



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 29, 2018

Addendum No. 2

Contract No.: C 203970
TIP No.: I-5507 / R-0211EC / U-4714AB
County: Mecklenburg
Project Description: I-485 from I-77 to US 74 (Independence Boulevard); I-485 / Weddington Road Interchange; and I-485 / East John Street – Old Monroe Road Interchange

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 7, 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:

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


Page Nos. 281 and 284 of the *Roadway* Scope of Work have been revised. Please void Page Nos. 281 and 284 in your proposal and staple the revised Page Nos. 281 and 284 thereto.

Page Nos. 304 and 305 of the *Pavement Management* Scope of Work have been revised. Please void Page Nos. 304 and 305 in your proposal and staple the revised Page Nos. 304 and 305 thereto.

Page No. 315 of the *Hydraulics* Scope of Work has been revised. Please void Page No. 315 in your proposal and staple the revised Page No. 315 thereto.

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

Sincerely,
DocuSigned by:


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and construct a minimum 26-foot median. Throughout the project limits, the Design-Build Team shall design and construct Type “T” double-faced concrete median barrier on the aforementioned full depth median pavement.

- Throughout the project limits, the Design-Build Team shall design and construct a delineation area between the express lane and the general purpose lanes at the minimum widths shown on the Design Map. Unless noted otherwise elsewhere in this RFP, the Design-Build Team may shift the express lane entry and exit points a maximum of 500 feet, in either direction, from the locations shown on the Design Map. (Reference the Pavement Marking Scope of Work found elsewhere in this RFP) The full weave lane (delineation area) for the express lane entry and exit points shown on the Design Map between Johnston Road and Rea Road shall be located between Station 439+50 -L- and Station 454+50 -L-, in both directions.
- From Endhaven Lane to Elmstone Drive, the Design-Build Team shall design and construct Elm Lane with 1) two 12-foot travel lanes, 2) one 12-foot center turn lane, 3) 2’-6” curb and gutter on both sides of the roadway, 4) a minimum 21-foot berm with 12-foot sidewalk on the west side and, 5) a minimum 17-foot berm with eight-foot sidewalk on the east side. (Reference the Structures Scope of Work found elsewhere in this RFP)
- Immediately beyond the guardrail anchor units, the Design-Build Team shall transition the proposed Ballantyne Road bridge width to the existing roadway facility with 8:1 tapers. (Reference the Structures Scope of Work found elsewhere in this RFP)
- The Design-Build Team shall design and construct a minimum 450-foot long exclusive northbound left turn lane and taper on East Westinghouse Boulevard that accesses Old Nations Ford Road.
- The Design-Build Team shall design and construct a minimum 350-foot long exclusive northbound right turn lane and taper on East Westinghouse Boulevard that accesses the -Y1DCA- Direct Connector (I-485 eastbound).
- The Design-Build Team shall design and construct a minimum 300-foot long exclusive westbound right turn lane and taper on the -Y1DCA- Direct Connector that accommodates the I-485 westbound to East Westinghouse Boulevard northbound movement.
- The Design-Build Team shall design and construct observation and enforcement areas that adhere to the design parameters in the December 1, 2016 Concept Plan for *I-5507 Observation and Enforcement Areas Memorandum*. West of Rae Road, the Design-Build Team shall not overlap any portion of the eastbound and westbound observation and enforcement areas. The Design Build Team shall design and construct observation and enforcement areas at the following locations:
 - I-485 Eastbound
 - AET 1.2 - The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be between Westinghouse Boulevard and NC 51 / Pineville-Matthews Road.

shall be located such that the express lane, in each direction of travel, slopes toward the median, and the remaining lanes and buffer slope towards the outside. The Design-Build Team will not be required to shift the existing crown point within the section of I-485 constructed under TIP Project R-4902 to adhere to the aforementioned requirement.

- Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall design and construct at-grade intersections with the lane configurations noted in the *I-485 Express Lanes Traffic Operations Technical Memorandum*, the August 31, 2007 *R-0211EC – Capacity Analysis of Roadway Plans Memorandum*, the July 2015 *U-4714 Build Traffic Operations Technical Memorandum*, and the **May 2018** *I-5507 Minimum Storage Length / Lane Configuration Diagram* provided by the Department. At all intersections impacted by the Design-Build Team's design and / or construction, excluding resurfacing, the Design-Build Team shall design and construct turn lanes that adhere to the greater of the following, unless allowed otherwise elsewhere in this RFP:
 - All turn lane lengths shall adhere to the NCDOT minimum turn lane lengths as defined in the NCDOT Roadway Design Manual (Reference Section 9-1, Figure 4).
 - All lengths for the turn lanes required by the aforementioned Memorandums / Diagram provided by the Department shall adhere to the NCDOT Recommended Treatment for Turn Lanes, as defined in the NCDOT *Roadway Design Manual* - Section 9-1, Figures F-4A and F-4B. These lengths shall be determined by adding the storage length defined in the aforementioned Memorandums / Diagram and the minimum deceleration length, as defined in the NCDOT Roadway Design Manual (Reference Section 9-1, Figure F-4A).
 - Right turn lanes / tapers shall be provided in accordance with the NCDOT Right Turn Lane Warrants, as defined in the Roadway Design Manual (Reference Section 9-1, Figure F-4C).
- The Design-Build Team shall design and construct all diverging diamond interchanges (DDI), in accordance with the requirements noted below:
 - Between and through the DDI crossovers, the Design-Build Team shall design and construct lane widths that accommodate a WB-67; however, the minimum lane width between and through the DDI crossovers shall be 15 feet. All approach / departure lanes to / from the crossovers shall be tapered to the crossover lane-width prior to entering / after exiting the curve approaching / departing the crossover.
 - The Design-Build Team shall design and construct lane widths for all spurs (right and left turn movements from / to the ramps) that accommodate a WB-67; however, the minimum spur lane width shall be 15 feet. All approach / departure ramp lanes to / from the spurs shall be tapered to the spur lane width prior to entering / after exiting the spur. Regardless of the spur lane width, all spur alignments shall be located 15 feet from the outside edge of travel lane.
 - The four ramp channelization islands shall be raised grass islands bordered with 2'-6" curb and gutter. Within the aforementioned ramp channelization islands, the Design-

PAVEMENT MANAGEMENT SCOPE OF WORK (6-26-18)

Unless noted otherwise elsewhere in this RFP, the pavement design for the mainline widening, mainline median paved shoulders, and mainline outside paved shoulders at locations where the existing outside paved shoulder is removed shall consist of one of the following alternates:

<u>Alternate 1</u>	<u>Alternate 2</u>	<u>Alternate 3</u>
OGFC *	OGFC *	Deleted Alternate 3
3.0" S9.5D **	3.0" S9.5D **	
4.0" I19.0C	4.0" I19.0C	
8.5" B25.0C	4.0" B25.0C	
Subgrade Stabilization	10.0" ABC	
	Subgrade Stabilization	

* The Open Graded Asphalt Friction Course (OGFC) shall be Type FC-1 Modified at a rate of 90 lbs/sq yd. (Reference the *Open Graded Asphalt Friction Course, Permeable Asphalt Drainage Course, and Ultra-Thin Bonded Wearing Course* Project Special Provision found elsewhere in this RFP). The width of the OGFC shall extend to a minimum of one foot outside of the travel lane lines.

** From a point at least 200 feet prior to each toll gantry to a point at least 200' beyond each toll gantry, the mainline express lane, buffer and median shoulder pavement design shall consist of 3.5" S9.5D, with a final 2.0-inch lift. If the Design-Build Team does not lower the subgrade to accommodate the additional 0.5" S9.5D, 1) the full mainline typical section width, in a given direction, shall consist of the additional 0.5' S9.5D between the aforementioned limits; and 2) the Design-Build Team shall transition the 3.5" S9.5D pavement structure to the 3.0" S9.5D pavement structure over a minimum 25-foot distance beyond the aforementioned limits. The additional 0.5" pavement structure depth shall not result in differential pavement elevations along or across the mainline.

The pavement alternate chosen shall be used for the entire length of the project. The Design-Build Team shall specify pavement alternate that will be used in the Technical Proposal.

West of I-77, the pavement design for the mainline median paved shoulders shall consist of the following:

- 12.0" Concrete
- 4.0" PADL
- 1.25" S9.5B
- Soil Stabilization

In accordance with the requirements noted below, the mainline subgrade stabilization shall consist of chemical stabilization or Class IV stabilization. In a given direction, the Design-Build Team will be allowed to use different subgrade stabilization alternates for the mainline median and outside widening. However, a consistent subgrade stabilization alternate shall be used for a minimum 1000-foot length. 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.

- Chemical stabilization shall be to a minimum depth of eight inches for lime and seven 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 Subgrade 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.

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

Line	Surface	Intermediate	Base	Stabilization
-Y1DCA-	3.0" S9.5B	4.0" I19.0C	4.0" B25.0C	No
-Y2DCC- and -Y2DCD-	3.0" S9.5B	4.0" I19.0C	4.0" B25.0C	No
East Westinghouse Boulevard	3.0" S9.5C	4.0" I19.0C	4.0" B25.0C	No
Rea Road Ramps	3.0" S9.5B	2.5" I19.0C	3.0" B25.0C	Yes
Weddington Road	3.0" S9.5B	4.0" I19.0C	3.0" B25.0C	Yes
McKee Road, Fincher Farm Road, Plantation Center Drive, and Plantation Road	3.0" S9.5B	4.0" I19.0C	4.0" B25.0C	No
Weddington Road Loops	3.0" S9.5B	4.0" I19.0C	3.0" B25.0C	Yes
Weddington Road Ramps	3.0" S9.5B	2.5" I19.0C	3.0" B25.0C	Yes
East John Street	3.0" S9.5C	4.0" I19.0C	5.0" B25.0C	No
East John Street Ramps	3.0" S9.5B	2.5" I19.0C	3.0" B25.0C	Yes
East John Street Loops	3.0" S9.5B	4.0" I19.0C	3.0" B25.0C	Yes
Providence Road Ramps / Loops	3.0" S9.5B	3.0" I19.0C	4.0" B25.0C	No
Ballantyne Road and Elm Street	3.0" S9.5B	2.5" I19.0C	4.0" B25.0C	No
US 74 Ramps / Loops	3.0" S9.5C	4.0" I19.0C	3.0" B25.0C	Yes

For the -Y- Lines, ramps, loops and direct connection pavement designs noted in the table above, the Design-Build Team may substitute an ABC layer for an 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 layer thickness specified for the roadway.

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall resurface the existing -L- Line pavement, including all existing paved shoulders that will remain in place, and all acceleration and deceleration lanes / ramps / loops to the back of the gore (12-foot width), with a minimum 1.5" S9.5D. The Design-Build Team shall uniformly overlay the mainline S9.5D resurfacing grade with Open Graded Asphalt Friction Course. (Reference the Roadway Scope of Work and *Open Graded Asphalt Friction Course, Permeable Asphalt Drainage Course, and Ultra-Thin Bonded Wearing Course* Project Special Provision found elsewhere in this RFP)

Solely to obtain the required vertical clearance at bridges, the Design-Build Team will be allowed to mill the existing mainline pavement, including the existing paved shoulders that will remain in place, to a depth of 1.5" and fill the milled area with 1.5" S9.5D.

Solely to obtain the required vertical clearance at bridges, the Design-Build Team will be allowed to mill the existing -Y- Line pavement, including the existing paved shoulders that will remain in place, to a depth of 1.5" and fill the milled area with 1.5" of the surface course as provided in the Table above for the roadway.

- For all existing and proposed box culverts and pipes (including all extensions), a minimum 1.5-foot freeboard shall be required below the shoulder point during the design storm. The Design-Build Team shall not steepen slopes, reduce easements and / or reduce right of way solely to obtain the aforementioned freeboard requirement.
- Excluding the culverts listed below, 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.
 - Four barrel 10' X 8' RCBC - Site 1 from the Preliminary Hydraulics Report at Station 132+20 -L-
 - 6' X 5' RCBC - Site 7 from the Preliminary Hydraulics Report at Station 488+60 -L-
- The Design-Build Team shall design and construct an energy dissipation structure for Site 7, as identified in the Preliminary Hydraulics Report.
- 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.
- 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.
- 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 or 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

****NOTE**** Deleted cross structure bullet

- 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.