



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 20, 2018

Addendum No. 2

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. 2 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. 2 for your information. Please note that all revisions have been highlighted in gray and are as follows:

On the COVER SHEET, change the date for Technical and Price Proposal Submission to **August 7, 2018** and the date for the Price Proposal Opening to **August 21, 2018**. Please mark through the dates shown on the May 2, 2018 (Labeled) RFP and insert the new dates. This correction must be done in ink and initialed and dated by your Team's primary contractor (reference the attached example). The corrected Final RFP must be used to submit the Price Proposal for return to this office.

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. 1 of the *Contract Time and Liquidated Damages and Other Liquidated Damages and Incentives* Project Special Provision has been revised. Please void Page No. 1 in your proposal and staple the revised Page No. 1 thereto.

Page No. 2 of the *Other Liquidated 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. 12 of the *Schedule of Estimated Completion Progress* Project Special Provision has been revised. Please void Page No. 12 in your proposal and staple the revised Page No. 12 thereto.

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

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

Website: www.ncdot.gov

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

Page Nos. 133 and 139 of the *General* Section have been revised. Please void Page Nos. 133 and 139 in your proposal and staple the revised Page Nos. 133 and 139 thereto.

Page No. 149 of the *Roadway* Scope of Work has been revised. Please void Page No. 149 in your proposal and staple the revised Page No 149 thereto.

Page Nos. 201 and 202 of the *Hydraulics* Scope of Work have been revised. Please void Page Nos. 201 and 202 in your proposal and staple the revised Page Nos. 201 and 202 thereto.

Page Nos. 220 and 221 of the *Pavement Management* Scope of Work have been revised. Please void Page Nos. 220 and 221 in your proposal and staple the revised Page Nos. 220 and 221 thereto.

Page Nos. 263, 264 and 266 of the *Structures* Scope of Work have been revised. Please void Page Nos. 263, 264 and 266 in your proposal and staple the revised Page Nos. 263, 264 and 266 thereto.

Page Nos. 277 and 278 of the *Transportation Management* Scope of Work have been revised. Please void Page Nos. 277 and 278 in your proposal and staple revised Page Nos. 277 and 278 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.

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

Sincerely,

DocuSigned by:

F81B6038A47A442...
Ronald E. Davenport, Jr., PE
State Contract Officer

RED / kbc

cc: Ron Hancock, PE
Pat Ivey, PE
Teresa Bruton, PE
Karen Capps, PE
File

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***** PROJECT SPECIAL PROVISIONS *****

CONTRACT TIME AND LIQUIDATED DAMAGES

(7-12-7)

DB1 G04A

The date of availability for this contract is **October 1, 2018**, except that the Design-Build Team shall only begin ground disturbing activities as allowed by this Request for Proposals (RFP). The Design-Build Team shall consider this factor in determining the proposed completion date for this project.

The completion date for this contract is defined as the date proposed in the Technical Proposal by the proposer who is awarded the project. The completion date thus proposed shall not be later than **November 1, 2022**.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and / or intermediate contract times. Should an observation period extend beyond the Final Completion Date proposed by the Design-Build Team in the Technical Proposal, the performance and payment bonds shall remain in full force and effect until the observation period has been completed and the work accepted by the Department.

The liquidated damages for this contract are **Five Thousand Dollars (\$5,000.00)** per calendar day. As an exception to this amount, where the contract has been determined to be substantially complete as defined by the *Substantial Completion* Project Special Provision found elsewhere in this RFP, the liquidated damages will be reduced to **One Thousand Five Hundred Dollars (\$1,500.00)** per calendar day.

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

Liquidated damages of **Five Thousand Dollars (\$5,000.00)** per calendar day will be applicable to the early date for substantial completion proposed by the bidder. Liquidated damages of **One Thousand Five Hundred Dollars (\$1,500.00)** per calendar day will be applicable to the Final Completion Date proposed by the bidder where the Design-Build Team has proposed an earlier date for substantial completion.

