



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

August 31, 2016

Addendum No. 1

Contract No.: C203840
TIP No.: R-2247CD & EC
County: Forsyth
Project Description: Winston-Salem Northern Beltway – Modification of the US 421 / SR 1891 (Peace Haven Road) Interchange and the US 52 (Future I-74) / NC 65 (Bethania – Rural Hall Road) Interchange

RE: Addendum No. 1 to Final RFP

October 18, 2016 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated August 17, 2016 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 second page of the *Table of Contents* has been revised. Please void the second page in your proposal and staple the revised second page thereto.

Page No. 133 of the *Roadway Scope of Work* has been revised. Please void Page No. 133 in your proposal and staple the revised Page No. 133 thereto.

Page Nos. 142 and 143 of the *Structures Scope of Work* have been revised. Please void Page Nos. 142 and 143 in your proposal and staple the revised Page Nos. 142 and 143 thereto.

Page No. 146 of the *Pavement Management Scope of Work* has been revised. Please void Page No. 146 in your proposal and staple the revised Page No. 146 thereto.

Page No. 152 of the *Hydraulics Scope of Work* has been revised. Please void Page No. 152 in your proposal and staple the revised Page No. 152 thereto.

Page Nos. 187 and 188 of the *Signing Scope of Work* have been revised. Please void Page Nos. 187 and 188 in your proposal and staple the revised Page Nos. 187 and 188 thereto.

Page Nos. 195, 196 and 197 of the *Utilities Coordination Scope of Work* have been revised. Please void Page Nos. 195, 196 and 197 in your proposal and staple the revised Page Nos. 195, 196 and 197 thereto.



Page No. 222 of the *Environmental Permits Scope of Work* has been revised. Please void Page No. 222 in your proposal and staple the revised Page No. 222 thereto.

Page Nos. 231 and 232 of the *Traffic Signals, ITS & Signal Communications Scope of Work* have been revised. Please void Page Nos. 231 and 232 in your proposal and staple the revised Page Nos. 231 and 232 thereto.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'R.A. Garris', with a long horizontal flourish extending to the right.

R.A. Garris, PE
Contract Officer

RAG / rem

Cc: Rodger Rochelle, PE
Pat Ivey, PE
Teresa Bruton, PE
Ron McCollum, PE
Karen Capps, PE
File

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traffic measures of effectiveness included in the Preliminary Roadway Plans provided by the Department.

- From Forum Parkway to south of the proposed Ramp B / Loop B, the Design-Build Team shall design and construct a four-lane divided facility, with a minimum 17.5-foot median, on NC 65 (Bethania-Rural Hall Road). Along NC 65 (Bethania-Rural Hall Road), the Design-Build Team shall design and construct 1) 14-foot outside lanes within the curb and gutter limits, including but not limited to across Bridge No. 36; 2) 12-foot lanes outside the limits of No. 1 above; 3) 2'-6" curb and gutter with a ten-foot berm, as shown on the Preliminary Roadway Plans provided by the Department; and 4) five-foot sidewalk on both sides of the roadway within the curb and gutter limits south of the proposed Ramp A / Loop A / Forum Parkway intersection.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct NC 65 (Bethania-Rural Hall Road) providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Preliminary Roadway Plans provided by the Department. The limits of NC 65 (Bethania-Rural Hall Road) construction shall be of sufficient length to tie to existing based upon the current NCDOT guidelines and standards.

