



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

July 12, 2018

Addendum No. 3

Contract No.: C204137
TIP No.: R-2247EB
Counties: Forsyth
Project Description: Future I-74 - Winston-Salem Northern Beltway Interchange at US 52

RE: Addendum No. 3 to Final RFP

August 21, 2018 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated May 2, 2018 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. 5 of the *Submittal of Quantities, Fuel Base Index Price And Opt-Out Option* Project Special Provision has been revised. Please void Page No. 5 in your proposal and staple the revised Page No. 5 thereto.

Page No. 50 of the *Price Adjustment for Asphalt Binder* Project Special Provision has been revised. Please void Page No. 50 in your proposal and staple the revised Page No. 50 thereto.

Page Nos. 206 and 208 of the *ITS Scope of Work* have been revised. Please void Page Nos. 206 and 208 in your proposal and staple the revised Page Nos. 206 and 208 thereto.

Page Nos. 217, 218, 221, 222 and 224 of the *Pavement Management Scope of Work* have been revised. Please void Page Nos. 217, 218, 221, 222 and 224 in your proposal and staple the revised Page Nos. 217, 218, 221, 222 and 224 thereto.

Page No. 288 of the *Utilities Coordination Scope of Work* has been revised. Please void Page No. 288 in your proposal and staple the revised Page No. 288 thereto.

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

Sincerely,

DocuSigned by:
Ronald E. Davenport, Jr.

18186038A47A442
Ronald E. Davenport, Jr., PE
State Contract Officer

RED / kbc

cc: Ron Hancock, PE
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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 **\$2.1965** 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.

After issuance of the First Industry Draft RFP, the Department will attempt to arrange a meeting between each individual proposer and the affected utility owners.

The Department will afford each proposer one additional meeting with the Department (maximum two-hour time limit) to discuss project specifics and address the proposer’s 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 Technical and Price Proposals submittal

Construction of Cement Treated Base Course

The Design-Build Team shall construct the Cement Treated Base Course as specified in Section 540 of the North Carolina Department of Transportation 2018 *Standard Specifications for Roads and Structures* except that Articles 540-5, 540-7 and 540-13 do not apply.

Unconfined Compressive Strength

For Cement Treated Base Course, the Design-Build Team shall make field specimens, cure them for seven days and test them in the laboratory. The minimum and maximum acceptable unconfined compressive strength for soil cement shall be 450 psi and 850 psi, respectively. One test shall be required for every 400 feet per lane width at random locations selected using random number tables.

Submittals for Review During Construction

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

PRICE ADJUSTMENTS FOR ASPHALT BINDER

(9-1-11) (Rev. 9-8-17)

DB6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the 2018 *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 **\$535.56 per ton.**

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **July 1, 2018.**

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX

(9-1-11) (Rev. 9-8-17)

DB6 R26

Revise the 2018 *Standard Specifications for Roads and Structures* as follows:

Page 6-15, Article 609-11 and Page 6-31, Article 610-14

Add the following paragraph before the first paragraph:

ITS SCOPE OF WORK (7-10-18)**GENERAL**

Design, furnish, and install the following ITS devices and communications cable system within the project limits. Interconnect the new fiber optic communications cables with existing fiber optic communications cable. Integrate the new DMS and CCTV devices into the existing computer and network hardware and software at the NCDOT Triad Regional Transportation Management Center (TRTMC) located at 201 South Chimney Rock Road, Greensboro, NC 27409. Major items of work include, but are not limited to, the following:

- Conduit System (two – 2 inch conduits for communication and one – 2 inch conduit for electrical)
- 72 fiber single-mode fiber optic communications cable with tracer wire
- Fiber optic drop cable assemblies with tracer wire
- Junction boxes
- Wood Poles
- Metal Poles
- Splice enclosures
- Eight (8) New Closed Circuit Television Cameras (CCTV)
- Two (2) New Dynamic Message Signs (DMS) on pedestal mount structures
- One (1) New Dynamic Message Sign (DMS) on overhead span structure
- Approximately five (5) miles of Fiber Optic Communications
- Electrical service equipment
- Local Area Network equipment

Furnish and install guardrail to protect the ITS devices, as required.

Determine the location of each ITS device, obtain the Engineer's approval of the locations, install and implement test procedures, and integrate the devices with the TRTMC.