OTHER LIQUIDATED DAMAGES AND INCENTIVES

(3-22-7) (Rev. 2-14-8)

DB1 G11

Reference the Transportation Management 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 #1 for lane narrowing, lane closure and holiday time restrictions for US 52 and the NC 65 (Bethania-Rural Hall Road) interchange ramps and loops are \$1,250.00 per 15 minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #2 for lane narrowing, lane closure and holiday time restrictions for NC 65 (Bethania-Rural Hall Road) are \$750.00 per 15 minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #3 for road closure time restrictions for US 52 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 NC 65 (Bethania-Rural Hall Road) are \$750.00 per 15 minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #5 for road closure time restrictions for the NC 65 (Bethania-Rural Hall Road) interchange ramps and loops are \$1,250.00 per 15 minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #6 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 #7 for failure to reestablish traffic signal fiber and / or cellular modem communications within 72 hours are \$250.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #8 for failure to provide a plan that defines 1) an anticipated traffic signal fiber optic and / or cellular modem 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 #9 for failure to repair a damaged ITS 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 #10 for failure to reestablish ITS fiber optic communications within 72 hours are \$250.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #11 for failure to provide a plan that defines 1) an anticipated ITS fiber optic communications disruption timeframe and 2) a plan of action for reestablishing ITS communications a minimum of 21 days prior to a proposed disruption in service are \$10,000.00 per failure.

Liquidated Damages for Intermediate Contract Time #12 for road closure time restrictions for Ziglar Road (SR 1669) are \$1,000.00 per calendar day or any portion thereof.

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 Liquidated Damages Section.

Approval of a Formal ATC in no way implies that the Formal ATC will receive a favorable review from the Technical Review Committee. The Technical Proposals will be evaluated in regards to the evaluation criteria found in this RFP, regardless of whether or not Formal ATCs are included.

The Price Proposal shall reflect all incorporated Formal ATCs. Except for incorporating approved Formal ATCs, the Technical Proposal may not otherwise contain exceptions to, or deviations from, the requirements of the RFP, or other documents incorporated into the contract by reference.

Preliminary ATCs

At the Design-Build Team’s option, a Preliminary ATC submittal may be made that presents a concept and a brief narrative of the benefits of said concept. The purpose of allowing such a Preliminary ATC is to limit the Design-Build Team’s expense in the pursuit of a Formal ATC that may be quickly denied by the Department.

To the greatest extent possible, the Department will review Preliminary ATCs within ten business days of submittal and provide written comments that include one of the responses noted below. The Department’s response to a Preliminary ATC submittal will be either (1) that the Preliminary ATC is denied; (2) that the Preliminary ATC would be considered as a Formal ATC if the Team so elects to pursue a Formal ATC submission; (3) that an ATC is not required; (4) a documented question has been received outside of the ATC process on the same topic and the RFP will be revised to address that question; (5) more than one ATC has been received on the same topic and the Department has elected to exercise its right to revise the RFP; (6) that the ATC takes advantage of an error or omission in the RFP or other documents incorporated into the contract by reference, in which case the ATC will not be considered and the RFP will be revised to correct the error or omission; or (7) the ATC contains multiple concepts and has not been considered, in which case an ATC for each individual concept will be required. The Department in no way warrants that a favorable response to a Preliminary ATC submittal will translate into a favorable response to a Formal ATC submittal. Likewise, a favorable response to a Preliminary ATC submittal is not sufficient to include the ATC in a Technical Proposal.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS

(9-1-11) (Rev. 8/31/17)

DB1 G58

The Design-Build Team's attention is directed to the *Availability of Funds - Termination of Contracts* Standard Special Provision found elsewhere in this RFP. The Department of Transportation's schedule of estimated completion progress for this project, as required by that Standard Special Provision, is as follows:

<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2019 (07/01/18 – 06/30/19)	12 % of Total Amount Bid
2020 (07/01/19 – 06/30/20)	36 % of Total Amount Bid
2021 (07/01/20 – 06/30/21)	30 % of Total Amount Bid
2022 (07/01/21 – 06/30/22)	19 % of Total Amount Bid
2023 (07/01/22 – 06/30/23)	3% of Total Amount Bid

list and Confidentiality Agreements to Mr. Ronald E. Davenport, Jr., P.E., State Contract Officer, within ten business days of the issuance of the Industry Draft RFP, and provide updated lists and Confidentiality Agreements, as appropriate, throughout the project procurement / duration.

