



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

October 13, 2016

Addendum No. 3

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. 3 to Final RFP

November 15, 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. 3 for your information. Please note that all revisions have been highlighted in gray and are as follows:

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

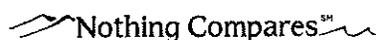
Page No. 2 of the *Other Liquidated Damages, Damages and Incentives Project Special Provision* has been revised. Please void Page No. 2 in your proposal and staple the revised Page No. 2 thereto.

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

Page Nos. 38 and 39 of the *Price Adjustments For Asphalt Binder Project Special Provision* have been revised. Please void Page Nos. 38 and 39 in your proposal and staple the revised Page Nos. 38 and 39 thereto.

Page No. 99 of the *Sound Barrier Wall Project Special Provision* has been revised. Please void Page No. 99 in your proposal and staple the revised Page No. 99 thereto.

Page No. 122 of the *General Section* has been revised. Please void Page No. 122 in your proposal and staple the revised Page No. 122 thereto.



Page Nos. 133, 136 and 138 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 133, 136 and 138 in your proposal and staple the revised Page Nos. 133, 136 and 138 thereto.

Page Nos. 170, 175, 175A and 177 of the *Transportation Management Scope of Work* have been revised. Please void Page Nos. 170, 175, 175A and 177 in your proposal and staple the revised Page Nos. 170, 175, 175A and 177 thereto.

As a reminder, each Team is required to participate in a 30-minute presentation, followed by an oral interview with the Department's Technical Review Committee. The presentations and oral interviews will be held on November 9, 2016 in the Riverwood Conference Room (Century Center Building "B") at the times noted below. A maximum of ten (10) people from the Design-Build Team may attend.

Company	Time
Blythe Construction, Inc.	9:00 a.m.
E. S. Wagner Company, LLC	11:00 a.m.
Smith-Rowe / Thompson Arthur J.V. (Smith-Rowe, LLC / Thompson-Arthur Paving & Construction - a division of APAC - Atlantic, Inc. Joint Venture)	1:30 p.m.

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 / jgn

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

TABLE OF CONTENTS**COVER SHEET****PROPOSAL SHEETS****PROJECT SPECIAL PROVISIONS***PAGE NO.*

Contract Time and Liquidated Damages	1
Other Liquidated Damages, Damages and Incentives	1
Payout Schedule	3
Mobilization	3
Substantial Completion	3
Submittal of Quantities, Fuel Base Index Price and Opt-Out Option	4
Individual Meetings with Proposers	5
Execution of Bid, Non-Collusion Affidavit, Debarment Certification and Gift Ban Certification	6
Submission of Design-Build Proposal	6
Alternative Technical Concepts and Confidential Questions	7
Schedule of Estimated Completion Progress	8
Disadvantaged Business Enterprise	9
Certification for Federal-Aid Contracts	22
Contractor's License Requirements	23
U. S. Department of Transportation Hotline	23
Resource Conservation and Environmentally Sustainable Practices	23
Subsurface Information	24
Domestic Steel	24
Bid Documentation	24
Twelve Month Guarantee	28
Permanent Vegetation Establishment	29
Erosion & Sediment Control / Storm Water Certification	29
Procedure for Monitoring Borrow Pit Discharge	35
Clearing and Grubbing	36
Burning Restrictions	36
Building and Appurtenance Removal / Demolition	37
Pipe Installation	37
Drainage Pipe	38
Price Adjustments for Asphalt Binder	38
Price Adjustments - Asphalt Concrete Plant Mix	39
Workspace for Department Staff	39
Dynamic Message Signs	39
Geotextile for Pavement Stabilization	78
Foundations and Anchor Rod Assemblies for Metal Poles	80
Overhead Sign Supports	87
Overhead and Dynamic Message Sign Foundations	94
Cutting of Steel Sign Hangers on Overhead Signs	96

High Mount Foundations97
Sanitary Sewer99
Sound Barrier Wall99
Architectural Concrete Surface Treatment102
Iran Divestment Act.....106
Cargo Preference Act.....107
Patching Concrete Pavement Spalls.....107

GENERAL109

SCOPES OF WORK

Roadway128
Structures142
Pavement Management.....146
Hydraulics151
Geotechnical Engineering.....156
GeoEnvironmental165
Transportation Management167
Signing186
Utilities Coordination.....194
Erosion and Sedimentation Control.....202
Public Information.....219
Environmental Permits.....221
Pavement Markings227
Traffic Signals, ITS & Signal Communications229
Right of Way.....238

STANDARD SPECIAL PROVISIONS

Value Engineering Proposals.....244
Plant and Pest Quarantines.....245
Gifts from Vendors and Contractors246
Liability Insurance246
State Highway Administrator Title Change.....247
Subletting of Contract.....247
Name Change for NCDENR.....247
Select Granular Material247
Rock and Broken Pavement Fills.....247
Bridge Approach Fills.....248
Preparation of Subgrade and Base250
Class IV Aggregate Stabilization.....250
Aggregate Base Course.....251
Asphalt Pavements – Superpave.....251
Asphalt Binder Content of Asphalt Plant Mixes256

Liquidated Damages for Intermediate Contract Time #2 for lane narrowing, lane closure, holiday and special event time restrictions for NC-65 (Bethania – Rural Hall Road) and SR 1891 (Peace Haven Road) are \$500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #3 for road closure time restrictions for US 52 (Future I-74), including all ramps / loops; and US 421, including all ramps / loops, are \$1,250.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #4 for road closure time restrictions for the US 421 existing northbound entrance ramp from SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp B are \$1,000.00 per day or any portion thereof.

Liquidated Damages for Intermediate Contract Times #10 and #11 for road closure time restrictions for US 421 / SR 1891 (Peace Haven Road) existing Ramp C, and proposed Ramp D / proposed Loop D are \$1,000.00 per hour or any portion thereof.

Reference the Traffic Signals Scope of Work found elsewhere in this RFP for more information on the following time restrictions and liquidated damages:

Liquidated Damages for Intermediate Contract Time #5 for failure to repair a damaged traffic signal fiber optic communications cable and restore communication within 24 hours are \$500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #6 for failure to reestablish traffic signal fiber communications within 72 hours are \$2,500.00 per 12-hour period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #7 for failure to provide a plan that defines 1) an anticipated traffic signal fiber optic communications disruption timeframe and 2) a plan of action for reestablishing traffic signal communications a minimum of 21 days prior to a proposed disruption are \$10,000.00 per failure.

Liquidated Damages for Intermediate Contract Time #8 for failure to reestablish CCTV Camera communications within 72 hours are \$2,500.00 per 12-hour period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #9 for failure to provide a plan that defines 1) an anticipated CCTV Camera communications disruption timeframe and 2) a plan of action for reestablishing CCTV Camera communications a minimum of 21 days prior to a proposed disruption are \$10,000.00 per failure.

Damages for Erosion and Sedimentation Control efforts apply to this project.

Reference the Erosion and Sedimentation Control Scope of Work found elsewhere in this RFP for additional information under the Erosion Control Damages Section.

same time and location as the Technical and Price Proposal. The original shall be submitted in the Price Proposal.

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

(B) **Base Index Price**

The Design-Build Team’s Estimate of Quantities will be used on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. The Design-Build Team shall certify that the quantities are reasonable for the specified period. The base index price for DIESEL #2 FUEL is **\$1.5601 per gallon**.

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

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

(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.

DRAINAGE PIPE

(9-1-11)

DB3 R36

Description

Where shown in the plans developed by the Design-Build Team, the Design-Build Team shall use Reinforced Concrete Pipe, Corrugated Aluminum Alloy Pipe, Aluminized Corrugated Steel Pipe, Corrugated Polyethylene Pipe (HDPE Pipe) or Polyvinyl-Chloride Pipe (PVC Pipe) in accordance with the following requirements:

- All pipe types shall be subject to the maximum and minimum fill height requirements as found on Roadway Standard Drawing No. 300.01 - Sheet 3 of 3. The appropriate Reinforced Concrete Pipe class and the appropriate gage thickness for Corrugated Aluminum Alloy Pipe and Aluminized Corrugated Steel Pipe shall be selected based on fill height.
- Site specific conditions may limit a particular material beyond what is identified in this Project Special Provision. These conditions include, but are not limited to, abrasion, environmental, soil resistivity and pH, high ground water and special loading conditions. The Design-Build Team shall determine if additional restrictions are necessary.
- Slope drains shall be Corrugated Aluminum Alloy Pipe, Aluminized Corrugated Steel Pipe, Corrugated Polyethylene Pipe (HDPE Pipe) or Polyvinyl-Chloride Pipe (PVC Pipe).
- Transverse median drains, storm drainage system pipes, and open-ended cross drains shall be Reinforced Concrete Pipe unless the pipe slope is greater than 10%, in which case the pipe shall be either Corrugated Aluminum Alloy Pipe or Aluminized Corrugated Steel Pipe.

PRICE ADJUSTMENTS FOR ASPHALT BINDER

(9-1-11)

DB6 R25

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

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

The base price index for asphalt binder for plant mix is **\$325.71 per ton**.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **October 1, 2016**.

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX

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

DB6 R26

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

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

Add the following paragraph before the first paragraph:

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

WORKSPACE FOR DEPARTMENT STAFF

(6-1-07)

DB 08-02

The Design-Build Team shall provide and maintain space for one Department staff member at the project site. This space can be a separate facility or part of the area provided to the Design-Build Team. The workspace provided shall be adequately lighted, and will include as a minimum, one desk, one chair, one telephone (a separate line from the Design-Build Team's), and Internet access. The Engineer shall make the final determination for location and adequacy of the facilities.

DYNAMIC MESSAGE SIGN (DMS)

(5-22-15)

DB 08-04

General Requirements

DMSs used on the State Highway System shall be preapproved on the current NCDOT ITS & Signals 2012 Qualified Products List (QPL) by the date of installation. DMSs not preapproved will not be allowed for use on the project. To ensure compatibility with the existing DMS Control Software deployed in the State, furnish NTCIP compliant DMSs that are fully compatible with Daktronics, Inc. Vanguard Version 4 software (also referred to hereinafter as the "Control Software"). The QPL is available on the Department's website. The QPL website is:

<https://connect.ncdot.gov/resources/safety/Pages/ITS-and-Signals-Qualified-Products.aspx>

DMS Requirements

Furnish and install DMSs compliant with UL standards 48, 50, and 879.

Add and configure the new DMSs in the system using the Control Software and computer system. Furnish, install, test, integrate and make fully operational the new DMSs at locations shown in the plans developed by the Design-Build Team.

Furnish operating DMS systems consisting of, but not limited to, the following:

- Full Matrix, 27 pixel high and 90 pixels wide LED DMS with 18" border

SANITARY SEWER

(10-07-13)

1520

DB15 R20

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

Page 15-11, Article 1520-3(A)(2) Testing, Line 5, replace the second paragraph with the following:

Test all 24" and smaller gravity sewer lines for leakage using infiltration, exfiltration, or air test. Perform visual inspection on gravity sewer lines larger than 24". Perform line and grade testing and deflection testing on all gravity sewer lines.

SOUND BARRIER WALL

(3-6-15)

1.0 DESCRIPTION

This work consists of furnishing precast panels, structural steel, concrete columns, and all other materials; handling, transporting, fabricating, galvanizing, and storing materials; furnishing erection drawings, pile excavation, backfilling, erecting and installing the sound barrier wall members and all other materials as required by the plans developed by the Design-Build Team, the 2012 *Standard Specifications for Roads and Structures* and this Project Special Provision.

Unless otherwise approved by the Engineer, the Design-Build Team has a choice of ten or 15-foot pile spacing. Pile spacing greater than 15 feet will not be permitted. Provide consistent pile spacing the entire length of the wall. Use odd pile spacing, if necessary, only at the ends of the wall and at turning points, as approved by the Engineer.

A maximum one-foot drop or rise in top of wall elevation between wall sections will be permitted. Elevation changes greater than one foot, if necessary, will be allowed only at the end of the wall. Top of wall elevation changes that result in a jagged appearance shall not be allowed. Unless otherwise approved by NCDOT, the wall shall adhere to the Final Design Noise Report to be provided by the Department. (Reference the Roadway Scope of Work found elsewhere in this RFP)

(B) ALTERNATE PILE SPACING

As an alternate, the Design-Build Team may submit plans for pile spacing greater than 10 feet and less than 15 feet for review and approval. A submittal reducing the post spacing shall include the material and design specifications. The submittal shall also include an elevation view depicting the revised post spacing and proposed top of wall elevations. The proposed top of wall elevations shall be equal to or greater than the dimensions shown in the Final Design Noise Report to be provided by the Department. (Reference the Roadway Scope of Work found elsewhere in this RFP) The excavated hole diameter, excavation depth and reinforcing steel shall be equal to the amount required for 15-foot pile spacing. A variance in the reinforcing steel will be allowed for the length of horizontal and number of vertical reinforcement bars in the precast panel for the alternate pile spacing.

5. Innovation – 5 points

- Identify any aspects of the design or construction elements that the Design-Build Team considers innovative. Include a description of alternatives that were considered whether implemented or not.

6. Maintenance of Traffic and Safety Plan – 25 points***Maintenance of Traffic***

- Provide a Transportation Management Phasing Concept (TMPC).
- Describe any traffic control requirements that will be used for each construction phase.
- Describe how traffic will be maintained as appropriate and describe the Design-Build Team's understanding of any time restrictions noted in the RFP.
- Identify any self-imposed liquidated damages and associated Intermediate Contract Time(s), if applicable.
- Specifically describe how business, school and residential access will be maintained, if applicable.
- Address how hauling will be conducted, including but not limited to, hauling of any materials to and from the site and hauling material within NCDOT right of way.
- Describe the Design-Build Team's approach to providing the public with communication access to project personnel to inquire as to traffic impacts, including vehicular and pedestrian.
- If a temporary portable barrier system will be utilized, provide the type and why it is needed.
- Identify the type of US 421 and US 52 (Future I-74) positive median cross-over protection proposed and replacement / resetting requirements.
- If temporary shoring will be required, provide the type and why it is required.
- Include all proposed road closures, detour routes, durations, and justifications, including but not limited to the duration, in days, for ICT #4; and the duration, in hours, for ICT #10 and #11.
- Address where and how law enforcement officers will be used.
- Identify a Traffic Control Supervisor and briefly describe their qualifications for this role.

Safety Plan

- Describe the safety considerations specific to the project.
- Discuss the Design-Build Team's overall approach to safety.
- Describe any proposed improvements that will be made prior to or during construction that will enhance the safety of the work force and / or travelling public both during and after the project construction.

7. Oral Interview – 5 points

- The Design-Build Team's Project Management Team shall present a brief introduction of the project team and design / construction approach.

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). Unless noted otherwise elsewhere in this RPF, the Design-Build Team shall design and construct the following along NC 65 (Bethania-Rural Hall Road), 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

Addendum No. 3, October 13, 2016

C203840 (R-2247CD & EC)

Roadway Scope of Work

Forsyth County

the Department. The Design-Build Team shall be responsible for all 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, NEPA re-evaluation and / or coordination with other stakeholders. 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.

- After the contract has been Awarded, the Design-Build Team shall inform the Design-Build Unit, in writing, of all proposed changes to the design shown in the Technical Proposal.
- After the Department has reviewed and accepted the Design-Build Team's design submittals, the Design-Build Team shall inform the Design-Build Unit, in writing, of any changes to previously reviewed submittals.
- Design exceptions will not be allowed for the mainline, including all ramps and loops. NCDOT prefers not to have design exceptions for the -Y- Lines and service roads. If the Design-Build Team anticipates any design exceptions, they shall be clearly noted in the Technical Proposal. Prior to requesting / incorporating a design exception into the Final Plans, the Design-Build Team must obtain prior conceptual approval from the Design-Build Unit. If conceptual approval is obtained, the Design-Build Team shall be responsible for the development and approval of all design exceptions.
- For all parcels, the Design-Build Team shall locate and install concrete right of way markers that delineate all proposed right of way within the project limits. The Design-Build Team shall replace all existing right of way markers / monuments damaged and / or relocated during construction.
- For all parcels, the Design-Build Team shall locate and install iron pins and caps with fiberglass markers that delineate all proposed permanent easements within the project limits. The Design-Build Team shall replace all existing permanent easement markers / monuments damaged and / or relocated during construction. In accordance with NCDOT Policy, the Department will furnish the metal caps with fiberglass markers.
- The Design-Build Team shall include all design and construction costs for the sound barrier walls listed in the September 30, 2016 R-2247EC and CD Draft Design Noise Report, as well as all costs associated with performing any additional geotechnical investigations necessary to design the foundations, in the lump sum price bid for the entire project. If the Final Design Noise Report, to be provided by the Department, lengthens and / or increases the square footage of the sound barrier walls listed in the aforementioned Draft Design Noise Report, all costs associated with the required sound barrier wall additions will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2012 *Standard Specifications for Roads and Structure* at the unit prices noted below:
 - The design and construction unit price for additional sound barrier wall square footage shall be \$40.00 per square foot.
 - For sound barrier walls located on the mainline shoulder, ramp shoulder or -Y- Line berm, the unit price for incidental design and construction items shall be \$105.00 per each additional linear foot. All work tasks required to design and construct the sound barrier walls on the shoulder and / or berm, including but not limited to wall envelope details, traffic control, pavement, concrete barrier, and earthwork, shall be considered inclusive in the aforementioned incidental items unit price.

If the Final Design Noise Report, to be provided by the Department, shortens and / or decreases the square footage of the sound barrier walls listed in the aforementioned Draft Design Noise Report, all costs associated with the required sound barrier wall reductions will be deducted from monies due the Design-Build Team at the unit prices noted above.

If the Design-Build Team revises the horizontal and / or vertical alignments such that greater noise impacts are possible on surrounding receptors, the Design-Build Team shall re-analyze and complete a revised noise report that adheres to current NCDOT guidelines / policies, if necessary, for NCDOT and FHWA review and acceptance. The aforementioned Draft Design Noise Report has been provided to the Design-Build Team to assist in their determination of anticipated additional noise impact on current receptors due to design changes. If adjustments to, or addition of, sound barrier walls are required as a result of design deviations, the Design-Build Team shall be responsible for all costs associated with the adjustments and / or additions.

The Design-Build Team shall be responsible for all wall envelope details.

- Unless noted otherwise elsewhere in this RFP, all guardrail / guiderail placement shall be in accordance with the NCDOT *Roadway Standard Drawings* and / or approved details in lieu of standards. Along all 3:1 fill slopes, constructed at fill heights that are equal to or greater than 12 feet, the Design-Build Team shall install guardrail. Along all fill slopes steeper than 3:1, constructed at fill heights that are equal to or greater than six feet, the Design-Build Team shall install guardrail. The guardrail / guiderail design shall be submitted for review with the Preliminary Plans submittal.
- The total outside shoulder width for all facilities with defined usable shoulders shall equal the usable shoulder plus two feet.
- The Design-Build Team shall be responsible for the evaluation of the algebraic difference in rates of cross slope (roll-over) between existing shoulders and roadways and the associated suitability for carrying traffic during construction, if necessary. In the event that the roll-over is found to be unacceptable for the proposed temporary traffic patterns, the Design-Build Team shall be responsible for providing cross slopes that meet design standards and eliminate roll-over concerns.
- The Design-Build Team shall submit Structure Recommendations and Design Criteria for NCDOT review and acceptance prior to the Preliminary Roadway Plans submittal. The Design-Build Team shall develop Structure Recommendations that adhere to the format noted in the March 25, 2003 and September 1, 2004 memos from Mr. Jay Bennett, PE, former State Roadway Design Engineer.
- Unless noted otherwise elsewhere in this RFP, the design speed for all roadways shall be the greater of the minimum design speed for the facility type, as specified in the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets*, or the anticipated / actual posted speed plus five mph. If a speed limit is not physically posted on an existing facility outside of city limits, General Statutes mandate the speed limit as 55 mph, resulting in a 60 mph design speed. If a speed limit is not physically posted on an existing facility within the city limits, the design speed shall be 40 mph.
- The Design-Build Team shall design and construct single face concrete barrier in front of the traffic face of all sound barrier walls, retaining walls and all elements acting as a retaining wall that are located within the vehicle recovery area. The aforementioned concrete barrier shall be located beyond the typical section shoulder point and / or a minimum of 12-foot from the face of curb and gutter, requiring the Design-Build Team to widen the outside shoulder and / or berm beyond the typical section width.
- At all -Y- Line / -Y- Line intersection radius points, including service roads, the minimum lane width for the secondary road shall be 15 feet.
- At all intersections impacted by the Design-Build Team's design and / or construction methods, excluding resurfacing, the following design vehicles shall be required for all turning movements:

Prior to incorporation, all offsite detour routes shall receive Department written approval and shall adhere to the following requirements:

- Except as allowed in ICT #3, ICT #4, ICT #10 and ICT #11 and elsewhere in this RFP, all roads, including ramps and loops, shall not be closed.
- The Design-Build Team shall not permanently close the Hallmark Drive / NC 65 (Bethania – Rural Hall Road) intersection prior to the Hallmark Drive extension to Crooked Rim Road being open to traffic and fully operational.
- The Design-Build Team shall not permanently close the private road adjacent to the existing Ramp D at the US 421 / SR 1891 (Peace Haven Road) interchange prior to -DW1-, Kester Mill Road Extension, and Kester Mill Road, including but not limited to Bridge No. 159 (Kester Mill Road over Silas Creek), being open to traffic and fully operational.
- The Design-Build Team shall not permanently close any existing ramp / loop until 1) the proposed ramp / loop that will carry the corresponding traffic is open to traffic and fully operational; and 2) the proposed traffic signal at the proposed ramp / loop terminal for the corresponding traffic is operational.
- The Design-Build shall not incorporate Jonestown Road into any offsite detour route.
- The Design-Build Team shall investigate all detour routes, including but not limited to analyzing traffic capacity, investigating impacts to emergency services and schools, analyzing design characteristics to ensure the design supports the traffic volumes (existing traffic volumes plus detoured traffic volumes), and investigating pavement structural adequacy including any bridge postings on the detour route. The Design-Build Team shall submit recommendations resulting from the aforementioned investigations / analyzes for the Department's review and acceptance.
- As determined by the Engineer, the Design-Build Team shall provide all improvements required to accommodate detoured traffic prior to utilizing detour routes.
- Offsite detours that have non-signalized at-grade railroad crossings shall not be allowed.
- Submit detour routes and all associated sign designs for review and acceptance prior to incorporation.
- All proposed road closures, detour routes, durations and justifications shall be incorporated into the Technical Proposal. (All proposed road closures, detour routes, durations and justifications incorporated into the Technical Proposal shall require Department approval.)
- Unless approved otherwise by the controlling government entity, in writing, use only state maintained roads for offsite detour routes.

For the operations noted below, the maximum road closure duration shall not exceed **thirty (30) minutes** without an approved offsite detour. With an approved offsite detour, the roadways listed may be closed from 12:00 a.m. (Midnight) to 5:00 a.m. for the operations listed below.

- Bridge demolition
- Girder, overhang, and falsework installation and / or removal
- Installation / removal of temporary shoring
- Installation / removal of temporary traffic barrier systems
- Installation of overhead sign assemblies and / or work on existing overhead sign assemblies over travel lanes

Proposed road closures for any road within the project limits shall be approved by the Engineer, in writing, prior to incorporation in the Transportation Management Plans.

Liquidated Damages for Intermediate Contract Time #3 for the above road closure time restrictions for US 52 (Future I-74), including all ramps and loops; and US 421, including all ramps and loops, are \$1,250.00 per 15-minute period or any portion thereof.

3. Intermediate Contract Times #4, #10, and #11 for Ramp Reconstruction

One road closure for each ramp / loop, with an approved offsite detour, will be permitted for the reconstruction, phase construction, and / or removal of the existing ramp / loop for the maximum durations listed below. The Design-Build Team shall not concurrently close more than two ramps / loops.

Intermediate Contract Time #	Road Name	Day	Time Restrictions
#4	US 421 existing northbound entrance ramp from SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp B	Monday through Sunday	21 consecutive days

The date of availability for Intermediate Contract Time #4 shall be the date the Design-Build Team elects to begin work after closing the US 421 existing northbound entrance ramp from SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp B. The Design-Build Team shall provide the Engineer a minimum of 30 days written notice prior to the date of availability. The date of completion shall be the number of

calendar days proposed by the Design-Build Team in the Technical Proposal, and such number of calendar days proposed shall not be greater than 21 days.

Intermediate Contract Time #	Road Name	Day	Time Restrictions
#10	US 421 existing southbound exit ramp at SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp C	From Friday at 9:00 p.m. until 5:00 a.m. on Monday	56 consecutive hours
#11	US 421 proposed southbound entrance / exit ramp and loop at SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp D / Loop D	From Friday at 9:00 p.m. until 5:00 a.m. on Monday	56 consecutive hours

The time of availability for **Intermediate Contract Times #10 and #11** shall be 9:00 p.m. on the date the Design-Build Team elects to begin work on the operations noted in the table above. The Design-Build Team shall provide the Engineer a minimum of 30 days written notice prior to each time of availability. The time of completion for **Intermediate Contract Times #10 and #11** shall be the number of hours proposed by the Design-Build Team in the Technical Proposal, and such number of hours proposed shall not be greater than 56 hours.

Liquidated Damages for Intermediate Contract Time #4 for the above road closure time restrictions for US 421 existing northbound entrance ramp from SR 1891 (Peace Haven Road) – US 421 / SR 1891 Ramp B are \$1,000.00 per day or any portion thereof.

Liquidated Damages for Intermediate Contract Times #10 and #11 for the above road closure time restrictions for US 421 / SR 1891 (Peace Haven Road) existing Ramp C, and proposed Ramp D / proposed Loop D are \$1,000.00 per hour or any portion thereof.

B. Hauling Restrictions

The Design-Build Team shall adhere to the hauling restrictions noted in the NCDOT 2012 *Standard Specifications for Roads and Structures*.

Road Name	Day	Time Restrictions
US 52 (Future I-74) northbound, including all northbound ramps / loops; and US 421 westbound, including all westbound ramps / loops	Monday through Sunday	12:00 p.m. to 7:00 p.m.
US 52 (Future I-74) southbound, including all southbound ramps / loops; and US 421 eastbound, including all eastbound ramps / loops	Monday through Friday	7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.
	Saturday and Sunday	12:00 p.m. to 7:00 p.m.

Excluding hauling operations that are conducted entirely behind a temporary traffic barrier or guardrail, multi-vehicle hauling shall not be allowed ingress and egress from any open travel lane during the following time restrictions:

Road Name	Day and Time	Restrictions
US 52 (Future I-74), including all ramps / loops; and US 421, including all ramps / loops	Monday through Sunday	6:00 a.m. to 7:00 p.m.
NC 65 (Bethania – Rural Hall Road)	Monday through Sunday	6:00 a.m. to 10:00 a.m. and 2:00 p.m. to 6:00 p.m.
SR 1891 (Peace Haven Road)	Monday through Sunday	7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.

The Design-Build Team shall address, in the Technical Proposal, how hauling will be conducted, including but not limited to, hauling of any materials to and from the site and hauling material within the NCDOT right of way.

C. Lane and Shoulder Closure Requirements

The Design-Build Team shall remove lane closure devices from the lane when work is not being performed behind the lane closure or when a lane closure is no longer needed.

When barrier is placed on the roadway shoulder, the Design-Build Team shall install shoulder closure signs and devices in advance of the barrier using NCDOT 2012 Roadway Standard Drawings.

When personnel and / or equipment are working within 15 feet of an open travel lane, the Design-Build Team shall close the nearest open shoulder using NCDOT 2012 Roadway Standard Drawings, unless the work area is protected by an approved temporary traffic barrier or guardrail.