Unless required otherwise elsewhere in this RFP, if an existing DMS or CCTV camera will be impacted by the Design-Build Team's design and / or construction, the Design-Build Team shall relocate or remove and replace the DMS or CCTV device in accordance with the requirements herein. If the Design-Build Team elects to relocate an existing ITS device, any supporting structure shall be removed and replaced.

Prior to any underground work, locate existing utilities, communications cable, power cable, and adjust work activities to protect these facilities. Immediately cease work and notify the Engineer and the affected owners if damage to existing utilities occurs. Repair damages to existing utilities, communications cable, and / or power cable at no cost to the Department.

Perform all work in accordance with the *Dynamic Message Sign* and *High Definition CCTV Metal Pole and Field Equipment* Project Special Provisions found elsewhere in this RFP, the 2018 NCDOT *Standard Specifications for Roads and Structures* and the 2018 NCDOT *Roadway Standard Drawings*.

limits of EB & EC and all equipment at the TRTMC, including but not limited to digital video equipment and switches. Furnish managed Ethernet routing switches and edge switches that provide Ethernet connectivity at transmission rates of 1000 megabits per second from each ITS device to the TRTMC.

Splice into the existing fiber optic communications cable at the splice cabinet to be installed under U-2579D, E & F. The Design-Build Team shall generate splice plans and migration details for interfering with existing fiber for the Department's review and approval prior to beginning construction.

CCTV CAMERAS

The Design-Build Team shall strategically locate and install **eight (8)** new CCTV cameras. **Seven (7)** CCTV cameras shall be on metal poles at the locations that provide optimum viewing as defined in the *High Definition CCTV Metal Pole and Field Equipment* Project Special Provision. One (1) CCTV camera shall be attached to an extension pole fastened to the proposed DMS located on the mainline near the westernmost project limits. (Reference the *Dynamic Message Sign (DMS)* Project Special Provision found elsewhere in this RFP)

Excluding the CCTV camera attached to the aforementioned DMS, determine the exact location of each CCTV camera, obtain the Engineer's written approval of the locations, and install the cameras. All components required for the CCTV installations shall be new. Furnish site surveys, including but not limited to bucket truck surveys, to ensure camera coverage areas are acceptable.

NEW DMS

The Design-Build Team shall locate, design and install two (2) new pedestal mount DMSs. Design and construct the DMS at the westernmost project limits with a CCTV extension pole at the top of the DMS assembly. Design the extension pole as an integral part of the DMS assembly. DMSs shall not be located behind sound barrier walls.

The Design-Build Team shall locate, design and install one (1) new DMS on an overhead span structure over US 52 northbound approximately 1300 feet south of SR 1669 (Ziglar Road). The new overhead span structure shall allow for the future construction of one additional 12-foot outside through lane on US 52 northbound without the need to 1) remove and install a new overhead span structure or 2) obtain a future design exception, including but not limited to all minimum horizontal and vertical clearance requirements noted elsewhere in this RFP.

Determine the exact location of the DMSs by coordinating with the Engineer, obtain the Engineer's approval of the locations, and install the DMSs.

The DMSs installed under this project shall be selected from the 2018 NCDOT ITS & Signals Qualified Products List.

EXISTING CCTV CAMERA AND DMS

In accordance with the 2018 NCDOT *Standard Specifications for Roads and Structures*, the Design-Build Team shall remove and dispose of the existing CCTV Camera on US 52 at SR 1669 (Ziglar Road), and the existing DMS and overhead span structure located approximately 300 feet south of SR 1669 (Ziglar Road) over US 52 northbound

CONDUIT

Except as required otherwise in the Structures Scope of Work found elsewhere in this RFP, furnish and install two (2) – 2 inch conduits (for communication) and all necessary hardware, including tracer wire and delineator markers by plowing, trenching, directional drilling, or bridge attachment in accordance with Sections 1715 and 1733 of the 2018 NCDOT *Standard Specifications for Roads and Structures* for installing the fiber optic communications cable. Conduit shall not be placed in the median or under the roadway, except for lateral traverse crossings.

PAVEMENT MANAGEMENT SCOPE OF WORK (7-12-18)

Within the project limits, the pavement design for the mainline travel lanes, the mainline median shoulders and the mainline outside shoulders shall consist of one of the following alternatives unless noted otherwise elsewhere in this RFP. The Design-Build Team shall specify the pavement alternate chosen in the Technical Proposal.