Failure to comply with the terms stated above in this section may be grounds for termination of this contract and / or not being considered for selection of work on future contracts for a period of one year.

SUBMITTAL OF TECHNICAL AND PRICE PROPOSALS

Technical and / or Price Proposals that do not adhere to all the requirements noted below may be considered non-responsive and may result in the Department not considering the Design-Build Team for award of the contract or reading their Price Proposal publicly.

GENERAL

Technical and Price Proposals will be accepted until **4:00 p.m. Local Time on Tuesday, August 7, 2018**, at the office of the State Contract Officer:

Mr. Ronald E. Davenport, Jr., PE
Contract Standards and Development
1020 Birch Ridge Drive
Century Center Complex - Building B
Raleigh, NC 27610

No Proposals will be accepted after the time specified.

Proposals shall be submitted in two separate, sealed parcels containing the Technical Proposal in one and the Price Proposal in the other parcel.

TECHNICAL PROPOSAL - Hard Copies

Hard copies of the Technical Proposal shall be submitted in a sealed package. The outer wrapping shall clearly indicate the following information:

Technical Proposal – Hard Copies
Submitted By: (Design-Build Team's Name)
Design-Build Team Address
Contract Number C204137
TIP Number R-2247EB
Forsyth County
Winston-Salem Northern Beltway Interchange at US 52 (Future I-74)

If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope addressed to the State Contract Officer as stated in the Request for Proposals. The outer envelope shall also bear the statement "Technical Proposal for the Design-Build of State Highway Contract No. C204137".

- Describe how utility conflicts will be addressed and any special utility design considerations. Describe how the Design-Build Team's design and construction methods minimize the Department's utility relocation costs.
- Describe how the design will affect the Department's right of way costs.
- Provide a Preliminary Signing Concept Map that includes, at a minimum, all proposed overhead sign structure locations, overhead signs, and ground mounted guide signs.

3. Long Term Maintenance – 5 points

- Describe any special materials, not referenced elsewhere in this RFP, incorporated into the project that would result in long term reduction in maintenance.
- Describe any special designs or construction methods that would reduce future maintenance costs to the Department.
- Estimate a minimum ten-year cost saving resulting from incorporation of these special materials, design or construction methods into the project.

4. Schedule and Milestones – 26 points

- Provide a detailed schedule for the project including both design and construction activities. The schedule shall show the sequence and continuity of operations, as well as the month of delivery of usable segments of the project.
- The schedule shall include the Design-Build Team's committed duration for Intermediate Contract Time #12.
- Indicate how the Design-Build Team will maintain the project schedule if the right of way acquisition process and / or utility relocations are delayed.
- The schedule shall also include the Design-Build Team's final completion date and, if proposed, their substantial completion date. **These dates shall be clearly indicated on the Project Schedule and labeled "Final Completion Date" and "Substantial Completion Date"**.

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 – 15 points

Maintenance of Traffic

- Provide a Transportation Management Phasing Concept (TMPC).
- Describe the traffic control measures 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.
- Specifically describe how business, school and residential access will be maintained, if applicable.

which shall be full depth paved shoulder and 12-foot inside shoulders, four-foot of which shall be full depth paved shoulder.

- The Design-Build Team shall design and construct loops that adhere to Table 3-29, Design Widths of Pavements for Turning Roadways, shown in the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets - Case II / Condition C* for one-lane loops; Case III / Condition C for two-lane loops. All loops shall have 12-foot outside shoulders, four-foot of which shall be full depth paved shoulders. All loops shall have 2'-6" curb and gutter along the inside edge of pavement, with a 14-foot berm. The minimum loop design shall be 30 mph with a minimum 230-foot radius.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct -Y- Lines, ramps, service roads, and cul-de-sacs / turnarounds 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.
- On SR 1669 (Ziglar Road), the Design-Build Team shall design and construct two 12-foot lanes and eight-foot shoulders, four-foot of which shall be full depth paved shoulders.
- Unless noted otherwise elsewhere in this RFP, all bridge rail offsets shall be the greater of 1) the bridge rail offset as indicated in the NCDOT *Roadway Design Manual*, 2) the approach roadway paved shoulder width, or 3) the offset required to achieve stopping sight distance (maximum 12-foot). Narrower bridge rail offsets based on bridge length will not be allowed.
- 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.
- For all intersection design modifications, the Design-Build Team shall provide a traffic analysis that adheres to the July 1, 2015 NCDOT *Congestion Management Capacity Analysis Guidelines* for the Department's review and acceptance.
- At all intersections with restricted movements impacted by the Design-Build Team's design and / or construction methods, excluding resurfacing, the Design-Build Team shall provide five-inch keyed-in concrete monolithic channelization islands.
- The mainline, US 52, and -L1- (Winston-Salem Northern Beltway) are full control of access facilities. The Design-Build Team shall bring to the Design-Build Unit's attention any deviations from the proposed control of access shown on the Preliminary Roadway Plans provided by the Department. The proposed right of way and / or control of access limits may deviate in proximity to cultural, historic, or otherwise protected landmarks, including cemeteries, to eliminate / minimize impacts. Prior to negotiating right of way, easement and / or control of access with property owners, the Department shall accept the Right of Way Plans developed by the Design-Build Team.
- Prior to installation, the Design-Build Team shall be responsible for coordinating with, and obtaining approval from, the NCDOT for the control of access fence placement. The

- A maximum 1.2 HW/D shall be required for all existing and proposed box culverts and pipes (including all extensions) during the design year.
- All existing and proposed storm drainage systems shall maintain a hydraulic grade line that is a minimum of 0.5 feet below the inlet rim elevation or top of junction box; and shall adhere to all other requirements as identified in Chapter 10 of the *Guidelines for Drainage Studies and Hydraulic Design*.
- In the Technical Proposal, Volume II, the Design-Build Team shall provide a *Box Culverts and Cross Pipes Hydraulic Assessment Table* that contains the attributes noted below for **all new box culverts** and cross pipes 36-inches in diameter and greater:
 - Station
 - Proposed drainage structure details
 - Drainage Area
 - Percent Impervious or “C” value used
 - **Discharge method used**
 - Built-Out Discharges (Design Year and 100 Year)
 - FEMA Crossing (Yes / No)
 - Water Surface Elevation Natural Condition
 - Water Surface Elevation with Drainage Structure
 - HW/D for Build-out Discharges
 - Hydraulic Freeboard for Build-out Discharges
 - Comments
- Unless allowed otherwise elsewhere in this RFP, a box culvert or welded steel pipe shall be required for all cross structures greater than a 54-inch, including pipes upsized to allow for a buried inlet / outlet condition.
- The minimum height of all proposed box culverts shall be 5.0’ plus any burial requirements, resulting in a minimum internal vertical clearance of 5.0’.
- The Design-Build Team shall produce Culvert Survey Reports for **all** box culverts, regardless of the hydraulically effective waterway opening.
- For box culverts that require baffles, the Design-Build Team shall place native bed material between the sills. Native materials shall consist of material that is excavated from the stream bed or floodplain at the project site during culvert construction. The use of native material supplemented with rip rap shall be subject to approval by the Engineer and the appropriate resource agencies.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall remove or fill with flowable fill all pipes not retained for drainage purposes.
- All proposed drainage boxes, including but not limited to catch basins, drop inlets and junction boxes, shall have a grate or manhole access.
- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall analyze all drainage structures for hydraulic and structural deficiencies that are located within the existing / proposed right of way throughout the project limits. Within -Y- Line construction limits, the Design-Build Team will not be required to analyze existing cross pipes that will not be lengthened if no

additional discharge from the project is being generated. Using the hydraulic discharges for the future build-out land use projections, drainage structures that do not adhere to the requirements in Sections 9.5.1.3 and 9.5.2.3 of the *Guidelines for Drainage Studies and Hydraulic Design*, including all addenda, memos and revisions, and / or the freeboard and HW/D requirements noted above, shall be deemed hydraulically deficient. Based on these analyses, the following shall be adhered to:

- The Design-Build Team shall provide the appropriate hydraulic mitigation for 1) all hydraulically deficient drainage structures and 2) all hydraulically and structurally deficient drainage structures, including but not limited to replacement. For major hydraulic crossings (crossings with a conveyance greater than the capacity of a single 54-inch diameter pipe), the Design-Build Team shall 1) remove all hydraulically, or hydraulically and structurally, deficient box culvert(s) and or / pipe(s), and 2) replace the aforementioned box culvert(s) and / or pipe(s) with a box culvert unless noted otherwise elsewhere in this RFP. Inlet improvements outside the right of way shall not be allowed to mitigate for hydraulically deficient box culverts and / or pipes. Based on build-out discharges, the Design-Build Team shall identify all hydraulically deficient drainage structures and note their proposed mitigation in the Technical Proposal. At a minimum, in the Technical Proposal, Volume II, the Design-Build Team shall 1) identify all hydraulically deficient storm drainage systems and the proposed mitigation on the plans, and 2) provide a *Box Culverts and Cross Pipes Hydraulic Deficiency Assessment and Proposed Mitigation Table* that contains the box culvert and cross pipe attributes noted below:
 - Station
 - Existing Box Culvert / Cross Pipe Details
 - Drainage Area
 - Percent impervious or “C” value used
 - **Discharge method used**
 - Build-out Discharges (Design year and 100 year)
 - Hydraulically Deficient (Yes / No) for Build-out Discharges
 - Proposed Mitigation Structure(s) Details
 - HW/D for Build-out Discharges at Existing Structure without Mitigation
 - HW/D for Build-out Discharges at Existing Structure with Mitigation
 - Hydraulic Freeboard at Sag for Build-out Discharges at Existing Structure without Mitigation
 - Hydraulic Freeboard at Sag for Build-out Discharges at Existing Structure with Mitigation
 - HW/D for Build-out Discharges for Mitigation Structure(s)
 - Hydraulic freeboard at Sag for Build-out Discharges at Mitigation Structure(s)
 - Comments
- **** NOTE **** Deleted sub-bullet on double barrel 9’ x 9’ box culvert.
- For all pipes and box culverts retained for drainage purposes, excluding the pipe and box culvert listed below, the Design-Build Team shall provide appropriate documentation obtained from video inspections for the Department’s review and approval prior to any hydraulic design submittal to ensure that the pipes and box culverts are structurally sound.

3.0" S9.5C
3.0" I19.0C
11.0" B25.0C

From Station 70+00 -L- to Station 207+00 -Y68-, as shown on the Preliminary Roadway Plans provided by the Department, the Design-Build Team shall completely reconstruct (remove, dispose of / recycle and replace) the US 52 existing pavement structure, including but not limited to all travel lanes, acceleration / deceleration lanes, median shoulders and outside shoulders. The existing US 52 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 limits of all resurfacing grades on US 52, including acceleration / deceleration lanes to the back of the gore (12-foot width), the Design-Build Team shall overlay the final surface course with an ultra-thin bonded wearing course. (Reference the *Open Graded Asphalt Friction Course, Permeable Asphalt Drainage Course and Ultra-thin Wearing Course* Standard Special Provisions found elsewhere in this RFP)

For the sections of US 52 that solely consist of pavement marking obliterations / revisions, the Design-Build Team shall:

- Mill the existing ultra-thin bonded wearing course on the existing US 52 through lanes and acceleration / deceleration lanes to the top of the existing jointed concrete pavement.
- Assess and recommend repairs to the underlying concrete pavement.
- Overlay the US 52 through lanes and acceleration / deceleration lanes to the back of the gore (12-foot width) with an ultra-thin bonded wearing course. (Reference the *Open Graded Asphalt Friction Course, Permeable Asphalt Drainage Course and Ultra-thin Wearing Course* Standard Special Provisions found elsewhere in this RFP)

Prior to placing the aforementioned ultra-thin bonded wearing course, the Design-Build Team shall repair the underlying US 52 concrete pavement as directed by the Engineer. In accordance with the *Sealing Existing Pavement Cracks – Polymer Patch* Standard Special Provision found elsewhere in this RFP and the 2018 *Standard Specifications for Roads and Structures*, these repairs shall consist of sealing existing pavement cracks and patching concrete pavement spalls. In accordance with Subarticle 104-8(A) of the 2018 *Standard Specifications for Roads and Structures*, all repairs to the underlying US 52 concrete pavement will be paid for as extra work at the unit prices noted below:

- All sealing of concrete pavement cracks will be paid for at the unit price of \$2.25 per pound. All work tasks required to seal the concrete pavement cracks, including but not limited to traffic control and portable lighting, shall be incidental to the unit cost noted above.
- All patching of concrete pavement spalls will be paid for at the unit price of \$100.00 per square foot. All work tasks required to patch concrete pavement spalls, including but not

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

STRUCTURES SCOPE OF WORK (6-13-18)

Project Details

The Design-Build Team shall design and construct all structures necessary to complete the project, including but not limited to, the following:

- Bridge at -SB52- and -Y62RPC-
- Bridge at -SB52- and -EBBYP-
- Bridge at -NB52- and -L-
- Bridge at -NB52- and -EBBYP-
- Bridge at -WBBYP- and -SB52-
- Bridge at -RPDB- and -SB52-, if required by the Design-Build Team's interchange design
- Bridge at -WBBYP-, -L- and -NB52-
- Bridge at -RPDB-, -NB52- and -EBBYP-, if required by the Design-Build Team's interchange design
- Dual bridges on -Y68- over Norfolk Southern Railroad
- Dual bridges on -L- over Norfolk Southern Railroad
- Bridge on -WBBYP- over Norfolk Southern Railroad
- Bridge on -RPDB- over Norfolk Southern Railroad, if required by the Design-Build Team's interchange design
- Bridge on Ziglar Road over US 52
- 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 reinforced concrete box culverts / reinforced concrete box culvert extensions required by the Design-Build Team's design

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

The minimum vertical clearance for bridges constructed over all interstates, freeways and arterials shall be 17'-0". The minimum vertical clearance for bridges constructed over all local roads and collector roads shall be 15'-6". The minimum vertical clearance for bridges constructed over the railroad (existing and future tracks) shall be 23'-0", as measured from the highest existing and future track top of rail to bottom of structure.

The minimum horizontal setbacks from the closest edge of travel lane to face of barrier in front of walls shall be 14'-0" for bridges over interstates, freeways, and arterials. The minimum horizontal setback from the closest face of curb and gutter to the face of barrier in front of walls shall be 12'-0" for bridges over all curb and gutter facilities. The minimum horizontal setback from the centerline of railroad track (existing and future tracks) to the face of cap or retaining wall, whichever is closer, shall be 25'-0". Bridges over waterways shall be designed and constructed with spill through slopes and rip rap slope protection. End bents and end slopes at each end of a bridge shall have the same appearance.

New bridges constructed on or over the mainline shall allow for the future construction of one additional 12-foot through lane within the 46-foot grass median in each direction of the mainline without the need to 1) reconstruct any of the provided substructure elements, including but not limited to slope protection and retaining walls located at the end bents or 2) obtain a future design

exception, including but not limited to all minimum vertical clearance requirements noted elsewhere in this RFP.

The new bridge constructed on SR 1669 (Ziglar Road) over US 52 shall allow for the future construction of one additional 12-foot outside through lane in each direction of US 52 without the need to 1) reconstruct any of the provided substructure elements, including but not limited to slope protection and retaining walls located at the end bents or 2) obtain a future design exception, including but not limited to all minimum vertical clearance requirements noted elsewhere in this RFP. The Design-Build Team shall design and construct eight-foot bridge rail offsets on the new bridge on SR 1669 (Ziglar Road) over US 52.

If the Design-Build Team elects to construct -RPDB-, the Design-Build Team shall design and construct all the bridges on -RPDB- such that they can be widened to accommodate a future 12-foot lane on the same side without the need to 1) reconstruct any of the provided substructure elements, including but not limited to slope protection and retaining walls located at the end bents or 2) obtain a future design exception, including but not limited to all minimum vertical clearance requirements noted elsewhere in this RFP.

All proposed bridges over the Norfolk Southern Railroad shall be designed and constructed to accommodate an additional track on the east side of the existing track at 15-foot centers. The Design-Build Team shall indicate in their Technical Proposal how the future track will be accommodated.

Unless noted otherwise elsewhere in this RFP, all proposed bridge barrier rails shall be per Standard Drawing CBR1.

Excluding MSE walls, all proposed retaining wall and sound barrier wall surfaces shall have equivalent surface treatment. All MSE walls shall have a smooth concrete finish. (Reference the *Architectural Concrete Surface Treatment* Project Special Provision found elsewhere in this RFP)

The Design-Build Team shall apply anti-graffiti coating on all exposed surfaces of sound barrier walls and all retaining walls, including MSE walls. (Reference the *Architectural Concrete Surface Treatment* Project Special Provision found elsewhere in this RFP)

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. The criteria in Section 6.2.3.2 of the NCDOT *Structures Management Unit Manual* shall apply to all roadways, including Secondary Routes that meet the criteria for North Carolina Routes.

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 the latest edition of the AASHTO's *Manual for Bridge Evaluation*.

The Design-Build Team shall obtain Structure Numbers from NCDOT for all new bridges. For proposed bridges, the Design-Build Team shall include Structure Numbers on the applicable design layout sheets, all plans, and all correspondence with NCDOT pertaining to bridge work.

The Design-Build Team shall design and construct bridges to have a minimum of 1'-6" overburden (cover) on tops of bridge substructure footings.

The Design-Build Team shall furnish and install a four inch – four inner duct conduit system for Intelligent Transportation System (ITS) circuitry on 1) one of the dual bridges on US 52 over the Norfolk Southern Railroad and 2) the bridge on -WBBYP- over Norfolk Southern Railroad. If

Regardless of wall height, sound barrier walls shall be designed in accordance with the latest edition of the *AASHTO LRFD Bridge Design Specifications* with a minimum base wind pressure of 40 psf.

All ground mounted sound barrier walls shall be detailed in accordance with Structure Standard Drawings SBW1 and SBW2, and concrete piles shall be used. (Reference the *Sound Barrier Wall* and *Architectural Concrete Surface Treatment* Project Special Provisions, and the Roadway Scope of Work found elsewhere in this RFP)

Removal of Existing Structures

The Design-Build Team shall remove and dispose of the following existing structures:

- Bridge No. 308 (SR 1840 over US 52 westbound)
- Bridge No. 279 (SR 1840 over Norfolk Southern Railroad)
- Bridge No. 297 (US 52 over Norfolk Southern Railroad)
- Bridge No. 302 (US 52 over Norfolk Southern Railroad)
- Bridge No. 292 [SR 1669 (Ziglar Road) over US 52]

In accordance with the *Asbestos Assessment for Bridge Demolition and Renovation Activities* Project Special Provision located on the Structures Management Unit's website, the Design-Build Team is cautioned that all the aforementioned bridges require an asbestos survey / inspection prior to demolition.

The Design-Build Team is cautioned that all the aforementioned bridges may be coated with red lead paint. In accordance with the 2018 *Standard Specifications for Roads and Structures*, the Design-Build Team shall handle, remove, ship, and dispose of all red lead painted elements.

General

The Design-Build Team's primary design firm shall be on the Department's list of firms qualified for structure design and maintain an office in North Carolina.

Excepted as allowed otherwise elsewhere in this RFP, designs shall be in accordance with the latest edition of the *AASHTO LRFD Bridge Design Specifications* (with exceptions noted in the *NCDOT Structures Management Unit Manual*), *NCDOT LRFD Driven Pile Foundation Design Policy*, *NCDOT Structures Management Unit Manual* (including Policy Memos) and *NCDOT Bridge Policy Manual*.

Use of Florida Department of Transportation Prestressed Florida I-Beams (FIB), the Prestressed Concrete Committee for Economic Fabrication (PCEF) prestressed concrete girders, and Modified Bulb Tee girders will be allowed. However, the structural details associated with the aforementioned items, including but not limited to mild reinforcing and reinforcing cover, shall be subject to Department review and acceptance post-award.

Unless noted otherwise elsewhere in this RFP, all construction and materials shall be in accordance with 2018 *NCDOT Standard Specifications for Roads and Structures*, *NCDOT Structures Management Unit Project Special Provisions* and *NCDOT Structures Management Unit Standard Drawings*.

Prior to incorporation in the TMP, the Design-Build Team shall obtain written approval from the Engineer for all road closures.

Liquidated Damages for Intermediate Contract Time #3 for the above road closure time restrictions for US 52 are \$1,250.00 per 15 minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #4 for the above road closure time restrictions for NC 65 (Bethania-Rural Hall Road) are \$750.00 per 15 minute period or any portion thereof.