R-2247CD & EC

- The minimum width of all grass covered islands / medians shall be eight feet, measured face to face from the surrounding mountable concrete curb and gutter or from edge of pavement to edge of pavement, as appropriate. All grass covered islands shall be constructed with topsoil and appropriate cross slope and median drain with pipe to prevent groundwater and surface water infiltration into the subgrade and / or pavement structure. Prior to construction of the grass covered islands and / or median drain with pipe, the Design-Build Team shall submit to the Design-Build Unit, for review and acceptance, the proposed number of drains, drain locations within the typical section, topsoil specifications and construction details. Within all proposed grass covered island limits, the Design-Build Team shall completely remove and dispose of the existing pavement structure.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct -Y- Lines, ramps, loops, service roads, and cul-de-sacs providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Preliminary Roadway Plans provided by the Department. The limits of -Y- 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 all -Y- Lines such that the through movement is not required to change lanes throughout the project limits.
- 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. All ramps shall have 14-foot outside shoulders, four-foot of

STRUCTURES SCOPE OF WORK (8-31-16)

Project Details

The Design-Build Team shall be responsible for all structures necessary to complete the project, including but not limited to, the following:

- Bridge No. 226 - (SR 1891 (Peace Haven Road) over US 421)
- Bridge No. 36 - (NC 65 (Bethania-Rural Hall Road) over US 52 (Future I-74))
- Bridge No. 159 - (Kester Mill Road over Silas Creek)
- All retaining walls required by the Design-Build Team's design
- All sound barrier walls required by the Design-Build Team's design (Reference the Roadway Scope of Work found elsewhere in this RFP)

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 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 bridges and all aesthetic elements constructed over all interstate, freeways, and arterials shall be 17'-0".

The Design-Build Team shall design and construct Bridge No. 226 - (SR 1891 (Peace Haven Road) over US 421), to allow for the future construction of one additional 12-foot through lane in each direction of SR 1891 (Peace Haven Road), as well as any additional width required to accommodate the associated future hydraulic spread, without the need to 1) reconstruct any of the provided substructure elements, including but not limited to retaining walls located at the end bents or 2) obtain a future design exception, including but not limited to, the minimum vertical clearance of 17'-0" over US 421 for the proposed and future construction. (Reference the Hydraulics Scope of Work found elsewhere in this RFP) The Design-Build Team shall indicate in the Technical Proposal how the aforementioned future construction can be accomplished without the need to reconstruct any of the provided substructure elements.

Bridge No. 36 (NC 65 (Bethania-Rural Hall Road) over US 52 / Future I-74) shall be a two span bridge with the interior bent located in the US 52 (Future I-74) median; and shall be designed and constructed of sufficient length and height to accommodate the future improvements shown on the R 2247EB Public Meeting Map provided by the Department without the need for a future design exception, including but not limited to the minimum vertical clearance of 17'-0" over US 52 (Future I-74) for the proposed and future construction. (Reference the Roadway Scope of Work found elsewhere in this RFP)

The Design-Build Team shall design and construct 5'-6" sidewalk on both sides of Bridge No. 226 - (SR 1891 (Peace Haven Road) over US 421) and Bridge No. 36 - (NC 65 (Bethania-Rural Hall Road) over US 52 (Future I-74)).

The Design-Build Team shall design and construct aesthetic treatments on Bridge No. 36 (NC 65 / Bethania-Rural Hall Road over US 52 / Future I-74) in accordance with the requirements below:

- Concrete arch facades shall be provided on both sides of the bridge. The concrete arch facades 1) shall have a smooth finish and shall provide sufficient clearance for future bridge maintenance and inspections, including but not limited to inspection of exterior girders; 2)

may be braced to the deck; 3) shall not be attached to a girder; 4) shall not be load bearing; and 5) shall be in accordance with the R-2247 Concrete Arch Façade Aesthetic Guidelines provided by the Department. The Design-Build Team shall provide conceptual designs and renderings for the aesthetic concrete arch facades in the Technical Proposal.

- On both sides of the bridge, mid-span concrete plinths shall be centered over the proposed median bent cap. The mid-span concrete plinth shall be three feet wide, three feet long and be equal to the height of the bridge rail. The mid-span concrete plinth face shall be flush with the sidewalk side of the bridge rail parapet.
- The median bent shall be a square concrete column with a smooth finish.
- All exterior steel girders shall be painted.
- All exterior concrete girders shall be stained black.

The design and construction of Bridge No. 159 - (Kester Mill Road over Silas Creek) shall adhere to the following:

- Cored slab or box beam units, with an asphalt overlay, will be allowed.
- The bridge barrier rails shall be per Standard Drawing CBR2.
- The bridge approach fills defined in the *Sub-Regional Tier Design Guidelines for Bridge Projects* will be allowed.
- Twelve-foot bridge approach slabs will be allowed.

Unless noted otherwise elsewhere in this RFP, all proposed bridge barrier rails shall be per Standard Drawing BMR34. Bridge No. 36 (NC 65 (Bethania-Rural Hall Road) over US 52 / Future I-74) shall have anodized black metal bridge rails.

End bents and end bent slopes at each end of a bridge shall have the same appearance.

Vertical abutment walls and / or retaining walls shall not be allowed in lieu of spill through slopes adjacent to waterways or wetlands.

The number of expansion joints for each structure 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.

A live load rating chart for proposed girders shall be included with the bridge plans and shall state design assumptions and methodology used in the load rating calculations. The load rating shall be in accordance with the NCDOT *Structures Management Unit Manual*, including Policy Memos, and AASHTO's *Manual for Bridge Evaluation*.

The Design-Build Team shall lengthen or replace all existing reinforced concrete box culverts as required by the Design-Build Team's design. Reinforced concrete box culvert designs shall be in accordance with the latest edition of the AASHTO LRFD Bridge Design Specifications and the Hydraulic Culvert Survey Reports prepared by the Design-Build Team and accepted by the Department. (Reference the Hydraulics Scope of Work found elsewhere in this RFP)

PAVEMENT MANAGEMENT SCOPE OF WORK (8-31-16)

US 421

The Design-Build Team shall use the following pavement design for the construction and / or widening of US 421 travel lanes, acceleration / deceleration lanes, median outside full-depth paved shoulder and outside full-depth paved shoulders.

3.0" S9.5C
4.0" I19.0C
8.0" B25.0C

Beginning at the western limits of the US 421 pavement marking obliterations / revisions or the eastern terminus of the US 421 bridge over Muddy Creek, whichever is furthest west, to the eastern limits of the US 421 pavement marking obliterations / revisions, the Design-Build Team shall resurface the existing pavement with a minimum pavement depth that equals the full thickness of the surface course as provided above. (Reference the Roadway Scope of Work found elsewhere in this RFP).

US 52 (Future I-74)

The Design-Build Team shall use the following pavement design for the construction of US 52 (Future I-74) acceleration / deceleration lanes and outside full-depth paved shoulders.

Ultra-thin Bonded Wearing Course
3.0" S9.5C
3.0" I19.0C
7.0" B25.0C

Excluding the sections of US 52 that solely require pavement marking obliterations / revisions, and the associated mill and fill operation, the Design-Build Team shall completely reconstruct (remove, dispose of / recycle and replace) the US 52 (Future I-74) existing outside paved shoulders. The existing US 52 (Future I-74) outside shoulder pavement structure shall be removed and disposed of / recycled, in its entirety, to the top of the soil subgrade, including but not limited to the removal and disposal of existing aggregate base course.

Throughout the US 52 (Future I-74) project limits, including but not limited to the sections of US 52 that solely require pavement marking obliterations / revisions, and the associated mill and fill operation, the Design-Build Team shall 1) mill the existing ultrathin bonded wearing course on the US 52 (Future I-74) through lanes and acceleration / deceleration lanes to the top of the existing jointed concrete pavement, 2) mill the existing median paved shoulders to the adjacent milled through lane elevation, 3) assess and recommend repairs to the underlying concrete pavement, 4) construct new acceleration / deceleration lanes for the proposed US 52 (Future I-74) / NC 65 (Bethania-Rural Hall Road) interchange ramps and loops, and 5) overlay the existing concrete pavement, existing median paved shoulders, outside paved shoulders, and newly constructed acceleration / deceleration lanes to the back of the gore (12-foot width) with an ultra-thin bonded

- For curb and gutter facilities, the hydraulic spread shall not encroach more than three feet into an operational permanent through lane or six feet into an operational temporary through lane.
- The hydraulic spread shall not encroach more than two feet into a 14-foot wide operational permanent or temporary through lane on a bridge. The hydraulic spread shall not encroach into any other operational permanent or temporary through lane on a bridge.
- The hydraulic spread shall not encroach more than a distance that equals half the lane width into an operational permanent or temporary exclusive turn lane.
- In accordance with the Hydraulic Guidelines noted below, the Design-Build Team shall provide Culvert Survey Reports and Bridge Survey Reports for hydraulic structures for the Department's review and acceptance.
- The Design-Build Team shall analyze spread for all bridges identified in the Structures Scope of Work found elsewhere in this RFP and, as necessary, provide mitigation that adheres to the hydraulic spread requirements noted above. If required, the Design-Build Team shall adhere to the bridge drainage system requirements noted below:
 - The Design-Build Team shall design bridge drainage without the use of Bridge Scuppers (open-grated inlets). If deck drains are used on a bridge, they shall be vertical pipes at the flow line through the deck with no elbow and shall be consistent with that shown in the current NCDOT Stormwater Best Management Practices Toolbox. If a closed drainage system is used on a bridge, the closed drainage system shall use vertical pipes at the flow line through the deck with no elbow and shall be consistent with that shown on the current NCDOT Stormwater Best Management Practices Toolbox.
 - The Design-Build Team shall provide bridge drainage features that prevent direct discharge into waterways.
 - The Design-Build Team shall use 4" deck drains adjacent to pedestrian facilities.
- In accordance with the NCDOT Stormwater Best Management Practices Toolbox and the NCDOT Post-Construction Stormwater Program effective on the Technical Proposal submittal date, the Design-Build Team shall develop a Stormwater Management Plan that, at a minimum, demonstrates the following:
 - To the maximum extent practicable, stormwater runoff shall be diverted away from surface waters.
 - To the maximum extent practicable, on-site stormwater control measures shall be employed to minimize water quality impacts.
 - Underground detention will not be allowed.

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 overhead sign structure locations, overhead signs and ground mounted guide signs.

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 (including overhead sign structures) required through the construction limits of the mainline, as well as all -Y- Lines, ramps, loops, service roads and 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, including but not limited to signs required for adjacent interchanges; as well as all -Y- Lines, ramps, loops, service roads and turn-arounds / cul-de-sacs 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, as well as all -Y- Lines, all ramps, all loops, all service roads and all turn-arounds / cul-d-sacs, including Type A, B overhead signs, Type A, B, and D ground mounted signs, and exit gore signs. The Design-Build Team shall size and locate all Type E signs (warning and regulatory) and Type F-assemblies (route marker assemblies).

The Design-Build Team shall design, fabricate and install enhanced mile markers at **1-mile** intervals along both sides of US 421 and NC 52 (Future I-74). The Design-Build Team shall install each mile marker on one three-pound U-channel post. Mile markers shall be located at the outside shoulder point or a maximum of 15 feet from the edge of travel lane. The Design-Build Team shall install mile markers such that the bottom of the mile marker shall be four feet above the edge of travel lane (edgeline) elevation. The mile marker designs shall be in accordance with the Intermediate Enhanced Reference Location Signs (D10-5) referenced in the *Standard Highway Signs* (2004 Edition and the 2012 Supplement to the 2004 Edition) and the NCDOT Roadway Standard Drawing No. 904D40.

The Design-Build Team shall design, fabricate and install 30" x 36" Chevron Alignment signs (W1-8) along all interchange loops. Each Chevron Alignment sign shall be:

- installed on two U-channel posts spaced 24" apart with cross bracing
- located and installed so the bottom of the sign is four feet above the edge of the travel lane elevation (left edge of the loop)

The first Chevron Alignment sign shall be installed as close as practical after the exit gore sign (approximately 20' from the exit gore sign), and shall not interfere with or block the exit gore sign. The first five Chevron Alignment signs shall be spaced approximately 40' apart and oriented to optimize the view of approaching motorists. After these first five Chevron Alignment signs, or beyond the midpoint of the curve, Chevron Alignment sign spacing shall adhere to the MUTCD requirements.

Prior to fabrication, the Design-Build Team shall coordinate with the Signing and Delineation Unit on destination cities and / or street names on guide signs.

Overlays will not be allowed on any existing sign.

Logo Signs

The Design-Build Team will not be required to design, locate or install new Logo Signs (blue service signs with specific business panels). Prior to project completion, the Design-Build Team shall relocate / reinstall / replace all existing Logo Signs located within the project limits on the Technical Proposal submittal date that are impacted by the Design-Build Team's design and / or construction methods.

If damage occurs to the Logo Signs and / or the business panels during construction, the Design-Build Team shall immediately notify the Division Logo Coordinator. The Design-Build Team shall replace all Logo Signs and / or business panels that are damaged during construction. If the Logo Signs are replaced, the Design-Build Team shall remove the business panels and deliver them to the Division Logo Coordinator. During project construction, the Design-Build Team shall maintain the Logo Signs order of preference in accordance with the MUTCD Section 2J.01.

**** NOTE **** Deleted Logo Sign relocation / replacement required prior to project completion.

Sign Sheeting Requirements for Overhead Signs

The Design-Build Team shall design and fabricate all overhead signs with Grade A retro-reflective sheeting for sign legends (text), borders, and all Interstate, US and NC route shields and arrows. The Design-Build Team shall design and fabricate all overhead signs with Grade C retro-reflective sheeting for the background.

Black non-reflective sheeting shall be used for all black arrows, legends (text), and borders on overhead signs.

Water and Sewer

If the Design-Build Team's design, construction and / or the preliminary design of the ultimate R-2247EB improvements, as shown on the Preliminary Plans developed by the Design-Build Team, requires the relocation and / or encasement of existing water and / or sewer facilities, designs shall be coordinated with the NCDOT Utilities Unit. All costs associated with the design and construction for relocation and / or encasement of these existing water and / or sewer facilities shall be the responsibility of the Design-Build Team and shall be included in the lump sum bid for the project. The Design-Build Team shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the agencies and obtain approval from the agencies. The Design-Build Team shall be responsible for all permit fees. (Reference the Roadway Scope of Work found elsewhere in this RFP)

The Design-Build Team shall replace all existing vitrified clay pipes (VCP) sanitary sewer mains located within the construction limits and / or the aforementioned preliminary design of the ultimate R-2247EB improvements, that modify the existing ground elevation, excluding modifications that consist solely of pavement resurfacing, with ductile iron pipe (DIP).

The City of Winston Salem will replace the existing sanitary sewer pump station located at 780 Crooked Run Road with a gravity sewer line extension that crosses US 52 east of the existing 60" CMP. The gravity sewer line extension will be completed by July 1, 2017. The Design-Build Team shall coordinate with the Department to ensure that the gravity sewer line extension will not be impacted by the Design-Build Team's design and / or construction methods. Should the Design-Build Team's design and / or construction methods impact the gravity sewer line extension, all costs for those impacts and or relocations shall be borne by the Design-Build Team.

Designs shall be coordinated with the NCDOT Utilities Unit and the utility owners or their representatives. In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full size set of utility construction drawings to the State Utilities Manager, via the Design-Build Unit, for further handling. Each set shall include a title sheet, plan sheets, profiles and special provisions, if required. Once approved by the State Utilities Manager, the plans, with the appropriate agreement, will be sent to the utility owner for their review and concurrence.

The relocation of all water and sewer facilities shall be done in accordance with the NCDOT policies and standards, as well as the latest City of Winston Salem Technical Specifications and Detail Drawings for Water Line and Sanitary Sewer Line Construction. In the event of conflicting design parameters in the requirements noted above, the proposed design shall adhere to the most conservative values. The materials and appurtenances proposed by the Design-Build Team shall require approval by both NCDOT and the aforementioned appropriate utility owner prior to installation.

Utility Relocation Plans

Excluding water and sewer conflicts, and utilities that are allowed to remain in their current location under the conditions noted elsewhere in this RFP, if the Design-Build Team's design,

construction and / or the preliminary design of the ultimate R-2247EB improvements, as shown on the Preliminary Plans developed by the Design-Build Team, creates a utility conflict, the Design-Build Team shall request that the utility owner submit relocation plans (Highway Construction Plans to be provided by the Design-Build Team to utility owners) that show existing utilities and proposed utility relocations for approval by the NCDOT. (Reference the Roadway Scope of Work found elsewhere in this RFP)

In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full size set of the Utility Relocation Plans to the NCDOT State Utility Manager, via the Design-Build Unit, for review and approval prior to relocation work beginning. The Design-Build Team shall also be responsible for submitting the appropriate agreements to be used with the Utility Relocation Plans (See Agreements found elsewhere in this scope of work). After the review process is complete, the NCDOT Utilities Unit will submit an electronic copy of the authorization letter to the Design-Build Team. The NCDOT Utilities Unit will also submit an electronic copy of the approved Utility Relocation Plans, estimate and agreement to the Department's Resident Engineer. If the Utility Relocation Plans are approved subject to changes, it shall be the Design-Build Team's responsibility to coordinate these changes with the appropriate utility owner.

If the Design-Build Team's design and / or construction methods do not impact the existing Windstream telephone cabinet located adjacent to Jammie Court, the Design-Build Team will not be required to relocate the cabinet outside of the NCDOT control of access (the cabinet may remain in its current location). If the aforementioned cabinet is not relocated, the Design-Build Team shall design and construct 1) a four-foot high chain-link fence that completely encompasses the Windstream existing easement, and 2) a ten-foot wide gravel driveway from NC 65 (Bethania-Rural Hall Road) to the cabinet. Within the aforementioned chain-link fence, the Design-Build Team shall design and construct a 12-foot wide access gate for maintenance. In proximity to, but outside the clear zone of, NC 65 (Bethania-Rural Hall Road, the Design-Build Team shall design and construct a 12-foot wide gate across the access driveway. The Design-Build Team shall design and construct the two aforementioned gates such that they can be locked. (Reference the Pavement Management Scope of Work found elsewhere in this RFP)

Cost Responsibility

The Design-Build Team shall be responsible for all costs associated with relocating water and sewer facilities, as described in the Water and Sewer Section of this Scope of Work.

The NCDOT will be responsible for all other non-betterment utility relocation cost when the utility owner has prior rights of way / compensable interest. The utility owner shall be responsible for the relocation costs if they cannot furnish evidence of prior rights of way or a compensable interest in their facilities. The Design-Build Team shall be responsible for verifying / determining the cost responsibility (prior rights and compensable interest) for the utility relocations. Excluding the temporary powerline relocations noted below, the Design-Build Team shall be responsible for all costs associated with utility relocations due to haul roads and / or any other temporary conditions resulting from the Design-Build Team's methods of operation or sequence of work.

If an existing powerline is located 30.0 feet or less from an existing bridge to be removed or a new bridge to be constructed, and the Design-Build Team can demonstrate, in the Department's sole discretion, that a practical location to permanently relocate the powerline does not exist, the NCDOT will pay for both a temporary relocation and a permanent relocation that returns the powerline to its original alignment.

Compensable Interest

Typically, affidavits, recorded easements or NCDOT agreements can serve as evidence of prior rights. A compensable interest is identified as follows:

- (A) Existing or prior easement rights within the limits of the project, either by recorded right of way or adverse possession (Utility occupying the same location for twenty (20) plus years outside the existing highway rights of way).
- (B) Entities covered under *General Statute 136-27.1* and *136-27.2*. Statute requires the NCDOT to pay the non-betterment cost for certain water, sewer and gas relocations.
- (C) Utilities that have a joint-use agreement that constitutes a compensable interest with entities that have existing or prior easements rights within the project limits.

Work Performed by Design-Build Team for Utility Owners

If the Design-Build Team elects to make arrangements with a utility owner for proposed utility construction, in which the utility owner shall be responsible for the costs of work to be performed by the Design-Build Team, the Design-Build Team shall be responsible for negotiating all costs associated with the proposed construction. Once the Design-Build Team and the utility owner agree on a plan and a lump sum estimated cost for the utility construction, the Design-Build Team shall electronically submit one half-size set and one full size set of the utility construction drawings, in .pdf format, to the State Utilities Manager, via the Design-Build Unit, for further handling. Each set shall include a title sheet, plan sheets, profiles and special provisions, if required. Also, a letter from the utility owner agreeing to the plans and lump sum cost must accompany this package. The NCDOT will reimburse the Design-Build Team the estimated lump sum cost under a Supplemental Agreement. The necessary Utility Agreement to the utility owner for reimbursement shall be a two party agreement between the NCDOT and the utility owner; and will be developed and executed by the Department.

If the Design-Build Team is requested, in writing, by a utility owner to relocate facilities not impacted by the project's construction, and / or upgrade or incorporate new facilities as part of the highway construction, designs shall be coordinated with the utility owner and the NCDOT Utilities Unit. The associated design and construction costs shall be negotiated and agreed upon between the Design-Build Team and the utility owner. The Design-Build Team shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the

with this additional coordination. The Design-Build Team shall follow the appropriate details in the document titled "Section 404 / NEPA Merger Process Information" which can be found at the website noted below:

<https://connect.ncdot.gov/resources/Environmental/Compliance%20Guides%20and%20Procedures/Section404NEPAMergerProcessInformation.pdf>

Unless stipulated otherwise in the Technical Proposal, the Department will schedule a combined R-2247CD and R-2247EC Concurrence Point 4B Meeting and a combined R-2247CD and R-2247EC Concurrence Point 4C Meeting for **March 2017** and **June 2017**, respectively. The Design-Build Team shall clearly indicate in the Technical Proposal if separate Concurrence Point 4B and Concurrence Point 4C meetings will be required for R-2247CD and R-2247EC; and what months the Department should schedule the specific meetings. Failure on the part of the Design-Build Team to meet these dates shall place all responsibility for delays resulting from missing these dates solely in the hands of the Design-Build Team.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall be bound by the terms of all signed planning documents, and approved minutes and commitments of all concurrence meetings and shall be held accountable for meeting all permit conditions. The Design-Build Team shall be required to staff any personnel necessary to provide permit compliance.

Unless noted otherwise elsewhere in this RFP, the Department will not honor any requests for additional contract time or compensation for any efforts required in order to obtain any permit or permit modification, including but not limited to public involvement, additional design effort, additional construction effort, and / or additional environmental agency coordination and approvals.

Permit Application Process

It shall be the Design-Build Team's responsibility to acquire information and prepare permit drawings that reflect the impacts and minimization efforts resulting from the Merger Process and from the project as designed by the Design-Build Team. Further, it shall be the Design-Build Team's responsibility to provide these permit impact sheets (drawings) depicting the design and construction details to the Department as part of the permit application. The Design-Build Team shall be responsible for developing the permit application for all jurisdictional impacts. The permit application shall include all utility relocations required by the project. At a minimum, the permit application shall consist of the following:

- Cover Letter
- Completed forms (Section 404 ENG 4345, etc.) appropriate for impacts
- Division of Mitigation Services Acceptance Letter
- Minutes from the 4B and 4C Meetings
- Stormwater Management Plan
- Permit drawings (with and without contours)

- *North Carolina Supplement to the Manual on Uniform Traffic Control Devices (NCMUTCD)*
- *Guidelines for the Preparation of ITS & Signal Plans by Private Engineering Firms*

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. TRAFFIC SIGNALS

If the Design-Build Team's design and / or construction methods require the installation of a new permanent traffic signal(s), the NCDOT ITS & Signals Unit will assign Signal Inventory Numbers (SIN) for each location. Once all the new permanent traffic signal locations have been finalized and accepted by the Department, the Design-Build Team shall submit a written request for the SINs to the NCDOT ITS & Signals Unit, via the Design-Build Unit. At a minimum, this request shall list each signal location that requires a SIN and include the following:

- County
- Nearest Municipality
- 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 upgrade / rebuild five (5) existing traffic signals. All these signals shall be incorporated into the City of Winston-Salem Signal System. (Reference Section III for the system interconnection requirements) Unless existing as a pre-timed signal or the Department provides written approval otherwise, the vehicle detection for the final traffic patterns shall be inductive loop detection. The Design-Build Team may provide **out of street detection only** for temporary traffic patterns during construction. The required traffic signal work and signal communications for each intersection are listed below:

Existing Signals to be Upgraded / Rebuilt (5)		
Signal Inventory Number	Intersection Description	Work Requirements
* 09-0641	NC 65 (Bethania-Rural Hall Road) at SR 1663 (Montroyal Road)	The Design-Build Team shall modify / upgrade these existing traffic signals to match all temporary construction phasing and the proposed final traffic pattern. This may require new signal supports, signal phasing changes, signal head changes, installation of an auxiliary file, system detectors, and system interconnection equipment.
* 09-0806	NC 65 / SR 4002 (Bethania-Rural Hall Road) at US 52 (Future I-74) SB Ramps / Loops	The Design-Build Team shall completely upgrade / rebuild these signals during the project using new equipment, including but not limited to a cabinet and controller, messenger cable, signal heads, signal cable, inductive loops, lead-in cable, junction boxes, and conduit. * The Design-Build Team shall use black powder coated metal poles with dual mast arms for the permanent signal support.
** 09-0997	NC 65 (Bethania-Rural Hall Road) at SR 3955 (Forum Parkway) and US 52 (Future I-74) NB Ramps / Loops	** The Design-Build Team shall use black powder coated metal poles for the permanent signal support. The aforementioned poles shall consist of dual mast arms in the southeast quadrant and a single mast arm in the northeast and northwest quadrants. *** The Design-Build Team shall use galvanized metal strain poles for the permanent signal support.
*** 09-1043	SR 1891 (Peace Haven Road) at US 421 SB Ramps / Loops	The Design-Build Team may use wood poles as the signal supports for the temporary construction phases. The Design-Build Team shall install a new 2070L controller operating OASIS software, including base adapters / extenders, in a 170 cabinet. Unless the Department provides written approval otherwise, the final signal design shall utilize inductive loop detection. Existing vehicle detection shall be maintained for the movements throughout construction.
*** 09-1046	SR 1891 (Peace Haven Road) at US 421 NB Ramps	The Design-Build Team shall provide pedestrian signal heads at each approach with existing or proposed sidewalk. Prior to final design and installation, the Design-Build Team shall coordinate all signal phasing recommendations for NCDOT signals with the Division Traffic Engineer, the Regional Traffic Engineer, the ITS & Signals Unit, and the City of Winston-Salem. Upon placing these signals in operation (includes temporary operation), the Design-Build Team shall install the required system communication equipment as described in Section III.