ALTERNATE 1 – CONCRETE PAVEMENT (ASPHALT SHOULDERS)

Winston Salem Northern Beltway Mainline Travel Lane Pavement Design

The pavement design for the mainline travel lanes shall consist of the following:

12.0” doweled jointed concrete
Nonwoven Geotextile Drainage Interlayer *
1.25” S9.5B
Subgrade Stabilization

* The Nonwoven Geotextile Drainage Layer shall be in accordance with the *Nonwoven Geotextile Interlayer* Project Special Provision found elsewhere in this RFP. The Nonwoven Geotextile Drainage Interlayer and the S9.5B layer shall extend to the shoulder drains.

For each direction of travel, the mainline concrete pavement structure width shall extend one-foot into the mainline outside paved shoulder. The transverse joints shall be uniformly spaced 15 feet apart.

Winston Salem Northern Beltway Mainline Full-Depth Median Shoulder and Mainline Full-Depth Outside Shoulder Pavement Design

Throughout the project limits, the pavement design for the mainline median paved shoulder and the mainline outside paved shoulder shall consist of the following:

3.0” S9.5C
4.0” I19.0C
5.0” B25.0C
Subgrade Stabilization

The mainline outside paved asphalt shoulder shall be 11 feet wide.

ALTERNATE 2 – CONCRETE PAVEMENT (CONCRETE SHOULDERS)

Winston Salem Northern Beltway Mainline Travel Lanes

The pavement design for the mainline travel lanes shall consist of the following:

12.0” doweled jointed concrete
 Nonwoven Geotextile Drainage Interlayer *
 1.25” S9.5B
 Subgrade Stabilization

* The Nonwoven Geotextile Drainage Layer shall be in accordance with the *Nonwoven Geotextile Interlayer* Project Special Provision found elsewhere in this RFP. The Nonwoven Geotextile Drainage Interlayer and the S9.5B layer shall extend to the shoulder drains. The transverse joints shall be uniformly spaced 15 feet apart.

Winston Salem Northern Beltway Mainline **Full-Depth Median Shoulder and
 Mainline **Full-Depth** Outside Shoulder Pavement Design**

Throughout the project limits, the pavement design for the mainline median paved shoulder and the mainline outside paved shoulder shall consist of the following:

12.0” undoweled jointed concrete
 Nonwoven Geotextile Drainage Interlayer *
 1.25” S9.5B
 Subgrade Stabilization

ALTERNATE 3 – ASPHALT PAVEMENT (FULL-DEPTH ASPHALT)

**Winston Salem Northern Beltway Mainline Travel Lane, Mainline Median Shoulder and
 Mainline Outside Shoulder Pavement Design**

The pavement design for the mainline travel lanes, mainline median paved shoulder and mainline outside paved shoulder shall consist of the following:

3.0” S9.5C
 3.0” I19.0C
 8.0” B25.0C
 Subgrade Stabilization

limited to traffic control and portable lighting, shall be incidental to the unit cost noted above.

OTHER REQUIREMENTS

Unless noted otherwise elsewhere in this RFP, all longitudinal joints shall be located on a lane line or lane midpoint. Solely to shift a longitudinal joint to one of the aforementioned locations, a maximum 840-foot transition, that locates the longitudinal joint elsewhere, will be allowed. The Design-Build Team shall indicate in the Technical Proposal how longitudinal joints will be located on a lane line or lane midpoint.

In accordance with the requirements noted below, the mainline subgrade stabilization shall consist of chemical stabilization or Class IV stabilization. The Design-Build Team shall specify the proposed mainline subgrade stabilization, or combination, with approximate limits of each type clearly noted in the Technical Proposal. However, only one subgrade stabilization alternate shall be used across the full typical section width, in a given direction, and shall be used for a minimum 1000-foot length.

- Chemical stabilization shall be to a minimum depth of 8 inches for lime and 7 inches for cement. The type of subgrade stabilization and the amount of stabilizing agent shall be determined in accordance with the *Cement and Lime Stabilization of Sub-grade Soils* Project Special Provision found elsewhere in this RFP.
- Class IV stabilization shall be in accordance with the *Class IV Subgrade Stabilization in Lieu of Chemical Stabilization* Standard Special Provision found elsewhere in this RFP.

Cement treated base course shall be in accordance with the *Cement Treated Base Course* Project Special Provision found elsewhere in this RFP.

Other pavement designs for this project shall be as listed in the table below:

LINE	Surface	Intermediate	Base	ABC	Stab
-NB52- *, -SB52- **, -Y68-	3.0" S9.5C	4.0" I19.0C	4.0" B25.0C		Yes
-Y62-	3.0" S9.5C	4.0" I19.0C	5.5" B25.0C		No
SR 1669 (Ziglar Road)	3.0" S9.5B	2.5" I19.0C	4.0" B25.0C		No
-Y62LPA-, -Y62LPB-	3.0" S9.5C	4.0" I19.0C	3.0" B25.0C	8.0"	No
-Y62RPA-, -Y62RPB-	3.0" S9.5C	3.0" I19.0C	3.0" B25.0C	8.0"	No
-Y62RPC-	3.0" S9.5C	4.0" I19.0C	4.0" B25.0C		Yes
-LPB-, -LPD-	3.0" S9.5B	4.0" I19.0C	4.0" B25.0C		Yes
-RPA-, -RPB-, -RPC-, -RPD-, -RPDB-, -EBBYP-, -WBBYP-	3.0" S9.5B	2.5" I19.0C	3.0" B25.0C		Yes

* When the -NB52- pavement structure abuts the mainline pavement structure, the mainline pavement alternate specified in the Technical Proposal shall be used to construct -NB52- (approximately between Station 89+00 -L- and Station 135+00 -L-, as shown on the Preliminary Roadway Plans provided by the Department).

** When the -SB52- pavement structure abuts the mainline pavement structure, the mainline pavement alternate specified in the Technical Proposal shall be used to construct -SB52- (approximately between Station 89+00 -L- and Station 139+00 -L-, as shown on the Preliminary Roadway Plans provided by the Department).

For the -Y- Lines, ramps and loops noted in the table above, the Design-Build Team may substitute an ABC layer for the asphalt base course layer. If such an alternative is proposed, the thickness of the ABC layer, used as a substitute for the asphalt base course layer, shall be equal to twice the proposed asphalt base course thickness specified for the roadway. If an asphalt surface course is placed directly on an ABC layer, the Design-Build Team shall apply prime coat over the ABC layer.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall maintain the same pavement design throughout the -Y- Line, ramp and loop, construction limits. In the Technical Proposal, the Design-Build Team shall specify the base option chosen (ABC or asphalt) for all -Y- Lines, ramps and loops.

Throughout the construction limits that consist solely of pavement marking obliterations and / or revisions, the Design-Build Team shall uniformly overlay the existing pavement with a pavement depth that equals half the full thickness of the surface course as provided in the table above.

On all ramps and loops, the adjacent through lane pavement design shall extend to the back of the gore (12-foot width).

Longitudinal joints of all surface course layers shall not be located in the final traffic pattern wheel path. If applicable, the Design-Build Team shall indicate in the Technical Proposal where all underlying longitudinal joints will be located and demonstrate how the underlying longitudinal joint location will minimize reflective cracking.

Unless noted otherwise elsewhere in this RFP, the minimum widened width shall be six feet. The minimum widened width may be reduced to four feet only if the Design-Build Team demonstrates that their equipment properly compacts narrow widening and obtains prior Department written approval. Tapers that tie proposed pavement to existing pavement are excluded from the narrow widening requirements noted above.

In areas where the existing -Y- Line or ramp paved shoulders are proposed to be incorporated into a permanent travel lane, the Design-Build Team shall be responsible for evaluating the existing paved shoulder regarding its suitability for carrying the projected traffic volumes. In the event that the existing paved shoulder is found to be inadequate, the Design-Build Team shall be responsible for upgrading the existing paved shoulder to an acceptable level or replacing the existing paved shoulder. The Design-Build Team shall submit their evaluation and proposed use of existing paved shoulders to the Design-Build Unit for review and acceptance or rejection.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall pave from 1) the edge of all paved shoulders to the face of all single face barrier / guardrail, excluding median locations that the NCDOT Roadway Standard Drawings do not require paving to the face of guardrail 2) from the edge of all paved shoulders to the edge of all expressway / shoulder berm gutter and 3) from the edge of all paved shoulders to the face of proposed retaining walls and sound barrier walls located on the outside shoulder with 6" of ABC (or 4" B25.0C), a split seal and at least two lifts of surface course. If a split seal is not used, the ABC pavement design shall require prime coat at the normal application rate. In these areas, the Design-Build Team's

Excluding the 1.25" S9.5B drainage later, the rate of application and the maximum and minimum thickness per application and layer shall be in accordance with the NCDOT Roadway Design Manual.