3. Intermediate Contract Times #5 for Ramp Reconstruction

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall not close any direction of travel on the following ramps / loops during the times noted below. With an approved offsite detour, the ramps / loops listed may be closed Monday through Thursday from 12:00 a.m. (Midnight) to 6:00 a.m. for the reconstruction and / or phase construction of the existing ramps / loops. The Design-Build Team shall not currently close more than two ramps / loops.

Road Name	Day	Time Restrictions
NC 65 (Bethania-Rural Hall Road) interchange ramps and loops	Monday through Thursday	6:00 a.m. to 12:00 a.m. (Midnight)

Prior to incorporation in the TMP, the Design-Build Team shall obtain written approval from the Engineer for all road closures.

Liquidated Damages for Intermediate Contract Time #5 for the above road closure time restrictions for the NC 65 (Bethania-Rural Hall Road) interchange ramps and loops are \$1,250.00 per 15 minute period or any portion thereof.

4. Intermediate Contract Time #12 for Continuous Road Closure of Ziglar Road (SR 1669)

One road closure, with an approved offsite detour, will be permitted for the Ziglar Road (SR 1669) bridge replacement for no more than **300** consecutive days. Prior to beginning the continuous road closure, the Design-Build Team shall install a Department approved off-site detour route.

The completion of the work required for ICT #12 shall be defined as having the bridge on Ziglar Road (SR 1669) completed and operational; and all the Ziglar Road (SR 1669) lanes open to traffic in the final traffic pattern, including but not limited to placement of the final surface course.

The date of availability for ICT #12 shall be 6:00 pm on the date the Design-Build Team elects to close Ziglar Road (SR 1669). The Design-Build Team shall provide the Engineer a minimum of 21 days written notice prior to the date of availability. The duration of the Ziglar Road (SR 1669) continuous road closure shall be defined as 7:00 a.m. on the date that corresponds to 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 300 days. The duration, thus proposed, shall be used to assess liquidated damages for ICT #12.

Liquidated Damages for Intermediate Contract Time #12 for the above road closure time restriction for Ziglar Road (SR 1669) are \$1,000.00 per calendar day or any portion thereof.

B. Hauling Restrictions

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

The Design-Build Team shall conduct all hauling operations as follows:

- The Design-Build Team shall not conduct any hauling operations against the flow of traffic of an open travelway unless an approved temporary traffic barrier or guardrail separates the traffic from the hauling operation.
- All hauling entrances, exits and crossings shall be shown on the TMP and be in accordance with the NCDOT Roadway Standard Drawings.
- Haul vehicles shall not enter and / or exit an open travel lane at speeds more than 10 mph below the posted speed limit.
- Hauling operations that perpendicularly cross a roadway shall require Traffic Control Plans and shall be subject to the lane narrowing, lane closure and holiday time restrictions in ICT #1 and ICT #2.
- Excluding hauling operations that are conducted entirely behind a temporary traffic barrier or guardrail, hauling shall not be allowed ingress and egress from any open travel lane during the lane narrowing, lane closure and holiday time restrictions listed in ICT #1 and ICT #2.

The Design-Build Team shall address how hauling will be conducted in the Technical Proposal, 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

On two-lane, two-way facilities, the Design-Build Team shall not install more than one (1) mile of lane closure in any one direction on any roadway within the project limits or in conjunction with this project, measured from the beginning of the merge taper to the end of the lane closure.

On multi-lane facilities, the Design-Build Team shall not install more than two (2) miles of lane closure in any one direction, measured from the beginning of the merge taper to the end of the lane closure.

The Design-Build Team shall not install more than two simultaneous lane closures in any one direction on any roadway within the project limits or in conjunction with this project and shall provide a minimum of four (4) miles between lane closures, measured from the end of one closure to the first sign of the next lane closure.

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 the NCDOT 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 the NCDOT *Roadway Standard Drawings*, unless the work area is protected by an approved temporary traffic barrier or guardrail.

When personnel and / or equipment are working on the shoulder adjacent to an undivided

UTILITIES COORDINATION SCOPE OF WORK (6-18-18)

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, 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: