overlay thickness to the limits shown on the plans.

**ROADWAY SCOPE OF WORK** (2-13-13)

**Throughout this RFP, for reference purposes only, the I-440 westbound direction extends from Exit 301 to New Bern Avenue.**

**Project Details**

- The Design-Build Team shall design and construct the pavement reconstruction of I-40 / US 64 from west of SR 1319 (Jones Franklin Road) to I-440 / US 64 (Exit 301) and the I-440 / US 64 pavement reconstruction from I-40 / US 64 (Exit 301) to north of US 64 / US 264 (Knightdale Bypass) in Wake County. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct the -L- Line providing the same or better access, widening, improvements and level of service included in the I-5338 / I-5311 Project Maps provided by the Department. The limits of the -L- Line construction shall be of sufficient length to tie to existing based upon the current NCDOT guidelines and standards. The Design-Build Team shall design and construct I-40 / US 64 and I-440 / US 64 to meet a 70-mph and 65-mph design speed, respectively, for a rolling urban freeway designed to interstate standards. The Design-Build Team shall provide all other design criteria in the Technical Proposal.
- Except as otherwise noted herein, along the -L- Line, the Design-Build Team shall design and construct minimum 14-foot outside shoulders, 12-foot of which shall be full-depth paved shoulders.
- For the limits noted below, but excluding ramp tapers within these limits, the Design-Build Team shall design and construct a minimum 26-foot outside shoulder, 24-feet of which shall be full depth pavement. The 12 feet of the outside paved shoulder adjacent to the mainline travel lane shall be designed and constructed to accommodate a future auxiliary with appropriate cross slope. The remaining 12 feet of the outside paved shoulder shall be designed and constructed to accommodate a future shoulder with appropriate cross slope.
  - In both eastbound and westbound directions, between the US 1 / US 64 interchange eastern ramp gores and the Gorman Street interchange western ramp gores; and in the eastbound direction between the Gorman Street eastbound entrance ramp gore and the Lake Wheeler Road eastbound exit ramp gore.
  - From the Rock Quarry Road interchange eastern ramp gores to the I-40 reconstruction limits, in both the eastbound and westbound directions.
- At ramp tapers within the limits noted above, the Design-Build Team shall design and construct a variable width full depth outside paved shoulder with a two-foot turf section adjacent to the hinge point. Adjacent to the mainline travel lane, the Design-Build Team shall design and construct a full depth paved shoulder, with appropriate travel lane cross slope, to a width that prevents a longitudinal joint within a future 12-foot wide auxiliary lane. The Design-Build Team shall design and construct a 12-foot full depth paved shoulder, with appropriate cross slope, adjacent to the aforementioned variable width paved shoulder.
- In the westbound direction, between the Lake Wheeler Road westbound entrance ramp gore and the Gorman Street westbound exit ramp gore, the Design-Build Team shall design and construct a variable width outside shoulder. Throughout the aforementioned limits, the full depth outside paved shoulder width shall vary from 12 feet to 24 feet, with an adjacent two-foot turf section. From the Lake Wheeler Road westbound entrance ramp gore to the western



terminus of the outside through lane (12-foot width) that currently ends between the Lake Wheeler Road and Gorman Street interchanges, the Design-Build Team shall design and construct a 12-foot full depth paved shoulder. From the western terminus of the outside through lane (12-foot width) that currently ends between the Lake Wheeler Road and Gorman Street interchanges westward, the Design-Build Team shall design and construct 1) a full depth paved shoulder, with appropriate travel lane cross slope, to a width that provides adequate pavement to extend the aforementioned outside through lane to the Gorman Street interchange as an Exit Only Lane and 2) a 12-foot full depth paved shoulder adjacent to the aforementioned full depth paved shoulder required to extend the outside through lane as noted above.

- From the beginning of the project to where the existing mainline median width is 36 feet wide (approximately 300 feet west of the Norfolk Southern Railway overpass), the Design-Build Team shall design and construct 14-foot median shoulders, 12-foot of which shall be full depth paved shoulders designed and constructed to accommodate a future travel lane with appropriate cross slope.
- To minimize impacts, the Design-Build Team will be allowed to design and construct 15-foot round bottom ditches, with hinge point slopes, along the mainline.
- Excluding the interior of the I-40 / US 64 / I-440 directional interchange, sections of proposed concrete median transition barrier and sections of existing concrete median barrier, the Design-Build Team shall design and construct full-depth paved median shoulders, that are a minimum of ten feet wide, with appropriate concrete median barrier beginning where the existing mainline median width is 36 feet wide (approximately 300 feet west of the Norfolk Southern Railway overpass) to the existing I-440 westbound Exit 13A – B one-mile cantilever overhead sign assembly advance guide sign. Within the sections of existing concrete median barrier noted above, the Design-Build Team shall design and construct a minimum 20-foot median with approximately nine-foot wide full-depth paved median shoulders. Within the sections of existing and proposed concrete median barrier, the concrete median barrier shall be continuous across all bridges.
- Excluding the existing I-40 eastbound auxiliary lane between Lake Wheeler Road and South Saunders Street, the Design-Build Team shall design and re-construct all existing auxiliary lanes.
- The Design-Build Team shall perform a 2035 traffic analysis for the I-40 eastbound exit ramp onto southbound South Saunders Street. The Design-Build Team shall design and construct a parallel I-40 eastbound exit ramp that extends (full width) to 100 feet west of the Norfolk Southern Railway overpass or to the length determined by the aforementioned analysis that prevents traffic from queuing onto I-40, whichever is longer.
- The Design-Build Team shall design and construct one-lane ramps that provide a minimum 16-foot lane width. The Design-Build Team shall design and construct two lane ramps that provide minimum 12-foot lanes. One-lane and two-lane ramps shall have 14-foot outside shoulders, four-foot of which shall be full depth paved shoulders and 12-foot inside shoulders, four-foot of which shall be full depth paved shoulders.
- At a minimum, the design and construction of all ramps shall include a horizontal and vertical alignment that meets the current design speed.

- The Design-Build Team shall design and construct loops that adhere to Table 3-29, *Design Widths of Pavements for Turning Roadways*, shown in AASHTO's *A Policy on Geometric Design of Highways and Streets* (2011) - Case II / Condition C for one-lane loops; Case III / Condition C for two-lane loops. All loops shall have 12-foot outside shoulders, four-foot of which shall be full depth paved shoulders. All loops shall have 2'-6" curb and gutter along the inside edge of pavement, with a 14-foot berm. The Department prefers that loop designs adhere to 30-mph design speed with a minimum 230-foot radius. For all loop designs and construction, the Design-Build Team shall not reduce the existing loop radius.
- Unless noted otherwise elsewhere in this RFP, the maximum allowable cut and fill slope shall be 2:1 (Reference the Geotechnical Engineering Scope of Work found elsewhere in this RFP). The slopes in the interchange area shall follow the requirements set forth in the *Roadway Design Guidelines for Design-Build Projects* located on the Design-Build web site.
- Excluding the Poole Road bridge over I-440, the minimum vertical clearance for all bridges over the mainline (I-40 or I-440) shall be 16' - 6", which will not require a design exception. The minimum vertical clearance for the Poole Road bridge over I-440 shall not be less than the existing vertical clearance.
- Sliver fills shall be avoided to the greatest extent possible. A sliver fill is defined as adding material beyond the outside shoulder point in existing fill sections. The Technical Proposal shall identify all areas where sliver fills cannot be avoided.
- Excluding the 26-foot outside shoulders noted above, the Design-Build Team shall provide milled rumble strips along the mainline outside and inside paved shoulders, including ramp and loop terminals, and acceleration, deceleration and auxiliary lanes, in accordance with the July 2012 NCDOT Roadway Standard Drawings. For the 26-foot outside shoulders noted above, the Design-Build Team shall provide milled rumble strips along the mainline future 12-foot outside shoulders in accordance with the July 1012 NCDOT Roadway Standard Drawings.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct all lane drops from the outside travelway.
- If required to tie to existing and allowed by the Pavement Management Scope of Work found elsewhere in this RFP, or required by the aforementioned Pavement Management Scope of Work, the Design-Build Team shall design and construct mainline, ramp and / or loop resurfacing grades. All mainline, ramp, loop and -Y- Line resurfacing grades shall adhere to the design criteria and standards, provide all required pavement wedging (Reference the Pavement Management Scope of Work found elsewhere in this RFP) and adhere to the minimum requirements noted below:
  - The Design-Build Team shall resurface all mainline lanes and shoulders between the reconstruction limits and the proposed construction limits.
  - Only when construction is required on the -Y- Line, excluding construction required solely for ramp tie-ins at -Y- line intersections, the Design-Build Team shall resurface all -Y- Line lanes and shoulders within the outermost construction limits, including any gaps along the facility where construction activities are not required.
  - The Design-Build Team shall resurface all existing facilities to the limits of pavement marking obliterations / revisions.

- submittals or the Design-Build Team's Technical Proposal and obtain approval prior to incorporation. The Design-Build Team shall note in the Technical Proposal any proposed deviations to the preliminary design shown on the I-5338 / I-5311 Project Maps provided by the Department. The Design-Build Team shall be responsible for any activities, as deemed necessary by the Department or the FHWA, resulting from changes to the NCDOT preliminary design, including but not limited to, public involvement and NEPA re-evaluation. The Department shall not honor any requests for additional contract time or compensation for completion of the required activities resulting from changes to the NCDOT preliminary design.
- The Department prefers not to have design exceptions. Excluding existing bridge locations where the mainline horizontal alignment cannot be adjusted to meet design standards, stopping sight distance impeded by proposed concrete median barrier, vertical clearance for the Poole Road bridge over I-440, loop radius, loop / ramp width and median shoulder width adjacent to existing concrete median barrier, design exceptions will not be allowed for the -L- Line, including all ramps and loops. The Design-Build Team will not be required to obtain a design exception for those design parameters that adhere to the posted speed limit design criteria or spot locations where the median shoulder width is substandard. 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 Transportation Program Management Director and the FHWA. If approval is obtained, the Design-Build Team shall be responsible for the development and approval of all design exceptions.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct bridge rail offsets as indicated in the NCDOT Roadway Design Manual or that are equal to the approach roadway paved shoulders, whichever is greater. Narrower bridge rail offsets based on bridge length will not be allowed. The Design-Build Team will not be required to widen existing bridges solely to provide the aforementioned minimum bridge rail offsets.
- Unless noted otherwise elsewhere in this RFP, all guardrail / guiderail placement shall be in accordance with the 2002 NCDOT Roadway Design Manual, the January 2012 NCDOT Roadway Standard Drawings and / or approved details in lieu of standards. The Design-Build Team will not be required to widen existing outside shoulders solely to increase the horizontal offset for guardrail that can / shall be located a minimum of twelve feet from the proposed edge of the travel lane. Along the mainline, and all ramps / loops at interchanges impacted by construction, the Design-Build Team shall remove, dispose of and replace all existing guardrail. Along the mainline, and all ramps / loops at interchanges impacted by construction, the Design-Build Team shall remove, dispose of and replace all existing guiderail that does not adhere to current design 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 / guiderail design shall be submitted for review with the Preliminary Plans submittal.

- It is anticipated that all construction will be performed within the existing right of way. If the Design-Build Team demonstrates to the Department's satisfaction that the project cannot be constructed, or utilities relocated / constructed, within the existing right of way as shown on the I-5338 / I-5311 Project Maps provided by the Department, all services and costs for the additional right of way, easement and / or control of access that is satisfactorily demonstrated by the Design-Build Team as needed to construct the facility, including but not limited to direct payments to property owners for negotiated settlements, recording fees, relocation benefits, and deposits and fees involved in the filing of condemnation, will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2012 *Standard Specifications for Roads and Structures*. The Design-Build Team shall provide all services and costs required for acquiring all other additional right of way and / or easements, including but not limited to direct payments to property owners for negotiated settlements, recording fees, relocation benefits, and deposits and fees involved in the filing of condemnation, resulting from design revisions and / or construction methods. In accordance with the NCDOT Standard Drawings and 2012 *Standard Specifications for Roads and Structures*, the Design-Build Team shall remove, dispose of and replace, in kind, the control of access fence identified in the I-5338 & I-5311 November 14, 2012 Maintenance Needs electronic files (I-40 East Files 1 through 4, I-40 West Files 1 through 4, I-40 Interchanges, I-40 Median) provided by the Department. If impacted by design and / or construction, the Design-Build Team shall be responsible for the installation / replacement of all right of way monuments and control of access fence, in kind, according to the NCDOT Standard Drawings and 2012 *Standard Specifications for Roads and Structures*.
- Within the vehicle recovery area, the Design-Build Team shall design and construct single face concrete barrier in front of all sound barrier walls located on the outside shoulder in fill sections, retaining walls and all elements acting as a retaining wall.
- For all vertical clearance critical points, the Design-Build Team shall submit vertical clearance calculations and post construction surveyed points for all bridges over roadways.
- There are no known contaminated sites or underground storage tanks on this project. In the event that any unknown hazardous materials are discovered they will be handled in accordance with Article 107-25 of the Standard Specifications.
- A minimum four-foot 6:1 back slope shall extend from the back of all expressway gutter. Beyond that four-foot width, a 2:1 back slope will be acceptable.

### General

- The design shall be in accordance with the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets*, 2002 NCDOT *Roadway Design Manual*, including all revisions effective on the Technical Proposal submittal date, January 2012 NCDOT Roadway Standard Drawings, or as superseded by detail sheets located at [http://www.ncdot.gov/doh/preconstruct/ps/std\\_draw/06details/default.html](http://www.ncdot.gov/doh/preconstruct/ps/std_draw/06details/default.html), *Roadway Design Policy and Procedure Manual*, *Roadway Design Guidelines for Design-Build Projects*, 2012 North Carolina *Standard Specifications for Roads and Structures* and the 2011 AASHTO *Roadside Design Guide*, 4<sup>th</sup> Edition and 2012 Errata.
- If the NCDOT *Roadway Design Manual*, the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets*, the 2012 Roadway Standard Drawings and / or any other

**STRUCTURES SCOPE OF WORK** (2-13-13)**Project Details**

For the two structures noted below, the Design-Build Team shall (1) rehabilitate, as outlined herein, and (2) widen to the extent necessary to satisfy the traffic management and typical section requirements as stated in this RFP:

- Bridge No. 276 - (I-40 EBL over Gorman Street)
- Bridge No. 281 - (I-40 WBL over Gorman Street)

The Design-Build Team shall rehabilitate, as noted herein, the structures noted below:

- Bridge No. 571 - (I-40 over South Saunders Street)
- Bridge No. 293 - (I-40 over South Wilmington Street)
- Bridge No. 572 - (I-40 over Hammond Road)
- Bridge No. 298 - (I-40 over Norfolk Southern Railroad and North Carolina Railroad)
- Bridge No. 574 - (Ramp D over Norfolk Southern Railroad and North Carolina Railroad)
- Bridge No. 573 - (Ramp A over Norfolk Southern Railroad and North Carolina Railroad)
- Bridge No. 308 - (I-40 over Garner Road)
- Bridge No. 309 - (I-40 over Hadley Street)
- Bridge No. 313 - (I-40 over South State Street)
- Bridge No. 8 - (I-440 over Sunnybrook Road)
- Bridge No. 62 - (I-440 NBL over Norfolk Southern Railroad and Crabtree Creek)
- Bridge No. 66 - (I-440 SBL over Norfolk Southern Railroad and Crabtree Creek)

Excluding approach slabs at the western (northern) end of Bridge Nos. 62 and 66, and the portion of approach slabs under existing concrete median barrier, the Design-Build Team shall remove and replace all approach slabs for the structures noted above. All approach slabs shall be designed and constructed to final grade and adhere to the Department's current length requirements. High early strength concrete shall not be used for the approach slabs.

At all bridges that carry roadways or railways over the -L- Line (I-40 and I-440), the Design-Build Team shall install concrete barrier or guardrail median pier protection.

All existing reinforced concrete box culverts (RCBC) shall be retained. It is anticipated that the existing RCBCs will not require additional conveyance or lengthening. However, the Design-Build Team shall lengthen the existing RCBC(s) as required by the Design-Build Team's design and / or construction method.

All bridges shall meet the accepted roadway typical sections and grades. Bridge geometry (width, length, skew, span arrangement, etc.) shall be in accordance with the accepted Structure Recommendations prepared by the Design-Build Team.

All bridge barrier rails that need to be replaced due to widening shall be the F-shape barrier rail, per Standard Drawing CBR1. Precast barrier rails will not be allowed.

Epoxy coated steel is not required in widened bridge decks.

The empirical method for deck design will not be allowed.

For all bridges listed above, a live load rating chart for both existing and proposed girders shall be included with the bridge plans and shall state design assumptions and methodology used in the load rating calculations. Regardless of the existing girder rating, the existing girders do not require replacement. The load rating shall be in accordance with the NCDOT *Structures Management Unit Manual*, including Policy Memos, and AASHTO's *Manual for Bridge Evaluation*. Live load rating charts will not be required for existing reinforced concrete box culverts.

### **Bridge Rehabilitation**

Excluding Bridge Nos. 62 and 66, the Design-Build Team shall replace all bridge joints at interior bents with foam joint seals and elastomeric concrete. The Design-Build Team shall replace all bridge joints at end bents with either silicone type joints or foam joint seals (without elastomeric concrete). The silicone joint sealer material shall conform to the requirements of Type SL low modulus silicone sealant. Backer rods shall conform to the requirements of Type M bond breaker. Reference Section 1028 of the Standard Specifications.

The use of link slabs in lieu of joint replacement is acceptable for spans less than 75 ft. in length.

High early strength latex modified concrete overlay may be used for Bridge Nos. 573 and 574 only.

Using System 4 of Article 442-8 of the 2012 *Standard Specifications for Roads and Structures*, the Design-Build Team shall paint all free ends of existing and proposed steel beams / girders except those free ends recently painted.

Where existing joints are covered by steel plates, the Design-Build Team shall retain and reinstall the steel cover plates as part of the joint replacement.

The Design-Build Team shall overlay bridges in accordance with the requirements noted herein, only after all temporary pavement wedging has been completely removed from the bridge deck. For all bridge decks along the mainline and the approach slabs at the western (northern) end of Bridge Nos. 62 and 66, the Design-Build Team shall overlay the existing and widened decks and approach slabs with latex modified concrete. (Reference the *Overlay Surface Preparation and Latex Modified Concrete Project Special Provisions* found elsewhere in this RFP). The Design-Build Team shall mill and hydro-demolition the existing decks and aforementioned approach slabs to perform Class I and Class IA Surface Preparation on all bridges. To allow the Department to complete a drag chain investigation immediately following the milling operation, the Design-Build Team shall provide written notification a minimum of 21 days prior to completing the milling operation. The Design-Build Team shall provide Class II and / or Class III Surface Preparation, for areas which are found to be unsound or delaminated, or areas that need to be removed due to the required joint replacement, as determined by the Engineer. In such case, the Class II and Class III repairs will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2012 *Standard Specifications for Roads and Structures* at the price of \$300 per square yard and \$700 per square yard, respectively.

<https://connect.ncdot.gov/resources/safety/Congestion%20Mngmt%20and%20Signing/Congestion%20Management/Capacity%20Analysis%20Guidelines.pdf>

- At a minimum, the above analyses shall be performed for the hours of 6:00 a.m. and 10:00 a.m. and the hours of 3:30 p.m. and 7:30 p.m.
- The input parameter for the Facility Wide Growth Factor shall be 1.
- The input parameter for Alpha shall be 0.
- All Excel files for these analyses shall be provided on two CDs or two jump drives in the sealed package containing the Technical Proposal.
- Any measures that are proposed to mitigate the traffic impediment in the event that the anticipated travel times cited in the Technical Proposal cannot be met.

The Design-Build Team is permitted to reduce each direction of I-40 and I-440 to a one lane pattern, while maintaining existing auxiliary lanes (minimum 11-foot width), and close one lane on all other roadways (including ramps and loops) outside the times below. Once traffic is placed into the final configuration for any segment of I-40 or I-440, the Design-Build Team shall maintain the final configuration except that **lane closures will be permitted** subject to the restrictions noted below.

The Design-Build Team shall not install, reset, and / or remove any traffic control device during the times below:

Road Name	Nos. of Affected Lanes	Time Restrictions
I-40 and I-440	All lanes except one in each direction closed	Monday through Friday 5:00 a.m. to 11:00 p.m.  Saturday and Sunday 6:00 a.m. to 11:00 p.m.
US Routes, Loops and Ramps	One lane closed	Monday through Friday 5:00 a.m. to 11:00 p.m.  Saturday and Sunday 9:00 a.m. to 11:00 p.m.
All other roads	One lane closed	Monday through Friday 5:00 a.m. to 9:00 a.m. 3:00 p.m. to 8:00 p.m.

Except due to incidents or emergencies and unless otherwise approved by NCDOT, the Design-Build Team shall maintain a minimum two lane pattern, in addition to existing auxiliary lanes (11-foot width), in each direction on I-40 and I-440 and shall not close any lane on other roads (including ramps and loops) during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy on the roadways listed herein. As a minimum, these requirements / restrictions apply to the following schedule:

**Liquidated Damages for Intermediate Contract Time #8 for the above road closure time restrictions for US and NC Routes and all ramps and loops are \$2,500.00 per 15-minute period or any portion thereof.**

**Liquidated Damages for Intermediate Contract Time #9 for the above road closure time restrictions for all other roads are \$500.00 per 15-minute period or any portion thereof.**

**Intermediate Contract Times #10 - #16 for Reconstruction of Ramps and Loops**

Excluding the Hammond Road westbound exit ramp and eastbound entrance ramp, one road closure with an approved offsite detour will be permitted for the reconstruction of each ramp and loop for the maximum durations listed below. Two road closures with an approved offsite detour will be permitted for the Hammond Road westbound exit ramp and eastbound entrance ramp reconstruction for the maximum duration listed below. The Design-Build Team shall not concurrently close the entrance and exit ramp / loop in the same direction within an interchange. The Design-Build Team shall not close any ramps or loops at interchanges adjacent to the interchange undergoing ramp/loop reconstruction.

**Intermediate Contract Time #10 - #16 for Reconstruction of Ramps and Loops are as listed in the table below:**

<b>Intermediate Contract Time #</b>	<b>Interchange</b>	<b>Day and Time Restrictions</b>	<b>Duration (Per ramp or loop)</b>	<b>Liquidated Damages (per hour or any portion thereof)</b>
#10	I-40 & US 70 / NC 50	From Friday 8:00 p.m. until 6:00 a.m. Monday	58 consecutive hours	\$2000.00
#11	I-40 & Hammond Road	From Friday 6:00 p.m. until 6:00 a.m. Monday	60 consecutive hours	\$1000.00
#12	I-40 & Gorman Street	From Friday 6:00 p.m. until 6:00 a.m. Monday	60 consecutive hours	\$1000.00
#13	I-440 & Poole Road	From Friday 6:00 p.m. until 6:00 a.m. Monday	60 consecutive hours	\$1000.00
#14	I-40 & Rock Quarry Road	From Midnight Friday until 5:00 a.m. the second Monday	221 consecutive hours	\$1000.00
#15	I-40 & Lake Wheeler Road	From Sunday 6:00 p.m. until Midnight Friday.	126 consecutive hours	\$1000.00
#16	I-440 & US 64 / US 264	From Friday 8:00 p.m. until 6:00 a.m. Monday	58 consecutive hours	\$2000.00



- The Design-Build Team shall replace all pipes, and drainage structures connected at each end, that have any segment (top of pipe) within five feet of the top of the proposed subgrade. The cover on all replacement pipes shall adhere to the appropriate NCDOT pipe class and cover requirements.
- The Design-Build Team shall use a minimum ditch grade of 0.3% and avoid using ditches in wetlands.
- Raised median island cuts will not be allowed.
- Spread will not be allowed in any mainline (-L-) permanent travel lane. Spread shall not encroach more than two feet in a temporary travel lane.
- The Design-Build Team shall remove or fill with flowable fill all pipes not retained for drainage purposes, including but not limited to all 12” pipes.
- The Design-Build Team shall maximize vegetative conveyance and provide treatment for the project’s new impervious area to the maximum extent practicable.
- Excluding expressway gutter, the Design-Build Team shall replace all curb and curb and gutter with shoulder berm gutter and masonry drainage structures. The Design-Build Team shall replace all expressway gutter with expressway gutter. The Design-Build Team shall design and construct new expressway gutter or shoulder berm gutter, without funnel drains, required by the hydraulic design criteria. Excluding along the inside of loops, two-foot six-inch curb and gutter will not be allowed on the mainline. (Reference the Roadway Scope of Work found elsewhere in this RFP)
- All proposed drainage structures that are not located within a travel lane, shall have a grate(s) or manhole access.
- **General**
- Design in accordance with criteria provided in the North Carolina Division of Highways *Guidelines for Drainage Studies and Hydraulics Design-1999* and the addendum *Handbook of Design for Highway Drainage Studies-1973*, North Carolina Department of Transportation “Stormwater Best Management Practices Toolbox – 2008” and the North Carolina Division of Highways Hydraulics Unit website:

**<http://www.ncdot.org/doh/preconstruct/highway/hydro/>**

between proposed grade and bottom of cap elevations. Use an appropriate method to monitor settlement across the length of the embankment (from toe to toe) such as settlement gauges, surveyed stakes on finished subgrade or other methods but submit documentation describing the method and procedures to the NCDOT Geotechnical Engineering Unit, via the Transportation Program Management Director, for review and acceptance prior to construction of the embankment.

In accordance with the NCDOT Standards, reinforced bridge approach fill shall be required for end bents on all widened bridge sections. The Design-Build Team shall grade the reinforced bridge approach fill to drain away from the existing bridge approach fill and shall provide details that illustrate how the reinforced bridge approach fill will tie to the existing bridge approach fill and how drainage will be accommodated.

At the discretion of the Engineer, upon removal of any existing approach slab, the Design-Build Team may be required to replace the existing bridge approach fill with reinforced bridge approach fill. In such case, the replacement of the existing bridge approach fill will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2012 Standard Specifications for Roads and Structures.

In accordance with the Subsurface Drainage Standard Special Provision found elsewhere in this RFP, the Design-Build Team shall construct underdrains at a minimum six-foot depth below the subgrade or level with shallow rock, with grades and outfalls that prevent ponding, at the following locations:

- Along the I-40 / US 64 median, from Rock Quarry Road eastward to Station 427+00 -L-
- Along all the I-40 / US 64 shoulders, from Station 427+00 -L- eastward to the I-440 / US 64 back of gore (12-foot width)
- Along all the I-440 / US 64 shoulders from the I-40 / US 64 back of gore (12-foot width) westward to the eastern terminus of the I-440 existing concrete median barrier
- Along the I-440 / US 64 outside shoulders from the eastern terminus of the I-440 existing concrete median barrier westward to Sunnybrook Road
- Where groundwater is encountered within six feet of the proposed subgrade elevation

Mitigate all unsuitable soils to the extent that is required to improve the stability of the proposed embankment or subgrade. Use suitable material to backfill undercut areas except when employing shallow undercut in accordance with Section 505 of the 2012 *Standard Specifications for Roads and Structures* which requires the use of Select Material, Class IV. For undercut backfilling in water, use Select Material, Class III. The Design-Build Team shall only be responsible for the top 24" of any excavation, undercut, or combination thereof, as measured from the top of the subgrade stabilization. Any undercut required deeper than the aforementioned 24" will be paid

4. Utilize skimmer basins and rock measures with sediment control stone (Temporary Rock Sediment Dam Type 'B' (TRSD-B), Temporary Rock Silt Check Type 'A' (TRSC-A), etc.) at drainage outlets.
5. Take into account existing topography and show contour lines.
6. Show 50-foot Environmentally Sensitive Area (ESA) around all jurisdictional streams with Neuse River buffer zones on Clearing & Grubbing Plans only.
7. Utilize Temporary Rock Silt Checks Type 'B' (TRSC-B) to reduce velocity in existing ditches with spacing of 250 feet divided by percentage of ditch grade. Also utilize TRSC-B's in proposed TSD's and temporary diversions (TD).
8. Protect existing streams; do not place erosion control devices in live streams.
9. Provide adequate silt storage for 3600 cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 435 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using 25-year peak rainfall data (*NCDENR - Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service web site <http://dipper.nws.noaa.gov/hdsc/pfds/> for partial duration (ARI) time series type). A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.
10. Skimmer Basins shall provide adequate silt storage for 1800 cubic feet per disturbed acre with surface area equal to 325 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using the 25-year peak rainfall data (*NCDENR - Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service web site <http://dipper.nws.noaa.gov/hdsc/pfds/> for partial duration (ARI) time series type). A Skimmer Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.
11. The minimum and maximum length to width ratio of all Sediment Basins shall be 2:1 and 6:1, respectively.
12. Coir Fiber Baffles shall be installed in all silt basins and sediment dams at drainage outlets. For silt basins with a 20-foot or longer length, three Coir Fiber Baffles shall be installed with a spacing of 1/4 the basin length. For silt basins with a length less than 20 feet, a minimum of two Coir Fiber Baffles shall be installed, with a spacing of 1/3 the basin length. The Design-Build Team will not be required to show the individual baffles on the Erosion Control Plans, but shall be required to incorporate the Coir Fiber Baffle Detail on the Erosion Control Plans.
13. Include any culvert and / or pipe construction sequence plan sheets in the Clearing & Grubbing Plans; all pipes 48 inches or larger, or any combination of pipes that total 48 inches or more require a construction sequence. Prior to installation of pipes smaller than 48 inches in jurisdictional areas, the Design Build Team shall submit a phasing plan for managing the watercourse to the Resident Engineer for review and acceptance. The phasing plan shall be in accordance with the Best Management Practices for Construction and Maintenance Activities.
14. Incorporate temporary sediment basins into permanent stormwater devices.
15. Utilize Coir Fiber Wattles with Polyacrylamide (PAM) and / or TRSC-As with Matting and PAM in temporary and permanent, existing and proposed ditches at a spacing of 50 feet in areas where sediment basins are not feasible at drainage outlets and in areas where sediment basins at drainage outlets with sediment traps (i.e. PIST-

16. A, RIST-A, etc.), cannot be properly sized to surface area and / or sediment storage requirements due to safety concerns, right of way restrictions, utility conflicts, or other construction limitations approved by the Roadside Environmental Unit.
17. Do not place erosion control devices that require excavation (i.e. basins, silt ditches, etc.) in wetlands or buffer zones.
18. Within the entire project limits, provide disturbed and undisturbed drainage areas in MicroStation Format.
19. For all drainage outlets where the runoff cannot be treated with a sediment basin and / or the sediment basin cannot be constructed to the required sediment storage or surface area requirements, provide a written explanation.

#### B. Final Grade Phase

1. Use correct NCDOT symbology.
2. Protect existing and proposed drainage structure inlets with RIST-A, RIST-C, PIST-A, etc.
3. Utilize adequate perimeter controls (TSD, TSF, etc.).
4. Utilize TRSC-B's to reduce velocity in existing and proposed ditches with spacing of 250 feet divided by percentage of ditch grade. Also utilize TRSC-B's in proposed TSD's and TD's.
5. Utilize temporary slope drains and earth berms at top of fill slopes 8 feet or higher and a fill slope grade of 3:1 or steeper, or where there are superelevations above 0.04 and fills are greater than 5 feet. Maximum slope drain spacing shall be 200 feet.
6. Utilize rock energy dissipater and / or silt basin at outlet of slope drain.
7. Devices at all drainage turnouts shall utilize infiltration, skimmer, or sediment control stone (TRSD-B, TRSC-A, etc.) and a spillway with an adequately designed base length to distribute outflow.
8. Provide adequate silt storage for 3600 cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 435 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using 25-year peak rainfall data (*NCDENR - Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service web site <http://dipper.nws.noaa.gov/hdsc/pfds/> for partial duration (ARI) time series type). A Sediment Basin Designer Spreadsheet will be provided by NCDOT REU upon request.
9. Skimmer Basins shall provide adequate silt storage for 1800 cubic feet per disturbed acre with surface area equal to 325 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using the 25-year peak rainfall data (*NCDENR - Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service web site <http://dipper.nws.noaa.gov/hdsc/pfds/> for partial duration (ARI) time series type). A Skimmer Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.
10. Provide matting for erosion control in all ditch lines, including but not limited to temporary ditch lines (TDs) utilized to divert offsite runoff around construction areas, where the velocity is greater than 2.0 feet / sec, and the shear stress is 1.55 psf or less. For ditch lines with a shear stress above 1.55 psf, Permanent Soil Reinforcement Mat or Rip Rap shall be utilized.

**ENVIRONMENTAL PERMITS SCOPE OF WORK** (2-13-13)**General**

The Design-Build Team shall be responsible for preparing all documents necessary for the Department to obtain the environmental permits for construction of this project. The anticipated permits include U.S. Army Corps of Engineers (USACE) Section 404 Permit, NC Department of Natural Resources (DENR) Division of Water Quality (DWQ) Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization. Based on the anticipated limited impacts to jurisdictional resources, a Nationwide Permit No. 23 is probable. However, if there are any temporary construction activities such as stream dewatering and / or temporary work pads, a Nationwide Permit No. 33 may also be required. Thus, the timeline for obtaining the permits outlined in this scope of work reflects that a Nationwide Permit(s) will be required; and the Department will not honor any requests for additional contract time or compensation for any efforts required to obtain an Individual Permit, including but not limited to public involvement, additional design effort, additional construction effort and / or additional environmental agency coordination and approvals.

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 permitted investigative borings covered under a Nationwide Permit No. 6, **sealing existing pavement cracks**, and utility relocation work outside jurisdictional resources noted below). The Design-Build Team shall coordinate with the Transportation Program Management Director 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 Transportation Program Management Director for submittal to the appropriate agencies. If a PCN is not required, the Design-Build Team may proceed with geotechnical investigations outside jurisdictional resources, provided all of the Nationwide Permit No. 6 General Conditions are adhered to.

The Design-Build Team may begin utility relocation work prior to obtaining the aforementioned permits provided that (1) the Department is notified in writing prior to these activities; (2) such activities are outside jurisdictional resources (3) a meeting is held with the NCDOT and permitting agencies prior to beginning work, if necessary; and (4) the Design-Build Team submits a Preconstruction Notification for the Department to forward to the permitting agencies, 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 Project Development & Environmental Analysis (PDEA) Branch and / or the Division's Environmental Officer present. A representative from the Transportation Program Management Unit shall be included on all correspondence.

Neither Project I-5338 nor I-5311 is in the Merger 01 Process used by the environmental agencies and the Department to obtain environmental permits. On Non-Merger Projects, the

obtain approval for the permits from the environmental agencies. Agency review time will be approximately 90 days from receipt of a “complete” package. No requests for additional contract time or compensation will be allowed if the permits are obtained within this seven-month period. With the exception of location and survey work, sealing existing pavement cracks, utility relocation work outside jurisdictional resources that adheres to the aforementioned requirements, and permitted investigative borings covered under a Nationwide Permit No. 6 and / or Preconstruction Notification secured by the Design-Build Team, no mobilization of men, materials, or equipment for site investigation or construction of the project shall occur prior to obtaining the permits (either within the seven-month period or beyond the seven-month period). The Department will not honor any requests for additional contract time or compensation, including idle equipment or mobilization or demobilization costs, for the Design-Build Team mobilizing men, materials (or ordering materials), or equipment prior to obtaining all permits. The Department will consider requests for contract time extensions for obtaining the permits only if the Design-Build Team has pursued the work with due diligence, the delay is beyond the Team’s control, and the seven-month period has been exceeded. If time were granted it would be only for that time exceeding the seven-month period. This seven-month period is considered to begin on the Date of Availability as noted elsewhere in this RFP.

The Design-Build Team needs to be aware that the timeframes listed above for the NCDWQ and the USACE to review a permit application and / or modification begin only after a fully complete and 100% accurate submittal.

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

The Department has acquired compensatory mitigation for unavoidable impacts to wetlands and surface waters due to the project construction. This mitigation was based on impacts as identified in the planning stage.

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 resource agencies for their approval.

Should additional jurisdictional impacts result from revised design and / or construction methods, suitable compensatory mitigation for wetlands and / or streams 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 / permit modifications are approved and before construction can 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 Ecosystem Enhancement Program (EEP) or an approved compensatory mitigation banking resource.

- Names of all intersecting roads that will be under signal control, including state route numbers (Interstate, US, NC or SR) and common street names
- The dominant through movement

The Design-Build Team shall be responsible for a safe and economical design for the public. The Design-Build Team shall be responsible for ensuring that all plans and designs conform to the current design standards of the ITS & Signals Unit. Current ITS & Signals Unit design standards include, but are not limited to, the version of the following documents effective on the Technical Proposal submittal date:

- NCDOT 2012 *Standard Specifications for Roads and Structures*
- NCDOT *Standard Roadway Drawings*
- ITS & Signals Unit Project Special Provisions
- ITS & Signals Unit Design Manual
- *Manual on Uniform Traffic Control Devices (MUTCD)*
- *North Carolina Supplement to the Manual on Uniform Traffic Control Devices (NCMUTCD)*

Links to additional ITS & Signals Unit design standards and aides are available on website noted below:

**<http://www.ncdot.gov/doh/preconstruct/traffic/ITSS/>**

## **II. Inductive Loop Replacement**

The Design-Build Team shall install replacement inductive detection loops for all traffic signals at reconstructed ramps and loops, in accordance with the 2012 *NCDOT Standard Specifications for Roads and Structures*, *NCDOT Standard Roadway Drawings*, the existing traffic signal Plan of Record (POR), and the “Typical Loop Locations - Revised 2006” document provided by the Department.

If the Design-Build Team installs inductive detection loops that are different from the existing loops or are different from those shown on the aforementioned POR, the Design-Build Team shall indicate all changes in red on the POR and submit to the Engineer. The NCDOT ITS & Signals Unit will issue a new POR that reflects the changes noted by the Design-Build Team.

## **III. Intermediate Contract Time #17 for Failure to Repair a Damaged Inductive Detection Loop and Restore Traffic Operation**

The Design-Build Team shall repair all inductive detection loops damaged during construction, including those on -Y- Lines. The Design-Build Team shall immediately report damages to the Engineer and the Division 5 Traffic Engineer. The Design-Build Team shall repair inductive detection loops damaged during construction and restore traffic operation within 24 hours.