Excluding the high side of superelevated sections, the Design-Build Team shall design and construct continuous median and outside shoulder drains and outlets for the mainline concrete pavement alternate.

Excluding the high side of superelevated sections, the Design-Build Team shall design and construct median and outside shoulder drains and outlets at the locations noted below for the mainline asphalt pavement alternates:

- Throughout crest vertical curves located in cut sections
- Throughout all sag vertical curves
- Where the grade is less than 1%.

Where installed on the outside shoulder, outlets shall be provided approximately every 300 feet. Where installed on the median shoulder, outlet locations shall not exceed 500 feet, and all outlets shall be located at drainage structures. Shoulder drains shall be placed to drain the entire pavement structure. The shoulder drain design and outlet locations shall be submitted to the Design-Build Unit for review and acceptance.

When a resurfacing grade ties to an existing curb, bridge and / or pavement, the Design-Build Team shall perform incidental milling such that the new pavement ties flush with the existing feature(s). When tying to the aforementioned feature(s), the Design-Build Team shall not reduce the minimum required surface layer pavement thickness noted above. At existing pavement ties, the Design-Build Team shall perform incidental milling for a minimum distance of 25 feet at bridges and six feet at curb sections. The Design-Build Team shall not perform incidental milling more than 72 hours prior to placement of the asphalt surface layer.

ALTERNATIVE TECHNICAL CONCEPTS

Alternative Technical Concepts that provide an alternate pavement design will be considered subject to the following restrictions:

- ATCs on pavement design will be permitted on the mainline, shoulders, -Y- Lines, ramps and loops and shall not be submitted until after issuance of the Second Industry Draft Request for Proposals.
- Unless noted otherwise elsewhere in this RFP, the pavement design in the ATC shall be determined using the method in the March 16, 2018 NCDOT Pavement Design Procedure, AASHTO 1993 Method.
- The pavement design in the ATC shall be signed and sealed by a professional engineer registered in the State of North Carolina that has experience in pavement design. The ATC submittal shall include a brief resume or description of the designer's pavement design experience.

UTILITIES COORDINATION SCOPE OF WORK (7-3-18)

The Design-Build Team shall obtain the services of a Professional Services Firm (PSF) knowledgeable in the NCDOT Utility Coordination Process involved with utility relocation / installation and highway construction. The aforementioned PSF shall be responsible for coordinating all utility relocations, removals and / or adjustments where the Design-Build Team and utility owner, with concurrence from the Department, determine that such work is essential for highway safety and performance of the required highway construction. Coordination shall be for all utilities whether or not they are specifically identified in this Scope of Work and shall include any necessary utility agreements when applicable. NCDOT will be the approving authority for all utility agreements and approval of plans.

During the procurement phase, the Department will allow no direct contact, either by phone, e-mail or in person, between the Design-Build Team and utility owners until after the meetings between each individual proposer and the affected utility owners. After the aforementioned meetings and during the life of the project, the Design-Build Team will only be allowed direct contact with the utility owners when the aforementioned PSF is present. (Reference the *Individual Meeting with Proposers* Project Special Provision found elsewhere in this RFP)

In accordance with the requirements herein, the Design-Build Team shall relocate / coordinate the relocation of all existing facilities that are 1) within existing or proposed full control of access and only accessible from a freeway through lane and / or ramp / loop, unless allowed otherwise elsewhere in this RFP, 2) in physical conflict with construction, 3) within the existing or proposed right of way and structurally inadequate, and / or 4) within the existing or proposed right of way and consist of unacceptable material. (Reference the NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way – January 1, 1975, Revised April 1, 1993) Proposed / relocated underground facilities that are located beneath the pavement structure shall only be allowed to cross the roadway as close to perpendicular as possible.

Project Details

The Design-Build Team shall be responsible for verifying the utility locations, type of facilities, and identifying the utility owners in order to coordinate the relocation of any utilities, known and unknown, in conflict with the project. The following utilities are known to be located within the project construction limits: