



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

September 2, 2020

Addendum No. 1

RE: Contract # C203978

WBS # 53034.3.1

FA# NHPP-0040(110)

Forsyth County (I-5795)

I-40 FROM BRIDGES (#161 AND #162) OVER MUDDY CREEK TO
GUILFORD COUNTY LINE.

September 15, 2020 Letting

To Whom It May Concern:

Reference is made to the proposal form furnished to you on this project.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 1 Dated 09-02-2020".
R-13 thru R-16	The Project Special Provision entitled DIAMOND GRINDING CONCRETE PAVEMENT was revised.

Please void the above listed pages in your proposal and staple the revised pages thereto.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:

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

RED/jjr
Attachments

cc: Mr. Boyd Tharrington, PE
Mr. Lamar Sylvester, PE
Mr. Pat Ivey, PE
Mr. Jon Weathersbee, PE
Mr. Mike Gwyn
Mr. Ken Kennedy, PE
Project File (2)

Mr. Ray Arnold, PE
Ms. Jaci Kincaid
Ms. Penny Higgins
Ms. Lori Strickland
Mr. Mitchell Dixon
Mr. Kyle Kempf

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No.1 DATED 09-02-2020

DATE AND TIME OF BID OPENING: **SEPTEMBER 15, 2020 AT 2:00 PM**

CONTRACT ID C203978
WBS 53034.3.1

FEDERAL-AID NO. NHPP-0040(110)

COUNTY FORSYTH

T.I.P. NO. I-5795

MILES 11.917

ROUTE NO. I 40

LOCATION I-40 FROM BRIDGES (#161 AND #162) OVER MUDDY CREEK TO
GUILFORD COUNTY LINE.

TYPE OF WORK PAVEMENT & STRUCTURE REHABILITATION.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

DIAMOND GRINDING CONCRETE PAVEMENT:

(4-15-08) (Rev 09-15-20)

SPI 7-9

Description

Perform the work covered by this provision including but not limited to diamond grinding and regrinding concrete pavement to meet final surface acceptable smoothness requirements detailed in Article 710-7, selecting diamond tipped saw blades and configuration of cutting head; continual removal of residual slurry from pavement and disposal; furnishing all labor, materials, supplies, tools, equipment and incidentals as necessary. Perform this work at locations indicated in the plans or as directed by the Engineer.

Prior to beginning any diamond grinding operations, schedule a pre-grind meeting with grinding subcontractor, Division Construction Engineer, Project Engineer, Area Roadway Engineer, State Pavement Construction Engineer, representatives from the Roadside Environmental Unit and the Materials and Tests Unit.

Equipment

Use equipment with diamond tipped saw blades gang mounted on a power driven self-propelled machine with a minimum wheel base length of 15 feet that is specifically designed to smooth and texture Portland Cement Concrete pavement. Utilize equipment that does not cause ravels; aggregate fracture; spalls or disturbance to the longitudinal or transverse joints; or damage and/or strain to the underlying surface of the pavement. Should any of the above problems occur immediately suspend operations.

Provide a minimum 3 feet wide grinding head with 50 to 60 evenly spaced grooves per foot. Prior to designing the grinding head, evaluate the aggregate hardness of the concrete pavement and select the appropriate diamond size, diamond concentration and bond hardness for the individual saw blades.

Provide vacuuming equipment to continuously remove slurry residue and excess water from the pavement as part of the grinding operation. Do not allow the slurry material to flow into a travel lane occupied by traffic or into any drainage facility.

Method of Construction

Grind the pavement surface to a uniform appearance with a high skid resistant longitudinal corduroy type texture. Provide grooves between 0.09 and 0.15 inches wide with the land area between the grooves between 0.06 and 0.13 inches wide. Ensure a ridge peak of approximately 0.0625 inches higher than the bottom of the grooves.

Begin and end diamond grinding at lines normal to the pavement centerline. Grind only in the longitudinal direction. All grooves and adjacent passes shall be parallel to each other with no variation. Completely lap adjacent passes with no unground surface remaining between passes and no overlap of more than 1½ inches. Adjacent passes shall be within 1/8 inch of the same height as measured with a 3 foot straightedge. Maintain positive cross-slope drainage for the duration of the grinding operation.

Grind all travel lanes to include auxiliary lanes, ramps and loops with not less than 98 percent of the specified surface being textured by grinding. Grinding of the bridge decks and concrete shoulders will not be required. Remove a minimum 0.0625 inches at all locations except dips. Extra grinding to eliminate minor depressions is not required. It is anticipated that extra grinding will be required on the high side of existing faults in the pavement. There shall be no ridge between lanes. In a separate operation, transition the grinding of any remaining ridges greater than 1/8 inch

in height on the outside edge next to the shoulder or at a tie to an existing facility to the satisfaction of the Engineer.

Final surface testing is required on this project in accordance with Article 710-7 of the *2018 Standard Specifications*.

Disposal of Residual Slurry

Diamond grinding slurry disposal shall be in accordance with the Statewide Permit for Land Application of Diamond Grinding Slurry (DGS), Permit No. WQ0035749 dated March 1, 2019. Land Application on NCDOT Right of Way directly from the diamond grinding machine or from the tanker truck will not be allowed. Land application on private property in accordance with WQ0037549 will be allowed at the discretion of the Engineer. Construction of lined inground pits on NCDOT Right of Way or private property in accordance with WQ0037549 will be allowed at the discretion of the Engineer. Use of inground pits requires the structures be individually permitted as modifications to Permit No. WQ0035749 placing them under the requirements in G.S. 143-215.1(d)(1). Any permit modifications that are necessary and the associated time required to acquire approval shall be the responsibility of the contractor and no time extensions will be provided. Additionally, a reclamation plan would be required if the pit is located on private property. Submit a slurry disposal plan to the Engineer detailing the method of handling and disposing of the slurry from the diamond grinding operation a minimum of 45 days prior to beginning the diamond grinding operation. An approval must be received in writing prior to the beginning of diamond grinding operations. DGS shall be transported beyond the project limits to an approved, permitted site, unless the contractor opts to utilize an inground pit as described above. No additional payment will be made for transporting and/or processing of this slurry material for disposal.

Disposal options are:

- (A) Concrete grinding residues (CGR) that are not liquid and otherwise not hazardous may be disposed of in a municipal solid waste landfill or utilized as an alternate daily cover (ADC). The sanitary landfill operator that requests the use of this material as ADC shall contact the N.C. Department of Environmental Quality (DEQ) inspector for approval. The definition of a solid, for solid waste disposal purposes, is a material that passes a Paint Filter test. CGR's may be eligible for disposal or use as ADC in an unlined sanitary landfill or a construction and demolition debris landfill. If CGR is disposed in an unlined-landfill, the Contractor shall submit a blended representative sample of 500 milliliters by volume (minimum 125 grams) of the material to a certified laboratory to verify that the CGR does not exceed Resource Conservation and Recovery Act (RCRA) regulatory limits for the following metals: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver.
- (B) Upon the Engineer's approval, dewatered CGR's that are not liquid may be beneficially reused within the DOT project limits or areas under DOT control suitable for the establishment of vegetation. The definition of a solid, for solid waste disposal purposes, is a material that passes a Paint Filter test. Dewatered CGR's that meet the solid waste definition for inert debris, North Carolina General Statute 130A-290(a)(14), may also be used within the roadbed at rates approved by the Engineer for soil modification purposes. If CGR is disposed as beneficial reuse within DOT project limits, the Contractor shall submit a blended representative sample of 500 milliliters by volume (125 grams minimum) of the material to a certified laboratory to verify that the CGR does not exceed RCRA regulatory limits for the following metals:

Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver.

To prevent the migration of any direct discharge, the contractor shall install wattles and silt fence at the direction of the Engineer. Silt Fence shall be installed in accordance with Section 1605 of the NCDOT 2018 Standard Specifications.

For more detailed requirements, see the Environmental Permits and Guidelines section under Environmental resources on the NC Connect website for the DG permit and guidelines at the following link. (NCID access required.)

<https://connect.ncdot.gov/resources/Environmental/Environmental%20Permits%20and%20Guidelines/NCDOT%20Statewide%20Permit%20Guidelines%20Management%20%20Disposal%20of%20Concrete%20Grinding%20Residuals%205219.pdf>

Measurement and Payment

The quantity of *Diamond Grinding PCC Pavement* to be paid for will be the actual number of square yards of pavement which has been satisfactorily diamond ground, measured along the final top surface of the pavement. No separate payment will be made for any overlapping, regrinding, or for extra grinding on the high side of existing faults.

Payment will be full compensation for the work, including but is not limited to grinding, disposal of slurry, final surface testing, furnishing all materials, equipment, labor and all incidentals necessary to satisfactorily complete the work.

Temporary Silt Fence will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

Wattle will be measured and paid for by the actual number of linear feet of wattles which are installed and accepted. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Wattle*.

Payment will be made under:

Pay Item	Pay Unit
Diamond Grinding PCC Pavement	Square Yard
Wattle	Linear Foot

AUTOMATED MACHINE GUIDANCE

(1-2-11)

801

SP8 R01

General

This Special Provision contains requirements to be followed if the Contractor elects to use Global Positioning System (GPS) machine control grading and shall be used in conjunction with Section 801 of the *Standard Specifications*. The use of this technology is referenced as Automated Machine Guidance (AMG).

All equipment using AMG shall be able to generate end results that meet the *Standard Specifications*. Perform test sections for each type of work to be completed with AMG to demonstrate that the system has the capability to achieve acceptable results. If acceptable results cannot be achieved, conform to the requirements for conventional stakeout.

The Contractor shall be responsible for all errors resulting from the use of AMG and shall correct deficiencies to the satisfaction of the Engineer at no cost to the Department.

Submittals

If the Contractor elects to use AMG, a Digital Terrain Model (DTM) of the design surface and all intermediate surfaces shall be developed and submitted to the Engineer for review.

At least 90 days prior to beginning grading operations, the Contractor shall submit to the Engineer an AMG work plan to include, but not limited to, proposed equipment, control software manufacturer and version, types of work to be completed using AMG, project site calibration report, repetitive calibration methods for construction equipment and rover units to be used for the duration of the project, and local GPS base station to be used for broadcasting differential correction data to rover units (this may include the NC Network RTK). All surveys must be tied to existing project control as established by NCDOT.

Inspection

The Engineer will perform quality assurance checks of all work associated with AMG. If it is determined that work is not being performed in a manner that will assure accurate results, the Engineer may require corrective action at no cost to the Department.

The Contractor shall provide the Engineer with one GPS rover unit for use during the duration of the contract. The rover will be loaded with the same model that is used with the AMG and have the same capability as rover units used by the Contractor. The rover will be kept in the possession of the Engineer and will be returned to the Contractor upon completion of the contract. Any maintenance or repairs required for the rover will be the responsibility of the Contractor. Formal training of at least 8 hours shall be provided to the Engineer by the Contractor on the use of the proposed AMG system.

Subgrade and Base Controls

If the Contractor elects to use AMG for fine grading and placement of base or other roadway materials, the GPS shall be supplemented with a laser or robotic total station. Include details of the proposed system in the AMG work plan. In addition, the following requirements apply for the use of AMG for subgrade and base construction.

Provide control points at intervals along the project not to exceed 1,000 feet. The horizontal position of these points shall be determined by static GPS sessions or by traverse connection from the original base line control points. The elevation of these control points shall be established using differential leveling from project benchmarks, forming closed loops where practical. A copy of all new control point information shall be provided to the Engineer prior to construction activities.

Provide control points and conventional survey grade stakes at 500 foot intervals and at critical points such as, but not limited to, PCs, PTs, superelevation transition points, and other critical points as requested by the Engineer.

Provide hubs at the top of the finished subgrade at all hinge points on the cross section at 500 foot intervals. These hubs shall be established using conventional survey methods for use by the Engineer to check the accuracy of construction.

Measurement and Payment

No direct payment will be made for work required to utilize this provision. All work will be considered incidental to various grading operations.