

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 10

**PROPOSAL
STATE ID/IQ**

DATE AND TIME OF BID OPENING: Wednesday October 4, 2023 AT 2:00 P.M.

CONTRACT ID: MJ00027

WBS ELEMENT NO.: 10BPR.10603, 10BPR.10133, 10.106031A, 10.101331, 40.2.2,
10BPR.10041, 10BPR.10131, 10BPR.10601, 10BPR.10841,
10BPR.10901, 10BPR.20041, 10BPR.20131, 10BPR.20601,
10BPR.20841, 10BPR.20901

COUNTY: Anson, Cabarrus, Mecklenburg, Stanly & Union

TIP NO.: None

MILES: -N/A-

LOCATION: Various Interstate, Primary and Secondary Routes

TYPE OF WORK: "As Needed" Interstate and Bridge Maintenance Concrete Repair

AVAILABILITY DATE: November 4, 2023

COMPLETION DATE: November 3, 2024

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.

THIS IS A ROADWAY PROJECT.

BID BONDS ARE NOT REQUIRED.

NAME OF BIDDER

ADDRESS OF BIDDER

This proposal contains addendum 1 issued September 20, 2023 and addendum 2 issued September 21, 2023.

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. MJ00027 IN ANSON, CABARRUS, MECKLENBURG, STANLY & UNION COUNTY,
NORTH CAROLINA**

Date _____ 20 _____

**DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. MJ00027; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to be bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. MJ00027 in ANSON, CABARRUS, MECKLENBURG, STANLY & UNION COUNTIES, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer or Division Engineer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

INSTRUCTIONS TO BIDDERS

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE PREPARING AND SUBMITTING YOUR BID.

All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement may cause the bid to be considered irregular and may be grounds for rejection of the bid.

TRADITIONAL PAPER BIDS:

1. Download the entire proposal from the Connect NCDOT website and return the entire proposal with your bid.
2. If the Interested Parties List provision SP01 G02 is part of the proposal prior to submitting a bid on a project, the bidder shall sign up on the *Interested Parties List* in conformance with Interested Parties List provision SP01 G02.
3. All entries on the itemized proposal sheet (bid form) shall be written in ink or typed.
4. The Bidder shall submit a unit price for every item on the itemized proposal sheet. The unit prices for the various contract items shall be written in figures. Unit prices shall be rounded off by the Bidder to contain no more than FOUR decimal places.
5. An amount bid shall be entered on the itemized proposal sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount" column of the form.
6. The total amount bid shall be written in figures in the proper place on the bid form. The total amount bid shall be determined by adding the amounts bid for each item.
7. Changes to any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink. Do not use correction fluid, correction tape or similar product to make corrections.
8. The bid shall be properly executed on the included **Execution of Bid – Non-collusion, Debarment and Gift Ban Certification** form. All bids shall show the following information:
 - a. Name of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
Corporations that have a corporate seal should include it on the bid.
 - b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
 - c. Name, signature, and position or title of witness.
9. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
10. The Bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
11. **THE PROPOSAL WITH THE ITEMIZED PROPOSAL SHEET ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL BE DELIVERED TO AND RECEIVED IN THE NCDOT DIVISION OFFICE, LOCATED AT 716 W. Main Street, Albemarle NC 28001, BY 2:00 PM ON, October 4 2023.**
12. The sealed bid must display the following statement on the front of the sealed envelope:

**QUOTATION FOR “As Needed” Interstate and Bridge Maintenance Concrete Repair TO
BE OPENED AT 2:00 P.M. ON WEDNESDAY, October 4, 2023.**

As well as the following information:

- a. Name of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
- b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
- c. Address of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
- d. SAP Vendor Number of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.

e. Contractor Number, if applicable, of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.

13. If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope shall be addressed as follows:

Mr. Jared Mathis, P.E.
NC Department of Transportation
716 West Main St.
Albemarle NC, 28001

14. Questions should be emailed to **Jared Mathis** at **jmathis@ncdot.gov** 10 calendar days prior to the bid opening. Contact with any other NCDOT personnel concerning this project is strictly prohibited, unless otherwise noted, and may result in bids being considered non-responsive.

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PROJECT SPECIAL PROVISIONS (GENERAL)

All work and materials shall be in accordance with the provisions of the General Guidelines of this contract, the Project Special Provisions, the North Carolina Department of Transportation *2018 Standard Specifications for Roads and Structure*, the North Carolina Department of Transportation *2018 Roadway Standards Drawings*, the current edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.

The Contractor shall keep himself/herself fully informed of all Federal, State and local laws, ordinances, and regulations, and shall comply with the provisions of Section 107 of the *Standard Specifications*.

MANDATORY PRE-BID CONFERENCE:

(7-18-06) (Rev. 3-25-13)

SPD 1-310

In order for all prospective bidders to have an extensive knowledge of the project, all prospective bidders shall attend a mandatory pre-bid conference on **Wednesday, September 20, 2023 @ 10:00 AM**.

**NC Department of Transportation
ITP Conference Room
12033 East Independence Blvd.
Matthews, NC 28105
(980) 262-6260**

The pre-bid conference will include a thorough discussion of the plans, contract pay items, special provisions, etc.

Only bidders who have attended and properly registered at the above scheduled pre-bid conference and who have met all other prequalification requirements will be considered prequalified to bid on this project. A bid received from a bidder who has not attended and properly registered at the above scheduled pre-bid conference will not be accepted and considered for award.

Attendance at the pre-bid conference will not meet the requirements of proper registration unless the individual attending has registered at the pre-bid conference in accordance with the following:

- (A) The individual has signed his name on the official roster prior to the above noted time for the beginning of the conference.
- (B) The individual has written in the name and address of the company he or she represents.
- (C) Only one company has been shown as being represented by the individual attending.
- (D) The individual attending is an officer or permanent employee of the company they are representing.

Any individual arriving after the official roster has been received by the Engineer will not be eligible to bid.

CONTRACT TIME FOR ID/IQ:

(2-15-22)

108

SP1 G11

The date of availability for this contract is **November 4, 2023**.

The completion date for this contract is **November 3, 2024**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

Work shall be accomplished in a continuous manner once the contractor begins.

Any liquidated damages for this contract will be assessed per the Mobilization and Liquidated Damages provision located elsewhere in this Contract.

MOBILIZATION AND LIQUIDATED DAMAGES FOR ID/IQ:

(2-15-22)

SPD 01-820

The Contractor shall mobilize to each location he is required to perform work. There will be no direct pay for Mobilization as it will be incidental to the other bid items. The only exception is if there is an Emergency Mobilization provision within the contract.

The Contractor will be provided a Work Order Assignment for each project with location(s), estimated quantities, and liquidated damages unless waived by the Engineer. Notification will be verbal followed by a faxed or emailed signed Work Order Assignment. There will be no minimum quantities for any line item associated with a particular mobilization. The Contractor shall complete the work identified on each Work Order Assignment.

The Contractor shall mobilize and complete the work within the time specified on the Work Order Assignment. Failure to complete the work by the completion date may result in the application of liquidated damages. Liquidated damage amounts will be based on the work order estimate and the liquidated damage table below.

Work Order Value	Liquidated Damages (per calendar day)
\$0 - \$100K	\$100.00
\$100K - \$200K	\$250.00
\$200K - \$300K	\$500.00
\$300K - \$500K	\$600.00
\$500K - \$1M	\$700.00
\$1M - \$2M	\$850.00

INTERMEDIATE CONTRACT TIME #1 AND LIQUIDATED DAMAGES:

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for lane and shoulder closures and restoring traffic to its normal pattern. The Contractor shall not close or narrow a lane of traffic or shoulder during the following day and time restrictions:

Roadway	DAY AND TIME RESTRICTIONS
I-77, I-85, I-277, I-485 and US 74 LANE CLOSURES	Monday thru Sunday 5:00 a.m. to 9:00 p.m.
I-77, I-85, I-277, I-485, US 74 and Monroe Expressway SHOULDER CLOSURES	Monday thru Friday 6:00 a.m. to 9:00 a.m. 3:00 p.m. to 7:00 p.m.
All Other Routes LANE CLOSURES/SHOULDER CLOSURES	Monday thru Friday 6:00 a.m. to 9:00 a.m. 4:00 p.m. to 7:00 p.m.

In addition, the Contractor shall not close or narrow a lane of traffic on **any roadway**, detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

- For any **occurrence** that creates unusually high traffic volumes, as directed by the Engineer.
- For **New Year's Day**, between the hours of 6:00 a.m. December 31st and 9:00 a.m. January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until 9:00 a.m. the following Tuesday.
- For **Easter**, between the hours of 6:00 a.m. Thursday and 9:00 a.m. Monday.
- For **Memorial Day**, between the hours of 6:00 a.m. Friday and 9:00 a.m. Tuesday.
- For **Independence Day**, between the hours of 6:00 a.m. the day before Independence Day and 9:00 a.m. the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of 6:00 a.m. the Thursday before Independence Day and 9:00 a.m. the Tuesday after Independence Day.

- For **Labor Day**, between the hours of 6:00 a.m. Friday and 9:00 a.m. Tuesday.
- For **Thanksgiving Day**, between the hours of 6:00 a.m. Wednesday and 9:00 a.m. Monday.
- For **Christmas**, between the hours of 6:00 a.m. the Friday before the week of Christmas Day and 9:00 a.m. the following Tuesday after the week of Christmas Day.
- For **Spring and Fall Nascar or Drag Races** at the Charlotte Motor Speedway, and Z Max Dragway between the hours of 6:00 a.m. the Thursday the week of the event until 9:00 a.m. the Monday after the last race, or directed by the Engineer.

- For any event at the **Bank of America Stadium**, from 3 hours before the game until 2 hours after the game.
- For any event at the **US National Whitewater Center**, occurring in **Charlotte** between 1 hour before the start and 1 hour after the end of the **Event**.
- For **Charlotte Knights Baseball Games**, occurring at **BB&T Ballpark**, between 1 hour before the start of and 1 hour after the end of each Baseball Game.
- For any event occurring at the **Spectrum Center**, between 2 hours before the start of and 2 hours after the end of each event.
- For any event occurring at the **Bojangles Coliseum or Ovens Auditorium**, between 3 hours before the start of and 3 hours after the end of each event.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures are not required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated herein and place traffic in the original pattern.

The liquidated damages are ONE THOUSAND DOLLARS (\$1000.00) per hour or any portion thereof.

RENEWAL OF CONTRACT (CPI PRICE ADJUSTMENT) FOR ID/IQ:

(2-15-22)(Rev. 9-19-23)

SPD 01-840

The Contractor shall submit a bid for one year. At the option of the Department, this contract may be extended for **2** additional periods of one year each (maximum (3) three years total). Each year shall have a limit of **Five Million Dollars (\$5,000,000)**.

The compensation payable to the contractor shall be fixed for the first twelve months of this contract. However, upon an application of renewal of the contract, or thirty days prior to the end of each contract period, the renewal contract may be adjusted to reflect the adjustment in the Consumer Price Index over the latest twelve month period as published by the US Bureau of Labor and Statistics at <http://www.bls.gov/cpi> to be applied to new work order assignments. The Consumer Price Index for All Urban Consumers (CPI-U), US City Average, All Items, 1982-84=100, not seasonally adjusted will be used. If the amount of the requested adjustment is more than ten percent, the Department of Transportation reserves the right to cancel this contract.

CPI adjustment values can be determined using the calculator on the NCDOT Construction website.

This price escalation method will not be applied to items of work that are separately covered under commodity price escalation clauses. No other changes in the terms, conditions, etc. of this contract will be made when an extension to the contract is implemented. The Engineer will notify the Contractor in writing by **30 days prior to contract expiration** if the contract may be extended. The Contractor must notify the Engineer in writing by **30 days of notification** of his acceptance or rejection of this offer. Failure on the part of the Contractor to reply will be received as a rejection of contract extension.

DISPUTE RESOLUTION PROCESS FOR ID/IQ:

(2-15-22)

SPD 01-850

If a question should arise on the contract or assignment of a work order, the contractor should notify the Engineer noted on the assignment documentation or the Division Engineer within 2 hours after the scheduled time of bid opening or work order assignment. The following should be included in the notification if applicable:

- the contract for which bids were solicited;
- the particular law, regulation, or contract specification violated;
- a detailed description of the alleged violation; and
- any other information deemed to be relevant.

Once the initial evaluation has been completed, the contractor may be asked to attend a meeting for further discussion and clarification.

Once a determination has been made, the contractor will be notified of the decision by the Division Engineer. If the decision does not meet the satisfaction of the contractor, they have 24 hours from the Division Engineer's notification to elevate the dispute to the Chief Engineer. The Chief Engineer will make the final decision and will not be subject to further review by NCDOT.

DIVISION LET CONTRACT PREQUALIFICATION:

(07-01-14)(12-1-16)

SPD 01-410

Any firm that wishes to bid as a prime contractor shall be prequalified as a Bidder or PO Prime Contractor prior to submitting a bid. Information regarding prequalification can be found at: <https://connect.ncdot.gov/business/Prequal/Pages/default.aspx>.

Prior to performing the work, the prime contractor and/or subcontractor(s) shall be prequalified in the work code(s) which are identified as work items in the prime contractor's construction progress schedule that they will complete themselves. Any contractor identified as working outside their expertise may be considered in default of contract.

CONTRACTOR PREQUALIFICATION:

(10-18-22)(Rev. 7-18-23)

102

SP1 G01

Revise the *2018 Standard Specifications* as follows:

Page 1-9, Subarticle 102-2(A)(1) Bidder Prequalification, lines 34-36, delete and replace the first sentence with the following:

Applicant shall submit a completed Department Prequalification Application and *Bidder Experience Questionnaire*, along with any additional supporting information requested by the Department, as noted in the application and experience questionnaire package.

Page 1-10, Subarticle 102-2(A) Bidder Prequalification, lines 30-31, delete and replace the first sentence with the following:

Prospective bidders shall obtain prequalification approval at least two business days prior to any letting in which they intend to submit a bid. It is recommended that the prospective bidder file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given letting.

Page 1-10, Subarticle 102-2(B) Purchase Order Bidder Prequalification, lines 34-39, delete and replace the title and first paragraph with the following:

(B) Purchase Order (PO) Prime Contractor Prequalification

Contractors who have been approved to be placed on the Prequalified Bidders' List as noted above may perform work for the Department as a Purchase Order (PO) Prime Contractor and need not apply further. However, Purchase Order (PO) Prime Contractors will not be placed on the Prequalified Bidders' List unless they submit through the prequalification process described above.

Page 1-9, Subarticle 102-2(B)(1) Purchase Order Bidder Prequalification, lines 40-42, delete and replace the first sentence with the following:

Applicant shall submit a completed Department Prequalification Application along with any additional supporting information requested by the Department, as noted in the application.

Page 1-11, Subarticle 102-2(B) Purchase Order Bidder Prequalification, lines 16-18, delete and replace the first sentence with the following:

Prospective bidders shall obtain prequalification approval at least two business days prior to any letting in which they intend to submit a bid. It is recommended that the applicant file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given bid opening for their bid to be considered.

Page 1-11, Subarticle 102-2(C) Subcontractor Prequalification, lines 22-26, delete and replace the first paragraph with the following:

Contractors who have been approved to be placed on the Prequalified Bidders' List or the Purchase Order (PO) Prime Contractor's List as noted above may perform work for the Department as a subcontractor and need not apply further. However, subcontractors will not be placed on the Prequalified List or the Purchase Order (PO) Prime Contractor's List unless they submit through the prequalification process described above.

Page 1-11, Subarticle 102-2(C)(1) Subcontractor Prequalification, lines 27-28, delete and

replace the first sentence with the following:

Applicant shall submit a completed Department Prequalification Application along with any additional supporting information requested by the Department, as noted in the application.

Page 1-11, Subarticle 102-2(C) Subcontractor Prequalification, lines 44-45, delete and replace the first sentence with the following:

The subcontractor shall file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before beginning work.

Page 1-12, Subarticle 102-2(E) Renewal and Requalification, lines 38-40, delete and replace the first sentence with the following:

It is recommended that the renewing or requalifying firm file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given letting for their bid to be considered.

LIABILITY INSURANCE:

(5-16-23)

107

SP1 G05

Revise the *2018 Standard Specifications* as follows:

Page 1-64, Article 107-15 LIABILITY INSURANCE, replace the first sentence with the following:

The Contractor shall at its sole cost and expense obtain and furnish to the Department an original standard Association for Cooperative Operations Research and Development (ACORD) certificate of liability insurance evidencing commercial general liability with a limit for bodily injury and property damage in the amount of \$5,000,000 per occurrence and \$5,000,000 general aggregate, covering the Contractor from claims or damages for bodily injury, personal injury, or for property damages that may arise from operating under the contract by the employees and agents of the Contractor.

BONDING REQUIREMENTS FOR ID/IQ:

(2-15-22)

SPD 01-810

For purposes of this ID/IQ contract, the following definitions apply:

Project Agreement: A transportation improvement with a defined scope of work; a written agreement between NCDOT and the Federal Government defining the extent of construction work to be undertaken in accordance with the submitted plans, specifications and estimates. Execution of the agreement prompts the authorization to proceed (construction funding).

Project: An undertaking issued to a contractor through a Work Order Assignment. The construction under a Project Agreement may be accomplished by one or more work order assignments, from one or more ID/IQ contracts. Note that for ID/IQ contracts this definition supersedes the definition in the *Standard Specifications*.

Award: The issuance of a signed Work Order Assignment by NCDOT shall constitute the notice of award of a project.

In accordance with North Carolina General Statute 44A-26, bonds are required on contracts awarded for any one project that exceeds \$500,000. Beyond statutory requirements, NCDOT policy requires payment and performance bonds on all projects where the engineer's estimate is \$450,000 or greater, all Asphalt Surface Treatment projects, and projects containing the 12-month guarantee provision. The limit for waiving bonds for all bridge replacement and major bridge rehabilitation projects (latex overlays, etc.) is \$300,000 based on the engineer's estimate. The decision of bonding of a work order assignment below the dollar amounts listed shall be at the discretion of the Division's evaluation of the risks associated with the project.

The need for contract payment and performance bonds will be determined at the Work Order Assignment level. The Work Order Assignment will notify the Contractor of an award of a project and if required, to provide contract payment and performance bonds per Article 103-7 of the *Standard Specifications*. The Work Order Assignment replaces the Notification of Award Letter mentioned in Article 103-4(A) of the *Standard Specifications*.

NON-EXCLUSIVE CONTRACT:

(6-1-15)

SPD 01-750

The Department may, as it deems to be in the best interest of the state and the Department of Transportation, execute more than one contract based on this proposal. The Contractor(s) understands and agrees, by signature on the Purchase Order Contract Bid Proposal, that this agreement **does not** constitute an exclusive contract. If awarded, the contracts will be executed with the lowest responsible bidders. The Department of Transportation reserves the right to make multiple awards for the services provided by this contract. Furthermore, the Department reserves the right to reject all bids received.

WORK ORDER ASSIGNMENT (MULTIPLE AWARDS) FOR ID/IQ:

(2-15-22)(Rev. 4-19-22)

SPD 01-800B

Work orders will be assigned based on the lowest work order cost for the line items and estimated quantities necessary to complete the work order. Unit prices from each awarded contractor's bid will be used to determine the lowest cost for each work order. The assigned Contractor shall respond to the work order assignment with the anticipated start date, within three working days of notification unless noted otherwise. Failure on the part of the Contractor to reply within the specified time frame may be received as a rejection of the work order. If the Contractor with the lowest work order cost cannot complete the work within the time specified in the assignment, the Engineer may contact the Contractor with the next lowest work order cost. If that Contractor can complete the work within the time specified in the assignment, then the work order will be assigned to that contractor. If not, assignment of work order will continue in order of work order cost until all awarded Contractors have had a chance to accept the terms of the assignment.

For federal ID/IQ contracts, all work orders will be assigned via the Work Order Assignment form (Form IDIQ-1MA), and the Contractor is required to formally respond in writing for federal work orders within three working days, unless noted otherwise. The Work Order Assignment form will also be used for any state ID/IQ contract in which the estimated work order cost meets the

threshold for Performance and Payment Bonds in accordance with the Bonding Requirements for ID/IQ provision found elsewhere in this contract. For state ID/IQ contracts in which the work order assignment doesn't meet the threshold for bonds, the Department has the option to use the Work Order Assignment Form or other methods for work order assignments as agreed upon by the Engineer and Contractor.

The Contractor shall be required to prosecute the work in a continuous and uninterrupted manner from the time they begin the work until completion and final acceptance of the work order. Multiple failures of the Contractor to mobilize and begin work on the work order within the agreed upon time frame or failure to complete the work within the given time frame may result in the Contractor being excluded from future work on this contract in accordance with the *Standard Specifications*.

BASIS OF PAYMENT:

The quantities contained herein are estimated only and the quantity to be paid for shall be the actual quantities which were used on the project.

The Contractor may submit a request for partial payment on a monthly basis, or other interval as approved by the Engineer. Compensation for all pay items shall be in accordance with the Standard Specifications. The amount of partial payments will be based on the work accomplished and accepted as the last day of the approved pay period.

Requests for payment can be made on the form furnished to the Contractor by the Department of Transportation. The form shall be completely and legibly filled out with all appropriate information supplied and shall be signed by an authorized representative of the Contractor.

The invoice for work performed shall be subdivided by worksite location and include at each location of work:

- 1) General location of work site
- 2) Dates worked at location
- 3) Quantity of line items, including Unit of Measurement, per the contract
- 4) Unique location identifier given by the Project Inspector or Engineer. This identifier may be a Work Order Number, Asset Number, 11-digit Route ID number, etc.
- 5) Sub-total of cost at each location of work

If the request for payment is made by Contractor's Invoice, the Invoice shall be submitted in **triplicate to:**

**Mr. David Isenberg
North Carolina Department of Transportation
12033 East Independence Boulevard
Suite 1 Matthews, NC 28105**

All invoice items and unit costs shall correspond to contract pay items. In the event of error or discrepancy in items or unit costs, the Department may return the invoice to the contractor for correction. When the Engineer has determined the quantities submitted for payment by the Contractor are correct, the invoice will be processed for payment. Invoices must be "electronically

scanned" and the image is transmitted to the Purchasing Unit to verify payment. To avoid confusion and delay of payments, the invoice should be positively identified and associated with the Purchase Order by including the Purchase Order Number, an invoice sequence number and the invoice date on the Invoice.

CLAIMS FOR ADDITIONAL COMPENSATION:

The Contractor's attention is directed to the fact that Article 104-5 of the *2018 Standard Specifications* pertaining to revised contract unit prices will not apply to this contract. The Contractor will not be entitled to an adjustment in contract unit price for any item that may underrun or overrun the estimated contract quantities.

PAYMENT AND RETAINAGE:

The Contractor may submit a request for partial payment on a monthly basis, or other interval as approved by the Engineer. The amount of partial payments will be based on the work accomplished and accepted as the last day of the approved pay period. All requests for payment shall be made on the form furnished to the Contractor by the Department of Transportation. The form shall be completely and legibly filled out with all appropriate information supplied and shall be signed by an authorized representative of the Contractor. Disadvantaged Business Enterprise (DBE) participation shall be listed in the appropriate spaces on all requests for payment. If there is no participation the word "None" or the figure "0" shall be entered. An amount equal to five percent (5%) of the total amount due on the partial pay estimate **may** be deducted and retained until after the final inspection. One hundred percent (100%) payment shall be made after successful completion of the work as verified by the final inspection.

PROSECUTION OF WORK:

(7-1-95) (Rev. 8-21-12)

108

SP1 G15R

The Contractor will be required to prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance of the project. The Contractor will not be permitted to suspend his operations except for reasons beyond his control or except where the Engineer has authorized a suspension of the Contractor's operations in writing.

In the event that the Contractor's operations are suspended in violation of the above provisions, the sum of **Five Hundred Dollars (\$500.00)** will be charged to the contractor for each and every calendar day that such suspension takes place. The said amount is hereby agreed upon as liquidated damages due to extra engineering and maintenance costs and due to increased public hazard resulting from a suspension of the work. Liquidated damages chargeable due to suspension of the work will be additional to any liquidated damages that may become chargeable due to failure to complete the work on time.

EXTENSION OF CONTRACT TIME:

Failure on the part of the Contractor to furnish bonds or certifications, or to satisfy preliminary requirements necessary to issue the purchase order will not constitute grounds for extension of the contract time. If the Contractor has fulfilled all preliminary requirements for the issuance of a purchase order, and the purchase order authorization is not available by the date of availability, the Contractor shall be granted an extension equal to the number of calendar days the purchase order authorization is delayed after the date of availability.

NOTIFICATION OF OPERATIONS:

The Contractor shall notify the Engineer 48 hours in advance of beginning work on this project. The Contractor shall give the Engineer sufficient notice of all operations for any sampling, inspection or acceptance testing required.

NIGHT OPERATIONS:

Verification of any city or county permits, required for night work, shall be provided to the Engineer if the contractor wants to work at night. Also, before the contractor begins his operations during night hours, he shall submit in writing, a full and complete plan for traffic control and construction lighting which shall be approved by the engineer prior to construction.

All traffic control devices used outside of closure areas shall meet the requirements for night use as set forth in the North Carolina Department of Transportation Standard Specifications for Roads and Structures, North Carolina Department of Transportation Roadway Standard Drawings, and the current Manual of Uniform Traffic Control Devices (MUTCD).

DRIVEWAYS AND PRIVATE PROPERTY:

The Contractor shall maintain access to driveways for all residents, businesses, and property owners throughout the life of the project.

The Contractor shall not perform work for private citizens or agencies in conjunction with this project or within the project limits of this contract. Any driveway paved by a Contractor which ties into an NCDOT system road being paved by the Contractor must be paved either prior to the road paving project or after its completion.

NO MAJOR CONTRACT ITEMS:

(2-19-02) (Rev. 8-21-07)

104

SP1 G31

None of the items included in this contract will be major items.

NO SPECIALTY ITEMS:

(7-1-95)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *2018 Standard Specifications*).

FUEL PRICE ADJUSTMENT:

(1-3-12)

SP1 G42

No fuel adjustments will be made on this project.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 6-20-23)

108-2

SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. 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>
2024	(7/01/23 - 6/30/24)	80%
2025	(7/01/24 - 6/30/25)	20%

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2018 Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE**(DIVISIONS):**

(10-16-07)(Rev. 8-17-21)

102-15(J)

SP1 G67

Description

The purpose of this Special Provision is to carry out the North Carolina Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with State funds.

Definitions

Additional MBE/WBE Subcontractors - Any MBE/WBE submitted at the time of bid that will not be used to meet the Combined MBE/WBE goal. No submittal of a Letter of Intent is required.

Combined MBE/WBE Goal: A portion of the total contract, expressed as a percentage that is to be performed by committed MBE/WBE subcontractors.

Committed MBE/WBE Subcontractor - Any MBE/WBE submitted at the time of bid that is being used to meet the Combined MBE / WBE goal by submission of a Letter of Intent. Or any MBE or WBE used as a replacement for a previously committed MBE or WBE firm.

Contract Goal Requirement - The approved participation at time of award, but not greater than the advertised Combined MBE/WBE contract goal.

Goal Confirmation Letter - Written documentation from the Department to the bidder confirming the Contractor's approved, committed participation along with a listing of the committed MBE and WBE firms.

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

MBE Participation (Anticipated) - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed MBE subcontractor(s).

Minority Business Enterprise (MBE) - A firm certified as a Disadvantaged Minority-Owned Business Enterprise through the North Carolina Unified Certification Program.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

Replacement / Substitution – A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) MBE/WBE firm.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for MBE/WBE certification. The MBE/WBE program follows the same regulations as the federal Disadvantaged Business Enterprise (DBE) program in accordance with 49 CFR Part 26.

United States Department of Transportation (USDOT) - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

WBE Participation (Anticipated) - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed WBE subcontractor(s).

Women Business Enterprise (WBE) - A firm certified as a Disadvantaged Women-Owned Business Enterprise through the North Carolina Unified Certification Program.

Forms and Websites Referenced in this Provision

Payment Tracking System - On-line system in which the Contractor enters the payments made to MBE and WBE subcontractors who have performed work on the project. <https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all MBE/WBE firms working on the project. This form is for paper bid projects only.

<https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf>

RF-1 *MBE/WBE Replacement Request Form* - Form for replacing a committed MBE or WBE.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf>

SAF *Subcontract Approval Form* - Form required for approval to sublet the contract.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip>

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

Letter of Intent - Form signed by the Contractor and the MBE/WBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed MBE/WBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.
<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of MBE and WBE Subcontractors Form - Form for entering MBE/WBE subcontractors on a project that will meet the Combined MBE/WBE goal. This form is for paper bids only.
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).docx](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).docx)

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where MBEs and WBEs quoted on the project. This sheet is submitted with good faith effort packages.
<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

Combined MBE/WBE Goal

The Combined MBE/WBE Goal for this project is **0.0 %**

The Combined Goal was established utilizing the following anticipated participation for Minority Business Enterprises and Women Business Enterprises:

(A) **Minority Business Enterprises 0.0 %**

- (1) *If the anticipated MBE participation is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that MBEs participate in at least the percent of the contract as set forth above.
- (2) *If the anticipated MBE participation is zero*, the Contractor shall make an effort to recruit and use MBEs during the performance of the contract. Any MBE participation obtained shall be reported to the Department.

(B) Women Business Enterprises **0.0 %**

- (1) *If the anticipated WBE participation is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that WBEs participate in at least the percent of the contract as set forth above.
- (2) *If the anticipated WBE participation is zero*, the Contractor shall make an effort to recruit and use WBEs during the performance of the contract. Any WBE participation obtained shall be reported to the Department.

The Bidder is required to submit only participation to meet the Combined MBE/WBE Goal. The Combined Goal may be met by submitting all MBE participation, all WBE participation, or a combination of MBE and WBE participation.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as MBE and WBE certified shall be used to meet the Combined MBE / WBE goal. The Directory can be found at the following link.
<https://www.ebs.nc.gov/VendorDirectory/default.html>

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

Listing of MBE/WBE Subcontractors

At the time of bid, bidders shall submit all MBE and WBE participation that they anticipate to use during the life of the contract. Only those identified to meet the Combined MBE/WBE goal will be considered committed, even though the listing shall include both committed MBE/WBE subcontractors and additional MBE/WBE subcontractors. Any additional MBE/WBE subcontractor participation above the goal will follow the banking guidelines found elsewhere in this provision. All other additional MBE/WBE subcontractor participation submitted at the time of bid will be used toward the Department's overall race-neutral goals. Only those firms with current MBE and WBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of MBE and WBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of MBE and WBE participation in the appropriate section of the electronic submittal file.

- (1) Submit the names and addresses of MBE and WBE firms identified to participate in the contract. If the bidder uses the updated listing of MBE and WBE firms shown in the electronic submittal file, the bidder may use the dropdown menu to access the name and address of the firms.

- (2) Submit the contract line numbers of work to be performed by each MBE and WBE firm. When no figures or firms are entered, the bidder will be considered to have no MBE or WBE participation.
- (3) The bidder shall be responsible for ensuring that the MBE and WBE are certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the Combined MBE/WBE goal.

(B) Paper Bids

- (1) *If the Combined MBE/ WBE goal is more than zero,*
 - (a) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.
 - (b) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
 - (c) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the Combined MBE/WBE goal.
- (2) *If the Combined MBE/WBE Goal is zero,* entries on the *Listing of MBE and WBE Subcontractors* are not required for the zero goal, however any MBE or WBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

MBE or WBE Prime Contractor

When a certified MBE or WBE firm bids on a contract that contains a Combined MBE/WBE Goal, the firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a MBE or WBE bidder on a contract will meet the Combined MBE/WBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the MBE or WBE bidder and any other similarly certified subcontractors will count toward the goal. The MBE or WBE bidder shall list itself along with any MBE or WBE subcontractors, if any, in order to receive credit toward the goals.

MBE/WBE prime contractors shall also follow Sections A or B listed under *Listing of MBE/WBE Subcontractors* just as a non-MBE/WBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each MBE/WBE that will be used to meet the Combined MBE/WBE goal of the contract, indicating the bidder's commitment to use the MBE/WBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*.

The documentation shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the Combined MBE/WBE goal, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the Combined MBE/WBE goal. If the lack of this participation drops the commitment below the Combined MBE/WBE goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the Engineer no later than 2:00 p.m. of the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Banking MBE/WBE Credit

If the committed MBE/WBE participation submitted exceeds the algebraic sum of the Combined MBE/WBE goal by \$1,000 or more, the excess will be placed on deposit by the Department for future use by the bidder. Separate accounts will be maintained for MBE and WBE participation and these may accumulate for a period not to exceed 24 months.

When the apparent lowest responsive bidder fails to submit sufficient participation by MBE and WBE firms to meet the advertised goal, as part of the good faith effort, the Department will consider allowing the bidder to withdraw funds to meet the Combined MBE/WBE goal as long as there are adequate funds available from the bidder's MBE and WBE bank accounts.

Submission of Good Faith Effort

If the bidder fails to meet or exceed the Combined MBE/WBE goal, the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach that specific goal.

One complete set and 3 copies of this information shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were

solicited. Documentation of MBE/WBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with a Combined MBE/WBE Goal More Than Zero

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goals and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs that are also prequalified subcontractors. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.
- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the Combined MBE/WBE goal will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the advertised goal when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested certified MBEs/WBEs that are also prequalified subcontractors with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D) (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for

the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.

- (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as the advertised goal into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the advertised goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.
- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the advertised goal.

In addition, the Department may take into account the following:

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the Combined MBE/WBE goal.
- (2) The bidders' past performance in meeting the contract goal.
- (3) The performance of other bidders in meeting the advertised goal. For example, when the apparent successful bidder fails to meet the goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the advertised goal, but meets or exceeds the average MBE and WBE participation obtained by other bidders, the Department may view this,

in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the Combined MBE/WBE goal can be met or that an adequate good faith effort has been made to meet the advertised goal.

Non-Good Faith Appeal

The Engineer will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the Engineer. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting MBE/WBE Participation Toward Meeting the Combined MBE/WBE Goal

(A) Participation

The total dollar value of the participation by a committed MBE/WBE will be counted toward the contract goal requirements. The total dollar value of participation by a committed MBE/WBE will be based upon the value of work actually performed by the MBE/WBE and the actual payments to MBE/WBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting MBE/WBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A MBE/WBE may enter into subcontracts. Work that a MBE subcontracts to another MBE firm may be counted toward the anticipated MBE participation. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE/WBE subcontracts to a non-MBE/WBE firm does not count toward the contract goal requirement. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the MBE or WBE participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified firms and there is no interest or availability, and they can get assistance from other certified firms, the Engineer will not hold the prime responsible for meeting the individual MBE or WBE breakdown. If a MBE or WBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the MBE or WBE is not performing a commercially useful function.

(D) Joint Venture

When a MBE or WBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the MBE or WBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the MBE or WBE performs with its forces.

(E) Suppliers

A contractor may count toward its MBE /WBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a MBE or WBE regular dealer and 100 percent of such expenditures from a MBE or WBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its MBE /WBE requirement the following expenditures to MBE/WBE firms that are not manufacturers or regular dealers:

- (1) The fees or commissions charged by a MBE/WBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.
- (2) With respect to materials or supplies purchased from a MBE/WBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) MBE/WBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to MBEs and WBEs that perform a commercially useful function in the work of a contract. A MBE/WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE/WBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a MBE/WBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is

actually performing and the MBE/WBE credit claimed for its performance of the work, and any other relevant factors. If it is determined that a MBE or WBE is not performing a Commercially Useful Function, the contractor may present evidence to rebut this presumption to the Department.

(B) MBE/WBE Utilization in Trucking

The following factors will be used to determine if a MBE or WBE trucking firm is performing a commercially useful function:

- (1) The MBE/WBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting the Combined MBE/WBE goal.
- (2) The MBE/WBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The MBE/WBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The MBE may subcontract the work to another MBE firm, including an owner-operator who is certified as a MBE. The same holds true that a WBE may subcontract the work to another WBE firm, including an owner-operator who is certified as a WBE. When this occurs, the MBE or WBE who subcontracts work receives credit for the total value of the transportation services the subcontracted MBE or WBE provides on the contract. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified transportation service providers and there is no interest or availability, and they can get assistance from other certified providers, the Engineer will not hold the prime responsible for meeting the individual MBE or WBE participation breakdown.
- (5) The MBE/WBE may also subcontract the work to a non-MBE/WBE firm, including from an owner-operator. The MBE/WBE who subcontracts the work to a non-MBE/WBE is entitled to credit for the total value of transportation services provided by the non-MBE/WBE subcontractor not to exceed the value of transportation services provided by MBE/WBE-owned trucks on the contract. Additional participation by non-MBE/WBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the MBE/WBE and the Contractor will not count towards the MBE/WBE contract requirement.
- (6) A MBE/WBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the MBE/WBE has exclusive use of and control over the truck. This requirement does not preclude

the leased truck from working for others during the term of the lease with the consent of the MBE/WBE, so long as the lease gives the MBE/WBE absolute priority for use of the leased truck. This type of lease may count toward the MBE/WBE's credit as long as the driver is under the MBE/WBE's payroll.

- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the MBE/WBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

MBE/WBE Replacement

When a Contractor has relied on a commitment to a MBE or WBE subcontractor (or an approved substitute MBE or WBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE subcontractor for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another MBE/WBE subcontractor, a non-MBE/WBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the MBE/WBE subcontractor, with a copy to the Engineer of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the MBE/WBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the MBE/WBE subcontractor objects to the intended termination/substitution, the MBE/WBE, within five (5) business days must advise the Contractor and the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the MBE/WBE subcontractor.

A committed MBE/WBE subcontractor may only be terminated after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

- (a) The listed MBE/WBE subcontractor fails or refuses to execute a written contract;
- (b) The listed MBE/WBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the MBE/WBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (c) The listed MBE/WBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
- (d) The listed MBE/WBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (e) The listed MBE/WBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- (f) The listed MBE/WBE subcontractor is not a responsible contractor;
- (g) The listed MBE/WBE voluntarily withdraws from the project and provides written notice of withdrawal;
- (h) The listed MBE/WBE is ineligible to receive MBE/WBE credit for the type of work required;

- (i) A MBE/WBE owner dies or becomes disabled with the result that the listed MBE/WBE contractor is unable to complete its work on the contract;
- (j) Other documented good cause that compels the termination of the MBE/WBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a MBE/WBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the MBE/WBE contractor was engaged or so that the prime contractor can substitute another MBE/WBE or non-MBE/WBE contractor after contract award.

The Contractor shall comply with the following for replacement of a committed MBE/WBE:

(A) Performance Related Replacement

When a committed MBE/WBE is terminated for good cause as stated above, an additional MBE/WBE that was submitted at the time of bid may be used to fulfill the MBE/WBE commitment to meet the Combined MBE/WBE Goal. A good faith effort will only be required for removing a committed MBE/WBE if there were no additional MBE/WBEs submitted at the time of bid to cover the same amount of work as the MBE/WBE that was terminated.

If a replacement MBE/WBE is not found that can perform at least the same amount of work as the terminated MBE/WBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to MBE/WBEs that their interest is solicited in contracting the work defaulted by the previous MBE/WBE or in subcontracting other items of work in the contract.
- (2) Efforts to negotiate with MBE/WBEs for specific subbids including, at a minimum:
 - (a) The names, addresses, and telephone numbers of MBE/WBEs who were contacted.
 - (b) A description of the information provided to MBE/WBEs regarding the plans and specifications for portions of the work to be performed.
- (3) A list of reasons why MBE/WBE quotes were not accepted.
- (4) Efforts made to assist the MBE/WBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

(B) Decertification Replacement

- (1) When a committed MBE/WBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.

- (2) When a committed MBE/WBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another MBE/WBE subcontractor to perform at least the same amount of work to meet the Combined MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).
- (3) Exception: If the MBE/WBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement and overall goal.

All requests for replacement of a committed MBE/WBE firm shall be submitted to the Engineer for approval on Form RF-1 (*DBE Replacement Request*). If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

Changes in the Work

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed MBE/WBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a MBE/WBE based upon the Contractor's commitment, the MBE/WBE shall participate in additional work to the same extent as the MBE/WBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed MBE/WBE, the Contractor shall seek participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a MBE/WBE, the Contractor shall seek additional participation by MBEs/WBEs equal to the reduced MBE/WBE participation caused by the changes.

Reports and Documentation

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a MBE/WBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving MBE/WBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning

construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a MBE/WBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for MBE/WBE credit.

Reporting Minority and Women Business Enterprise Participation

The Contractor shall provide the Engineer with an accounting of payments made to all MBE and WBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to MBEs/WBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for further work on future projects until the required information is submitted.

Contractors reporting transportation services provided by non-MBE/WBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments. The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2018 Standard Specifications* may be cause to disqualify the Contractor.

BIDS OVER LIMIT:

(08-01-16)

SPD 01-400

In accordance with GS 136-28.1(b), if the total bid amount of the contract exceeds \$5.0 million, the bid will not be considered for award.

MULTI-YEAR MAINTENANCE CONTRACTS (ID/IQ):

(4-20-21) (Rev. 4-19-22)

SP1 G75

This contract is a multi-year maintenance contract let pursuant to the provisions of N.C. General Statute §136-28.1(b). No minimum quantity of services is guaranteed to be awarded bidders under this contract. In accordance with N.C. General Statute §136-28.1(b), an award in a maintenance contract may be for an amount less but shall not exceed \$5,000,000 per year. No payments in excess of this amount will be disbursed, in accordance with the Statute.

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19)

SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107 *Small UAS Rule*, NC GS 15A-300.2 *Regulation of launch and recovery sites*, NC GS 63-95 *Training required for the operation of unmanned aircraft systems*, NC GS 63-96 *Permit required for commercial operation of unmanned aircraft system*, and NCDOT UAS Policy. The required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, a NC UAS Operator Permit as well as operating a UAS registered with the FAA.

Prior to beginning operations, the Contractor shall complete the NCDOT UAS – Flight Operation Approval Form and submit it to the Engineer for approval. All UAS operations shall be approved by the Engineer prior to beginning the operations.

All contractors or subcontractors operating UAS shall have UAS specific general liability insurance to cover all operations under this contract.

The use of UAS is at the Contractor's discretion. No measurement or payment will be made for the use of UAS. In the event that the Department directs the Contractor to utilize UAS, payment will be in accordance with Article 104-7 Extra Work.

EQUIPMENT IDLING GUIDELINES:

(1-19-21)

107

SP1 G096

Exercise reduced fuel consumption and reduced equipment emissions during the construction of all work associated with this contract. Employees engaged in the construction of this project should turn off vehicles when stopped for more than thirty (30) minutes and off-highway equipment should idle no longer than fifteen (15) consecutive minutes.

These guidelines for turning off vehicles and equipment when idling do not apply to:

1. Idling when queuing.
2. Idling to verify the vehicle is in safe operating condition.

3. Idling for testing, servicing, repairing or diagnostic purposes.
4. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane, mixing concrete, etc.).
5. Idling required to bring the machine system to operating temperature.
6. Emergency vehicles, utility company, construction, and maintenance vehicles where the engines must run to perform needed work.
7. Idling to ensure safe operation of the vehicle.
8. Idling when the propulsion engine is providing auxiliary power for other than heating or air conditioning. (such as hydraulic systems for pavers)
9. When specific traffic, safety, or emergency situations arise.
10. If the ambient temperature is less than 32 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants (e.g. to run the heater).
11. If the ambient temperature is greater than 90 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants of off-highway equipment (e.g. to run the air conditioning) no more than 30 minutes.
12. Diesel powered vehicles may idle for up to 30 minutes to minimize restart problems.

Any vehicle, truck, or equipment in which the primary source of fuel is natural gas or electricity is exempt from the idling limitations set forth in this special provision.

WASTE MATERIAL DISPOSAL:

All construction waste material shall be removed from the project site prior to 100% project completion. All waste disposal shall be in accordance with federal, state and local regulations regarding the disposal of waste material(s). All permit and fees for any such disposal shall be the responsibility of the Contractor, and NCDOT shall not be held liable for any such disposal of material(s).

AWARD LIMITS:

(4-19-22)

103

SP1 G141

Revise the *2018 Standard Specifications* as follows:

Page 1-29, Subarticle 103-4(C), Award Limits, line 4-8, delete and replace the first sentence in the first paragraph with the following:

A bidder who desires to bid on more than one project on which bids are to be opened in the same letting and who desires to avoid receiving an award of more projects than he is equipped to handle, may bid on any number of projects but may limit the total amount of work awarded to him on selected projects by completing the form Award Limits on Multiple Projects for each project subject to the award limit.

OUTSOURCING OUTSIDE THE USA:

(9-21-04) (Rev. 5-16-06)

SP1 G150

All work on consultant contracts, services contracts, and construction contracts shall be performed in the United States of America. No work shall be outsourced outside of the United States of America.

Outsourcing for the purpose of this provision is defined as the practice of subcontracting labor, work, services, staffing, or personnel to entities located outside of the United States.

The North Carolina Secretary of Transportation shall approve exceptions to this provision in writing.

TOLL FACILITY REIMBURSEMENT:

The Contractor, as directed by the engineer, may have to perform concrete and/or joint repair work on toll facilities. The Contractor will be responsible for paying applicable tolls. The Department will **not** directly reimburse the Contractor for tolls paid during performance of the work as they will be considered incidental to the work.

TOLL TRAFFIC COORDINATION:

The Contractor shall keep the Metrolina Regional Transportation Management Center (MRTMC) notified of all activities. The MRTMC can be reached by phone at 980-287-0001, or by email at jdarruda@ncdot.gov

COOPERATION BETWEEN CONTRACTORS:

(7-1-95)

105-7

SP1 G133

The Contractor's attention is directed to Article 105-7 of the *2018 Standard Specifications*.

The Contractor on this project shall cooperate with the Contractor working within or adjacent to the limits of this project to the extent that the work can be carried out to the best advantage of all concerned.

COOPERATION WITH STATE FORCES:

The Department reserves the right at any time for State Forces to perform other or additional work on or near the work covered by this contract. When State Forces perform work within the limits of the project, the Contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by State Forces. The Contractor shall conduct his operation in such a manner as to avoid damaging any work being performed by State Forces, or any work that has been completed by State Forces.

PROJECT SPECIAL PROVISIONS

SCOPE OF WORK:

This contract is for annual needs of Interstate and Bridge Maintenance Concrete Repair at various locations in Division 10. The Contractor will also be responsible for providing necessary Traffic Control. The Contractor shall furnish all labor and materials for the project in accordance with the 2018 *Standard Specifications* and/or Special Provisions herein.

NOTE TO CONTRACTOR

The contractors attention is directed to all items herein that include a lift for bridge repairs will be accommodated by the department via Fully Operated Rental Equipment (FORE) contract.

BURNING RESTRICTIONS:

(7-1-95)

200, 210, 215

SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

EMERGENCY MOBILIZATION FOR ID/IQ:

(2-15-22)

SPD 01-830

The Contractor shall arrive on site within **24** hours of notification. Compensation will be in addition to the specific line items in the contract. *Emergency Mobilization* will be paid for at the contract unit price per each. Failure to respond within the time frame will result in nonpayment of this item.

Payment will be made under:

Pay Item

Emergency Mobilization (24 Hour Response)

Pay Unit

Each

INCIDENTAL ITEMS:

All items necessary to complete the work other than those listed on the "Bid Form" will be considered incidental in nature and no further compensation will be made. Any work performed in an unsatisfactory manner could be basis for cancellation of the contract.

PORTLAND CEMENT CONCRETE PRODUCTION AND DELIVERY:

(9-15-20)

1000, 1014, 1024

SP10 R01

Revise the 2018 *Standard Specifications* as follows:

Page 10-6, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1 REQUIREMENTS FOR CONCRETE											
Class of Concrete	Min. Compressive Strength at 28 days	Maximum Water-Cement Ratio				Consistency Maximum Slump		Cement Content			
		Air-Entrained Concrete		Non-Air- Entrained Concrete		Vibrated	Non- Vibrated	Vibrated		Non-Vibrated	
		Rounded Aggregate	Angular Aggregate	Rounded Aggregate	Angular Aggregate			Min.	Max.	Min.	Max.
		Units	psi					inch	inch	lb/cy	lb/cy
AA	4500	0.381	0.426	---	---	3.5 ^A	---	639	715	---	---
AA Slip Form	4500	0.381	0.426	---	---	1.5	---	639	715	---	---
Drilled Pier	4500	---	---	0.450	0.450	---	5 – 7 dry 7 - 9 wet	---	---	640	800
A	3000	0.488	0.532	0.550	0.594	3.5 ^A	4.0	564	---	602	---
B	2500	0.488	0.567	0.559	0.630	1.5 machine placed 2.5 ^A hand placed	4.0	508	---	545	---
Sand Light- weight	4500	---	0.420	---	---	4.0 ^A	---	715	---	---	---
Latex Modifi- ed	3000 (at 7 days)	0.400	0.400	---	---	6.0	---	658	---	---	---
Flowa- ble Fill excava- table	150 max. (at 56 days)	as needed	as needed	as needed	as needed	---	Flowable	---	---	40	100
Flowa- ble Fill non- excava- table	125	as needed	as needed	as needed	as needed	---	Flowable	---	---	100	as needed
Pavem- ent	4500 Design, field 650 flexural, design only	0.559	0.559	---	---	1.5 slip form 3.0 hand placed	---	526	---	---	---
Precast	See Table 1077-1	as needed	as needed	---	---	6.0	as needed	as needed	as needed	as needed	as needed
Prestre- ssed	per contract	See Table 1078-1	See Table 1078-1	---	---	8.0	---	564	as needed	---	---

A. The slump may be increased to 6 inches, provided the increase in slump is achieved by adding a chemical admixture conforming to Section 1024-3. In no case shall the water-cement ratio on the approved design be exceeded. Concrete exhibiting segregation and/or

excessive bleeding will be rejected. Utilizing an Admixture to modify slump does not relinquish the contractor's responsibility to ensure the final product quality and overall configuration meets design specifications. Caution should be taken when placing these modified mixes on steep grades to prevent unintended changes to the set slope.

MATERIALS FOR PORTLAND CEMENT CONCRETE:

(9-15-20)

1000, 1024

SP10 R24

Revise the *2018 Standard Specifications* as follows:

Page 10-52, Article 1024-4, WATER, lines 3-4, delete the first sentence and replace with the following:

Test water from wells at all locations. Test public water supplies from all out of state locations and in the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrell and Washington unless the Engineer waives the testing requirements.

Page 10-52, Table 1024-2, PHYSICAL PROPERTIES OF WATER, replace with the following:

Property	Requirement	Test Method
Compression Strength, minimum percent of control at 3 and 7 days	90%	ASTM C1602
Time of set, deviation from control	From 1:00 hr. earlier to 1:30 hr. later	ASTM C1602
pH	4.5 to 8.5	ASTM D1293 *
Chloride Ion Content, Max.	250 ppm	ASTM D512 *
Total Solids Content (Residue), Max.	1,000 ppm	SM 2540B *
Resistivity, Min.	0.500 kohm-cm	ASTM D1125 *

*Denotes an alternate method is acceptable. Test method used shall be referenced in the test report.

SEALING EXISTING PAVEMENT CRACKS (POLYMER PATCH):

(5-4-07)(Rev 5-19-09)

SPD 7-200

Description

The Contractor shall prepare and clean cracks in failing concrete and shall place Polypatch, Fibrescreed, Fibrecrete or approved equal in areas designated by the Engineer. **Proper placement shall be performed as described by the manufacturer and material shall be approved by the Engineer prior to placement. for any material to be placed, the Contractor shall provide five (5) copies of the manufacturer's installation instructions to the Engineer. A pre-installation meeting with field personnel may be required by the Engineer prior to the initial installation of each material.**

All materials shall be delivered unopened in their original containers bearing the manufacturer's label, specifying date of manufacture, batch number, trade name brand, and quantity.

Sufficient material to perform the entire crack or spall repair application shall be in storage on site or at the Contractors facility prior to any field preparation.

Stored materials may be inspected prior to their use and shall meet the requirements of these Special Provisions.

Any material which is rejected because of failure to meet the required tests or material that has been damaged so as to cause rejection, shall be immediately replaced by the Contractor at no additional cost to the Department.

Each shipment of Polypatch, Fibrescreed, Fibrecrete or approved equal that meets the Specifications shall be accompanied by Safety Data Sheets (SDS) and a Certificate of Compliance certifying that the materials conform to the requirements of these Special Provisions.

Materials

All materials shall meet the specifications as approved by the Engineer prior to use.

Property	Requirement
Specific Gravity	1.8
Application Temperature (degrees)	350°F to 392°F
Application Thickness	400 mils plus
Curing Time	10 – 40 minutes
Shelf Life	unlimited
Flash Point	446°F

Construction Methods

The Contractor shall prepare areas by removing any loose debris using a pavement breaker and/or a mechanical planer, and other methods as directed by the Engineer. When using a planer, the surface shall be milled out to a width and depth as directed by the Engineer. The recess shall then be cleaned and dried using hot compressed air to thoroughly prepare the surface, removing all debris and loose material.

Use a concentrated hot air jet with a minimum temperature of 300°F in and a minimum air jet blasting force of 3,000 feet per second. Polypatch, Fibrescreed, Fibrecrete or approved equal shall be immediately poured or screeded to fill the recess, with edges overlapped by 2 inches. While the compound is still molten, a preheated high P.S.V. aggregate shall be applied and then compacted to ensure that the finished repair is flush with the surrounding surface.

When repairing pot holes deeper than 2 inches, that are not adjacent to or spanning the edge of pavement joints or cracks, the Contractor shall include 1/2 to one inch sized washed aggregate at the rate of no more than 50% of volume as directed by the Engineer. Then complete repair as previously stated.

Measurement and Payment

Sealing Existing Pavement Cracks will be measured and paid as the actual number of pounds of material that has been satisfactorily applied and accepted.

Any material that has been spilled, used in excessive overbanding, wasted, misapplied, or unsatisfactorily used in any way will be deducted in determining quantities for payment. The Engineer will determine the quantity, if any, to be deducted. The Engineer's decision on the quantity to be deducted will be final and binding. The above price and payment will be full compensation for all work required to seal the pavement cracks including but not limited to furnishing, hauling, loading and unloading, and storage of all sealant materials, cleaning and preparation of cracks, application of sealant material, clean-up and any incidentals necessary to satisfactorily complete the work.

Payment will be made under:

Pay Item	Pay Unit
Sealing Existing Pavement Cracks and Spalls, Polymer Patch	Pound

SEALING EXISTING PAVEMENT CRACKS:

Description

The work covered by this provision consists of sealing existing longitudinal and transverse pavement cracks with Sealant Type 2, PS/AR (hot-poured rubber asphalt) at locations as directed by the Engineer. All existing pavement cracks will be cleaned using a hot compressed air lance and sealed with hot-poured rubber asphalt per Section 657 of the *2018 Standard Specifications for Roads and Structures*.

The Sealant Type 2, PS/AR (hot-poured rubber asphalt) shall meet the requirements of Article 1028-2 of the *2018 Standard Specifications for Roads and Structures*.

For cracks and joints open $\frac{3}{4}$ " or larger the Contractor should install a backer rod prior to sealing with hot-poured rubber asphalt. The backer rod should be installed as soon as possible after airblasting, should be compatible with the sealant material in use and approved by the sealant manufacturer and should be about 25 percent larger in diameter than the joint width. The backer rod should be installed to the proper depth, with no gaps and stretched as little as possible to reduce the likelihood of shrinkage.

Sealing Existing Pavement Cracks and Joints (Without Router or Diamond Saw) and *Sealing Existing Pavement Cracks and Joints (With Router or Diamond Saw)* will be paid for at the contract unit price per pound. The amount of sealant material to be paid for will be the actual number of pounds of material that have been satisfactorily used to seal pavement cracks in the designated highway. Any material that has been spilled, used in excessive overbanding, wasted, misapplied, or unsatisfactorily used in any way will be deducted in determining quantities for payment. The Engineer will determine the quantity, if any, to be deducted. The Engineer's decision on the quantity to be deducted will be final and binding. The above price will be full compensation for all work required to seal the pavement cracks including but not limited to furnishing, hauling, loading and unloading, and storage of all sealant materials; cleaning and

preparation of cracks to be sealed; application of sealant material in the prepared cracks; any clean up; and any incidentals necessary to satisfactorily complete the work.

Backer Rod will be considered incidental and no direct payment will be made.

Pay Item	Pay Unit
Sealing Existing Pavement Cracks and Joints (Without Router or Diamond Saw)	Pound
Sealing Existing Pavement Cracks and Joints (With Router and Diamond Saw)	Pound

REMOVAL OF EXISTING CONCRETE PAVEMENT SLABS:

Description:

The work covered by these provisions consists of removing existing concrete pavement slabs or partial slabs in accordance with the detail in the plans at locations as directed by the Engineer. The slab removal shall be performed in a manner to minimize damage to the adjacent slabs and underlying base material.

Materials:

- Select Material, Class IV.....Section 1016
- Geotextile for Soil Stabilization, Type 4.....Section 1056

Construction:

The extent of slab removal shall be as directed by the Engineer, but in no case shall the minimum length of partial slabs, measured parallel to the centerline be less than 10 feet. Also with a partial slab removal, a minimum length of 10 feet of the existing slab shall be retained; otherwise, the entire slab shall be removed.

The slab or partial slab to be removed shall be sawed full depth on its sides adjacent to existing slabs, including existing transverse and longitudinal joints where applicable. When necessary to prevent shoulder damage, an additional cut shall be made in the adjacent shoulder joint. The defective slab shall be removed in a minimum of three (3) sections, with the middle section removed first in a manner to minimize damage of the adjacent slabs.

All existing unitube material, existing joint material, and debris shall be removed from the existing transverse and longitudinal joints, which are exposed by the slab removal before the slab is replaced. The existing plant mix material or existing ABC under the slab shall be removed as part of the slab removal. All loose underlying base material, earth material and/or subseal grout shall be undercut to sound well compacted base. This material will be considered undercut excavation.

The Contractor shall place Geotextile for Soil Stabilization and Select Material, Class IV in undercut areas. Where the required thickness of Select Material, Class IV is 12” or less, the material may be spread and compacted in one layer. Where the required compacted thickness is more than 12”, spread the material in 2 or more approximately equal layers. Compact select material to 92% of AASHTO T180 as modified by the Department or to the highest density that can be reasonably obtained.

The Contractor shall place B25.0C or ABC (to match existing conditions) and high early strength concrete pavement or asphalt base course in areas where the slab was removed, as directed by the

Engineer. If using concrete pavement, join the proposed concrete pavement to the existing concrete pavement in accordance with Standard Drawing No. 700.05.

The Contractor may develop and submit an alternate method of slab removal for approval by the Engineer, which satisfactorily avoids damage to the adjacent slabs and underlying base material.

Measurement

The quantity of pavement removal, full slab or partial slab, will be the actual number of square yards removed and disposed of. The quantity will be determined by actual surface measurement of pavement prior to its removal.

Basis of Payment

The quantity of pavement removal (including concrete slab and plant mix or ABC) measured as provided above will be paid for at the contract unit price per square yard for "Removal of Existing Concrete Pavement Slabs."

Select Material, Class IV will be measured and paid for at the contract unit price per ton and will be the actual number of tons of select material that has been incorporated into the completed and accepted work. The material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Section 270 of the *2018 Standard Specifications for Roads and Structures*.

Undercut excavation will be measured and paid for in accordance with Section 225 of the *2018 Standard Specifications for Roads and Structures*.

The Portland Cement Concrete Pavement Through Lanes (With Dowels) will be measured and paid for in accordance with Section 710 of the *2018 Standard Specifications for Roads and Structures*.

The Asphalt Concrete Base Course, Type B25.0C will be paid as the actual number of tons of asphalt plant mix, complete in place. The asphalt plant mixed material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices.

The Aggregate Base Course will be measured and paid for in accordance with Section 520 of the *2018 Standard Specifications for Roads and Structures*.

This price and payment will be full compensation for all work covered by this provision for furnishing all labor, materials, tools, equipment, sawing, removal and satisfactory disposal of the concrete, any underlying base material and/or subseal grout as directed.

Payment will be made under:

Pay Item	Pay Unit
Removal of Existing Concrete Pavement Slabs	Square Yard
Undercut Excavation	Cubic Yard
Geotextile for Soil Stabilization	Square Yard
Select Material, Class IV	Ton
Portland Cement Concrete Pavement Through Lanes (with Dowels)	Square Yard

Aggregate Base Course

Ton

TYING PROPOSED CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT:

Tie proposed concrete pavement on this project to existing concrete pavement using existing dowels. If the existing dowels are damaged, replace them in accordance with the following provision:

- A) Drill holes in the existing concrete pavement 1/8" greater than the diameter of the dowel bar. After drilling, blow the hole out with air and allow to dry.
- B) Next, place the cement grout or epoxy resin in the back of the dowel hole. The placement of grout can be achieved by using a flexible tube with a long nose that places the material in the back of the dowel hole; the placement of epoxy-type materials can be achieved by using a cartridge with a long nozzle that dispenses the material to the rear of the dowel hole.
- C) Insert the dowel into the hole with a slight twisting motion so that the material in the back of the hole is forced up and around the dowel bar to ensure a uniform coating of the anchoring material over the dowel bar.
- D) Place a thin nylon or plastic grout retention disk of at least 1/16" thickness manufactured to slip tightly over the dowel and against the slab face to prevent the anchoring material from flowing out of the hole, and to create an effective face at the entrance of the dowel hole.

No direct payment will be made for this work as such work will be included in the contract unit price for the concrete pavement being constructed.

VERY HIGH EARLY STRENGTH CONCRETE FOR CONCRETE PAVEMENT REPAIR:

(3-21-07)

SPI 7-10

Submit mix designs for Very High Early Strength Concrete for Concrete Pavement Repair in terms of saturated surface dry weights on M & T Form 312U for acceptance at least 30 days before proposed use.

Use a mix sufficient to obtain at least a flexural strength of 400 psi at 4 hours. Entrain 5 % ± 1.5% air in the freshly mixed concrete. Produce the mix with a maximum slump of 1.5" for placement by a fully mechanized paving train and a maximum slump of 3" for hand placement.

Use cement, fine aggregate, coarse aggregate, admixtures and, optionally, pozzolan as shown on the Department's approved list.

Submit 4 hour flexural strength results of at least 6 beams made and tested in accordance with AASHTO T126 and T97 with M & T Form 312U. In addition, submit 4 hour compressive strength results of at least six 4" by 8" or 6" by 12" cylinders and maturity test results of the mix. With permission of the Engineer, compressive strength testing and maturity testing may be used in lieu of or concurrent with flexural strength testing to determine the acceptability of the concrete in the field.

Design and produce the mix in accordance with BASF Chemical Company's 4 x 4 Concrete system or a comparable proprietary system. The timing of the addition of hydration control admixtures is critical to the performance of this concrete; therefore, an admixture representative shall be present on the job when Very High Early Strength Concrete is batched.

EPOXY RESIN INJECTION:

(12-5-12)

General

For repairing cracks, an approved applicator is required to perform the epoxy resin injection. Make certain the supervisor and the workmen have completed an instruction program in the methods of restoring concrete structures utilizing the epoxy injection process and have a record of satisfactory performance on similar projects.

The applicator furnishes all materials, tools, equipment, appliances, labor and supervision required when repairing cracks with the injection of an epoxy resin adhesive.

Scope of Work

Using Epoxy Resin Injection, repair all cracks 5 mils (125 μm) wide or greater on the deck and barrier, as directed by the Engineer.

Cooperation

Cooperate and coordinate with the Technical Representative of the epoxy resin manufacturer for satisfactory performance of the work.

Have the Technical Representative present when the job begins and until the Engineer is assured that his service is no longer needed.

The expense of having this representative on the job is the Contractor's responsibility and no direct payment will be made for this expense.

Testing

The North Carolina Department of Transportation Materials and Tests Unit will obtain cores from the repaired concrete for testing. If the failure plane is located at the repaired crack, a minimum compressive strength of 3000 psi is required of these cores.

Material Properties

Provide a two-component structural epoxy adhesive for injection into cracks or other voids. Provide modified epoxy resin (Component "A") that conforms to the following requirements:

	Test Method	Specification Requirements
Viscosity @ 40 \pm 3°F, cps	Brookfield RVT Spindle No. 4 @ 20 rpm	6000 - 8000
Viscosity @ 77 \pm 3°F, cps	Brookfield RVT Spindle No. 2 @ 20 rpm	400 - 700
Epoxide Equivalent Weight	ASTM D1652	152 - 168
Ash Content, %	ASTM D482	1 max.

Provide the amine curing agent (Component "B") used with the epoxy resin that meets the following requirements:

Test Method	Specification Requirements
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Viscosity @ 40 ± 3°F, cps	Brookfield RVT Spindle No. 2 @ 20 rpm	700 - 1400
Viscosity @ 77 ± 3°F, cps	Brookfield RVT Spindle No. 2 @ 20 rpm	105 - 240
Amine Value, mg KOH/g	ASTM D664*	490 - 560
Ash Content, %	ASTM D482	1 max.
* Method modified to use perchloric acid in acetic acid.		

Certify that the Uncured Adhesive, when mixed in the mix ratio that the material supplier specifies, has the following properties:

Pot Life (60 gram mass)

@ 77 ± 3°F - 15 minutes minimum

@ 100 ± 3°F - 5 minutes minimum

Certify that the Adhesive, when cured for 7 days at 77 ± 3°F unless otherwise specified, has the following properties:

	Test Method	Specification Requirements
Ultimate Tensile Strength	ASTM D638	7000 psi (min.)
Tensile Elongation at Break	ASTM D638	4% max.
Flexural Strength	ASTM D790	10,000 psi (min.)
Flexural Modulus	ASTM D790	3.5 x 10 ⁵ psi
Compressive Yield Strength	ASTM D695	11,000 psi (min.)
Compressive Modulus	ASTM D695	2.0 - 3.5 x 10 ⁵ psi
Heat Deflection Temperature Cured 28 days @ 77 ± 3°F	ASTM D648*	125°F min. 135°F min.
Slant Shear Strength, 5000 psi (34.5 MPa) compressive strength concrete Cured 3 days @ 40°F wet concrete Cured 7 days @ 40°F wet concrete Cured 1 day @ 77°F dry concrete	AASHTO T237	3500 psi (min.) 4000 psi (min.) 5000 psi (min.)
* Cure test specimens so that the peak exothermic temperature of the adhesive does not exceed 77°F.		

Use an epoxy bonding agent, as specified for epoxy mortar, as the surface seal (used to confine the epoxy resin during injection).

Equipment for Injection

Use portable positive displacement type pumps with interlock to provide positive ratio control of exact proportions of the two components at the nozzle to meter and mix the two injection adhesive components and inject the mixed adhesive into the crack. Use electric or air powered pumps that provide in-line metering and mixing.

Use injection equipment with automatic pressure control capable of discharging the mixed adhesive at any pre-set pressure up to 200 ± 5 psi and equipped with a manual pressure control override.

Use equipment capable of maintaining the volume ratio for the injection adhesive as prescribed by the manufacturer. A tolerance of ± 5% by volume at any discharge pressure up to 200 psi is permitted.

Provide injection equipment with sensors on both the Component A and B reservoirs that automatically stop the machine when only one component is being pumped to the mixing head.

Preparation

Follow these steps prior to injecting the epoxy resin:

Remove all dirt, dust, grease, oil, efflorescence and other foreign matter detrimental to the bond of the epoxy injection surface seal system from the surfaces adjacent to the cracks or other areas of application. Acids and corrosives are not permitted.

Provide entry ports along the crack at intervals not less than the thickness of the concrete at that location.

Apply surface seal material to the face of the crack between the entry ports. For through cracks, apply surface seal to both faces.

Allow enough time for the surface seal material to gain adequate strength before proceeding with the injection.

Epoxy Injection

Begin epoxy adhesive injection in vertical cracks at the lower entry port and continue until the epoxy adhesive appears at the next higher entry port adjacent to the entry port being pumped.

Begin epoxy adhesive injection in horizontal cracks at one end of the crack and continue as long as the injection equipment meter indicates adhesive is being dispensed or until adhesive shows at the next entry port.

When epoxy adhesive appears at the next adjacent port, stop the current injection and transfer the epoxy injection to the next adjacent port where epoxy adhesive appeared.

Perform epoxy adhesive injection continuously until cracks are completely filled.

If port to port travel of epoxy adhesive is not indicated, immediately stop the work and notify the Engineer.

Finishing

When cracks are completely filled, allow the epoxy adhesive to cure for sufficient time to allow the removal of the surface seal without any draining or runback of epoxy material from the cracks.

Remove the surface seal material and injection adhesive runs or spills from concrete surfaces.

Finish the face of the crack flush to the adjacent concrete, removing any indentations or protrusions caused by the placement of entry ports.

Measurement and Payment

Payment for epoxy resin injection will be at the contract unit price per linear foot for "Epoxy Resin Injection". Such payment will be full compensation for all materials, tools, equipment, labor, and for all incidentals necessary to complete the work.

Payment will be made under:

Pay Item

Epoxy Resin Injection

Pay Unit

Linear Feet

CONCRETE DECK/SPALL REPAIR:

Description

This work consists of concrete deck repairs and/or spall repairs as designated by the Engineer. The Engineer will sound the areas of repair and locate and mark areas to be repaired using a chain drag or other acceptable means.

Materials

Concrete repair material shall be approved for use by the NCDOT for concrete repair. The Contractor shall submit the proposed repair material and schedule of repairs to the Engineer for approval prior to beginning the work.

Construction Methods

Class I Surface Preparation (Partial Depth): Remove by chipping with hand tools all loose, unsound and contaminated concrete and in areas where reinforcing steel is exposed by removing deck to an average depth of ½ inch below the top mat of reinforcing steel. Dispose of the removed concrete, clean, repair or replace rusted or loose reinforcing steel, and thoroughly clean the newly exposed surface.

Care shall be taken not to cut, stretch, or damage any exposed reinforcing steel.

Class II Surface Preparation (Partial Depth): Remove by chipping with hand tools all loose, unsound and contaminated deck concrete to an average depth of approximately one-half the deck thickness, but no less than ¾ inch below the top mat of steel. In areas where the entire perimeter of the reinforcing steel bar is exposed, chip or use hand-held high velocity water-jet equipment to provide a minimum depth of ¾ inch below the bar. Dispose of the removed concrete, clean, repair or replace rusted or loose reinforcing steel, and thoroughly clean the newly exposed surface.

Care shall be taken not to cut, stretch, or damage any exposed reinforcing steel.

In overhangs, removing concrete areas of less than 0.60 ft²/ft length of bridge without overhang support is permitted unless the Engineer directs otherwise. Overhang support is required for areas removed greater than 0.60 ft²/ft length of bridge. Submit details of overhang support to the Engineer for approval prior to beginning the work.

Class III Surface Preparation (Full Depth): Remove by chipping with hand tools all loose, unsound and contaminated deck concrete to the full slab depth. Thoroughly clean the routed out areas and dispose of concrete removed and clean, repair, or replace reinforcing bars.

For areas of less than 3 ft² suspending forms from existing reinforcing steel using wire ties is permitted. For larger areas, support forms by blocking from the beam flanges, or other approved method.

Overhang support is required for full depth removal adjacent to bridge rails. Submit details of overhang support to the Engineer for approval prior to beginning the work.

Under Deck Containment: Under deck containment shall be installed under areas of the bridge deck where Class III surface preparation occurs. The containment shall be installed prior to hydro-demolition in the areas indicated on the plans and in any other areas where blow thru or full depth removal occurs during surface preparation.

Submit for approval detailed plans for under deck containment. Detail how waste, debris, and wastewater are kept from falling below.

Concrete: Furnish Department approved pre-packaged concrete or bulk concrete materials in a mix proportioned to satisfy provisions for Class AA Concrete detailed in Section 1000-4 of the *Standard Specifications* or as otherwise noted in these provisions. Concrete mix shall meet the following requirements

Physical Property	Threshold Limitation	Test Method
Compressive Strength (at 3 hrs.)	4500 psi (min.)	ASTM C39/C109
Slump	4 in. (min.) 7 in. (max.)	AASHTO T119
Water to Cement Ratio	0.450 (max.)	N/A
Modulus of Elasticity (at 28 days)	5200 ksi (max.)	ASTM C469
Coefficient of Thermal Expansion (at 28 days)	4.5 in./in./°F (min.) 5.5 in./in./°F (max.)	AASHTO T336
Concrete Setting Times Initial Final	30 min. (max.) 40 min. (max)	ASTM C191

Concrete shall be capable of placement on existing concrete substrate surfaces within the following temperature limitations:

40° F (min.)

100° F (max.)

Measurement for determination of concrete material compositions shall be in accordance with Section 1000-8 of the *Standard Specifications*.

Submit pre-packaged concrete mix contents or concrete mix design, including laboratory compressive strength data, for a minimum of six 4-inch by 8-inch cylinders at an age of 3 hours and 1 day to the Engineer for review. Include test results for the slump and air content of the laboratory mix. Perform tests in accordance with AASHTO T119 and T152.

Provide aggregates that are free from ice, frost and frozen particles when introduced into the mixer.

For equipment, proportioning and mixing of concrete compositions, see Section 1000-12 of the *Standard Specifications* and the Special Provision entitled "Volumetric Mixer". Prior to beginning any work, obtain approval for all equipment to be used for joint area preparation, mixing, placing, finishing, and curing the deck repair concrete.

Surface Preparation:

Handheld water blasting equipment, pneumatic hammers, and hand tools may be used for the removal operation.

The Engineer will re-inspect after each removal and require additional removals until unsound concrete has been removed.

Regardless of the method of removal, the removal operation shall be stopped if it is determined that sound concrete is being removed. Appropriate recalibration, or change in equipment and methods shall be performed prior to resuming the removal operation.

The Contractor shall take all steps necessary to prevent cutting or otherwise damaging existing steel designated to remain in place. Any such bars damaged (nicks deeper than 20% of the bar diameter) by the Contractor's operation shall be repaired or replaced. Defects in embedded reinforcing steel due to corrosion, which has reduced the cross sectional area of the steel by 25% or greater, shall have new reinforcing steel of similar cross section area lap-spliced to each side of the damaged area. Reinforcing bars shall be Grade 60 and meet the material requirements of Section 1070 of the Standard Specifications. Replacement bars shall be spliced to existing bars using either minimum 30 bar diameter lap splices or approved mechanical connectors.

The removal area shall be thoroughly cleaned of all dirt, foreign materials and loose concrete to the extent necessary to produce a firm solid surface for adherence of new concrete.

Removal of concrete debris shall be accomplished either by hand or by mechanical means capable of removing debris. All concrete debris shall become the property of the Contractor and shall be legally disposed of at the contractor's expense. The contractor shall be responsible for disposing of all debris generated by the scarification operations.

The Contractor will not be permitted to allow material to fall from the deck when working on bridges.

Measurement and Payment

Class I Concrete Deck/Spall Repair will be measured and paid for in square feet for the appropriate areas so prepared. The cost for concrete repair including, but not limited to, materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price per square foot.

Class II Concrete Deck/Spall Repair will be measured and paid for in square feet for the appropriate areas so prepared. The cost for concrete repair including, but not limited to, materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price per square foot.

Class III Concrete Deck/Spall Repair will be measured and paid for in square feet for the appropriate areas so prepared. The cost for concrete repair including, but not limited to, materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price per square foot.

Payment will be made under:

Pay Item

Class I Concrete Deck/Spall Repair
Class II Concrete Deck/Spall Repair
Class III Concrete Deck/Spall Repair

Pay Unit

Square Foot
Square Foot
Square Foot

CONCRETE REPAIR

Description

Work includes removal of concrete in spalled, delaminated and/or cracked areas of the existing bent caps, bent columns, underside of bridge decks, deck slabs, girders, and bridge rails in reasonably close conformity with the lines, depth, and details shown on the plans, described herein and as established by the Engineer. This work also includes straightening, cleaning, and replacement of reinforcing steel, doweling new reinforcing steel, removing all loose materials, removing and disposing of debris, formwork, applying repair material, and protecting adjacent areas of the bridge and environment from material leakage. The repair material shall be one of the materials described in this Special Provision, unless otherwise noted in the plans or special provisions.

The location and extent of repairs shown on the plans described herein are general in nature. The Engineer shall determine the extent of removal in the field based on an evaluation of the condition of the exposed surfaces. The Contractor shall coordinate removal operations with the Engineer. No more than 30% of a round or square column or 30% of the bearing area under a beam shall be removed without a temporary support system and approval from the Engineer.

Repair, to the Engineer's satisfaction, any portion of the structure that is damaged from construction operations. No extra payment is provided for these repairs.

Surface Preparation

Adhere to the following surface preparation requirements or the repair material manufacturer's requirements, whichever is more stringent.

Prior to starting the repair operation, delineate all surfaces and areas assumed to be deteriorated by visually examining and sounding the concrete surface with a hammer or other approved method. The Engineer is the sole judge in determining the limits of deterioration.

Prior to concrete removal, introduce a shallow saw cut, ½" in depth, around the repair area at right angles to the concrete surface. Sawcut should be located a minimum 2" beyond the perimeter of the deteriorated concrete area to be repaired. Remove all concrete within the sawcut to a minimum depth of ½". If concrete removal exposes reinforcing steel, remove all deteriorated concrete 1" below the reinforcing steel with a 17 lb (maximum) pneumatic hammer, with points that do not exceed the width of the shank, or with hand picks or chisels, as directed by the Engineer. Do not cut or remove the existing reinforcing steel. Unless specifically directed by the Engineer, do not remove concrete deeper than 1" below the reinforcing steel.

Abrasive blast all exposed concrete surfaces and existing reinforcing steel in repair areas to remove all debris, loose concrete, loose mortar, rust, scale, etc. After blasting, examine the reinforcing steel to ensure at least 90% of the original diameter remains. If there is more than 10% reduction in the rebar diameter, splice in and securely tie supplemental reinforcing bars as directed by the Engineer. This might require additional removal of concrete, in order to achieve an appropriate splice length of the reinforcing steel.

Thoroughly clean the repair area of all dirt, grease, oil, or foreign matter, and remove all loose or weakened material by abrasive blasting before applying concrete repair material. Acid etch with 15% hydrochloric acid, only if approved by the Engineer. Follow acid etching by scrubbing and flushing with copious amounts of clean water. Check the cleaning using moist pH paper. Water cleaning is complete when the paper reads ten (10) or higher.

Follow all abrasive blasting with vacuum cleaning.

The time between removal of deteriorated concrete and applying concrete repair material shall not exceed 72 hours. If the time allowance exceeds 72 hours, prepare the surface at the direction of the Engineer before applying concrete repair material.

Application and Surface Finish

Apply repair material to damp surfaces only when allowed by repair material recommendations and approved by the Engineer. Prepare damp surfaces in accordance with the *Standard Specifications* and/ or repair material manufacturer's recommendations. Use a blowpipe to facilitate removal of free surface water. Only oil-free compressed air is to be used in the blowpipe.

When surface preparation is completed, mix and apply repair material in accordance with the *Standard Specifications* and/ or repair material manufacturer's recommendations.

Use aggregate that is washed, kiln-dried, and bagged. Maximum size of aggregate shall not exceed 2/3 of the minimum depth of the repair area, or 3/4 of the depth of excavation behind the reinforcing steel, whichever is smaller.

Unless otherwise required by the repair material manufacturer, apply bonding agent to all repair areas immediately prior to placing repair material.

Repair areas shall be formed unless otherwise approved by the Engineer. Form and finish all repaired areas, including chamfered edges, as close as practicable to their original "As Built" dimensions and configuration. After applying the repair material, remove excessive material and provide a smooth, flush surface, unless directed otherwise.

Cure finished Class A concrete repair material by maintaining 95% relative humidity at the repair and surrounding areas by fogging, moist curing, or other approved means for seven (7) days. Cure polymer modified concrete repair material in accordance with manufacturer's recommendations.

Repair Material Options

(A) Polymer Modified Concrete Repair Material

Repair material shall be polymer modified cement mortar for vertical or overhead applications and shall be suitable for applications in marine environments. Material shall be approved for use by NCDOT. Submit repair material to the Engineer for review and approval prior to beginning the work. Color of repair material shall be concrete gray.

(B) Class A Concrete Repair Material

Repair material shall be Class A Portland Cement Concrete as described in Article 1000-4 of the *Standard Specifications*.

Temporary Work Platform

Prior to beginning any repair work, provide details for a sufficiently sized temporary work platform at each repair location. Design steel members to meet the requirements of the *American Institute of Steel Construction Manual*. Design timber members in accordance with the *National Design Specification for Stress-Grade Lumber and Its Fastenings* of the National Forest Products Association. Submit the platform design and plans for review and approval. The design and plans shall be sealed and signed by a North Carolina registered Professional Engineer. Do not install the platform until the design and plans are approved. Drilling holes in the superstructure for the purpose of attaching the platform is prohibited. Upon completion of work, remove all anchorages in the substructure and repair the substructure at no additional cost to the Department.

Measurement And Payment

Concrete Repair 0.5 to 2 CF, 2.1 to 5 CF, 5.1 to 10 CF and over 10 CF will be measured and paid for at the contract unit price bid per cubic foot and will be full compensation for removal, containment and disposal off-site of unsound concrete including the cost of materials, reinforcing steel, labor, tools, equipment and incidentals necessary to complete the repair work. Depth will be measured from the original outside concrete face. The Contractor and Engineer will measure quantities after removal of unsound concrete and before application of repair material. Payment will also include the cost of abrasive blasting, surface cleaning and preparation, blast cleaning of reinforcing steel, placement of new reinforcing steel, cost of temporary work platform, testing of the soundness of the exposed concrete surface, furnishing and installation of repair mortar material, curing and sampling of concrete, and protection/cleaning of adjacent areas from splatter or leakage.

Reinforcing Steel that is required for the repairs will be in accordance with Section 425 of the *Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
Concrete Repair 0.5 to 2 CF	Cubic Foot
Concrete Repair 2.1 to 5 CF	Cubic Foot
Concrete Repair 5.1 to 10 CF	Cubic Foot
Concrete Repair over 10 CF	Cubic Foot

SILICONE EXPANSION JOINT REPLACEMENT:

Description

The contractor shall remove the existing expansion joint, clean the area in accordance with the manufacturer's recommendations, and place the silicone expansion joint in accordance with the manufacturer's recommendations. The expansion joint shall be replaced with the materials stated in this contract.

Prior to work starting and after work is completed all concrete or elastomeric concrete edges, at the joint opening, shall be inspected for spall, cracks and any irregularities. Locations identified with spalls, cracks and any irregularities shall be corrected. All joint openings shall have a completed edge that is true and parallel with the adjacent edge, this will include but not limited to "track saw cutting" to establish this edge.

- Clean the joints by sandblasting with clean dry sand immediately before placing the bonding agent. Sandblast the joint opening to provide a firm, clean joint surface free of curing compound, loose material and any foreign matter. Sandblast the joint opening without causing pitting or uneven surfaces. The aggregate in the elastomeric concrete bay be exposed after sandblasting.
- After blasting, either brush the surface with clean brushes made of hair, bristle or fiber, blow the surface with compressed air, or vacuum the surface until all traces of blast products and abrasives are removed from the surface, pockets and corners.
- If nozzle blasting is used to clean the joint opening, use compressed air that does not contain detrimental amounts of water or oil.

Materials

All materials shall be delivered unopened in their original containers bearing the manufacturer's label, date of manufacture, batch number, trade name brand, and quantity. Sufficient material to perform the entire expansion joint shall be "on hand" prior to removing the existing expansion joint. Stored materials may be inspected prior to their use and shall meet the requirements of these provisions. Each shipment of repair material shall be accompanied by Material Safety Data Sheets (MSDS) and a certificate of compliance certifying that the materials conform to the requirements of these provisions.

The repair material shall be one of the following approved products:

- For bridge joints and openings that are predominantly horizontal, the Contractor shall utilize a self-leveling, non-shrink silicone product designed for this application (Dow 902, for example) that is on the Department's approved product list or authorized by the Engineer.
- For bridge joints and openings that are other than predominantly horizontal, the Contractor shall utilize a silicone product designed for vertical or overhead applications (Dow 888, for example) that is on the Department's approved product list or authorized by the Engineer.

Product cure time is essential for this application. The Contractor shall ensure that the product is tack free and adequately bonded to the base material prior to placing traffic back on this portion of the structure.

Measurement and Payment

The entire cost for the silicone expansion joint replacement including but not limited to labor, maintenance, equipment, tools, and incidentals will be included in the unit prices for Silicone Joint Replacement.

Payment will be made under:

Pay Item	Pay Unit
Silicone Joint Replacement	Linear Feet

FOAM JOINT SEALS:

(9-27-12)

Description

Contractor shall remove the existing expansion joint, clean the area and place the evazote expansion joint in accordance with the manufacturer's recommendations. Contractor shall have a manufacturer's representative present during the installation of the first evazote expansion joint of the project. The expansion joint shall be replaced with the materials stated in this contract.

Materials

All materials shall be delivered unopened in their original containers bearing the manufacturer's label, date of manufacture, batch number, trade name brand, and quantity. Sufficient material to perform the entire expansion joint shall be "on hand" prior to removing the existing expansion joint. Stored materials may be inspected prior to their use and shall meet the requirements of these provisions. Each shipment of repair material shall be accompanied by Material Safety Data Sheets (MSDS) and a certificate of compliance certifying that the materials conform to the requirements of these provisions.

Seals:

Use preformed seals compatible with concrete and resistant to abrasion, oxidation, oils, gasoline, salt and other materials that are spilled on or applied to the surface. Use a resilient, UV stable, preformed, impermeable, flexible, expansion joint seal. The joint seal shall consist of low-density, closed cell, cross-linked polyethylene non-extrudable, foam. The joint seal shall contain no EVA (Ethylene Vinyl Acetate). Cell generation shall be achieved by being physically blown using nitrogen. No chemical blowing agents shall be used in the cell generation process.

Use seals manufactured with grooves 1/8"± wide by 1/8"± deep and spaced between 1/4" and 1/2" apart along the bond surface running the length of the joint. Use seals with a depth that meets the manufacturer's recommendation but is not less than 70% of the uncompressed width. Provide a seal designed so that, when compressed, the center portion of the top does not extend upward above the original height of the seal by more than 1/4". Provide a seal that has a working range of 30% tension and 60% compression and meets the requirements given below.

TEST	TEST METHOD	REQUIREMENT
Tensile strength	ASTM D3575-08, Suffix T	110 – 130 psi
Compression Set	ASTM D1056 Suffix B, 2 hr recovery	10% - 16%
Water Absorption	ASTM D3575	< 0.03 lb/ft ²
Elongation at Break	ASTM D3575	180% - 210%
Tear Strength	ASTM D624 (D3575-08, Suffix G)	14 – 20 pli
Density	ASTM D3575-08, Suffix W, Method A	1.8 – 2.2 lb/ft ³
Toxicity	ISO-10993.5	Pass (not cytotoxic)

Have the top of the joint seal clearly shop marked. Inspect the joint seals upon receipt to ensure that the marks are clearly visible before installation.

Bonding Adhesive:

Use a two component, 100% solid, modified epoxy adhesive supplied by the joint seal manufacturer that meets the requirements given below.

TEST	TEST METHOD	REQUIREMENT
Tensile strength	ASTM D638	3000 psi (min.)
Compressive strength	ASTM D695	7000 psi (min.)
Hardness	Shore D Scale	75-85 psi
Water Absorption	ASTM D570	0.25% by weight max.
Elongation to Break	ASTM D638	5% (max.)
Bond Strength	ASTM C882	2000 psi (min.)

Use an adhesive that is workable to 40°F. When installing in ambient air or surface temperatures below 40°F or for application on moist, difficult to dry concrete surfaces, use an adhesive specified by the manufacturer of the joint seal.

Construction Methods**Joint Preparation:**

Prior to work starting and after work is completed all concrete or elastomeric concrete edges, at the joint opening, shall be inspected for spalls, cracks and any irregularities. Locations identified

with spalls, cracks and any irregularities shall be corrected. All joint openings shall have a completed edge that is true and parallel with the adjacent edge, this will include but is not limited to “track saw cutting” to establish this edge.

After removal of existing joint, the Engineer will thoroughly inspect the sawed joint opening for spalls, pop-outs, cracks, etc. All necessary repairs will be made by the Contractor prior to blast cleaning and installing the seal.

Clean the joints by sandblasting with clean dry sand immediately before placing the bonding agent. Sandblast the joint opening to provide a firm, clean joint surface free of curing compound, loose material and any foreign matter. Sandblast the joint opening without causing pitting or uneven surfaces. The aggregate in the elastomeric concrete may be exposed after sandblasting.

After blasting, either brush the surface with clean brushes made of hair, bristle or fiber, blow the surface with compressed air, or vacuum the surface until all traces of blast products and abrasives are removed from the surface, pockets, and corners.

If nozzle blasting is used to clean the joint opening, use compressed air that does not contain detrimental amounts of water or oil.

Examine the blast cleaned surface and remove any traces of oil, grease or smudge deposited in the cleaning operations.

Bond the seal to the blast cleaned surface on the same day the surface is blast cleaned.

Blasting medium shall be swept up and removed from the project. Traffic shall be protected from blasting operations. Joint shall be re-cleaned (and re-blasted if necessary), if joint installation is delayed and joint is determined to be unsuitable due to dirt, oils, etc.

Exact size of joint seals to be used where joints have been repaired with elastomeric concrete shall be determined after the elastomeric concrete work is completed.

Seal Installation:

Install the joint seal according to the manufacturer’s procedures and recommendations and as recommended below. Do not install the joint seal if the ambient air or surface temperature is below 45°F. Have a manufacturer’s certified trained factory representative present during the installation of the first seal of the project.

Before installing the joint seal, check the uninstalled seal length to insure the seal is the same length as the deck opening. When the joint seal requires splicing, use the heat welding method by placing the joint material ends against a teflon heating iron of 425-475°F for 7 - 10 seconds, then pressing the ends together tightly. Do not test the welding until the material has completely cooled.

Begin installation by protecting the top edges of the concrete deck adjacent to the vertical walls of the joint as a means to minimize clean up. After opening both cans of the bonding agent, stir each can using separate stirring rods for each component to prevent premature curing of the bonding agent. Pour the two components, at the specified mixing ratio, into a clean mixing bucket. Mix the components with a low speed drill (400 rpm max.) until a uniform gray color is achieved without visible marbling. Apply bonding agent to both sides of the elastomeric concrete as well as both sides of the joint seal, making certain to completely fill the grooves with epoxy. With

gloved hands, compress the joint seal and with the help of a blunt probe, push the seal into the joint opening until the seal is recessed approximately 1/4" below the surface. When pushing down on the joint seal, apply pressure only in a downward direction. Do not push the joint seal into the joint opening at an angle that would stretch the material. Seals that are stretched during installation shall be removed and rejected. Once work on placing a seal begins, do not stop until it is completed. Clean the excess epoxy from the top of the joint seal immediately with a trowel. Do not use solvents or any cleaners to remove the excess epoxy from the top of the seal. Remove the protective cover at the joint edges and check for any excess epoxy on the surface. Remove excess epoxy with a trowel, the use of solvents or any cleaners will not be allowed.

The installed system shall be watertight and will be monitored until final inspection and approval.

Do not place pavement markings on top of foam joint seals.

Removal of Existing Armor/Anchor Assembly:

As directed by the Engineer, the Contractor may be required to remove existing armored evazote joints. This work will include but is not limited to removing the existing angle iron and removal of portions or all of the anchor assembly.

Measurement and Payment

The entire cost for the Evazote/Foam expansion joint replacement including but not limited to materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price for "Evazote/Foam Joint Replacement". The entire cost for the removal of the existing armor/anchor assembly including but not limited to materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price for "Removal of Existing Armor/Anchor Assembly". If elastomeric concrete repairs are required due to concrete spalling or after removal of armor/anchor assembly, they will be paid for as provided in the "Joint Repair using Elastomeric Concrete" provision found elsewhere in this contract and will not be a part of this pay item.

Payment will be made under:

Pay Item	Pay Unit
Evazote/Foam Joint Replacement	Linear Feet
Removal of Existing Armor/Anchor Assembly	Linear Feet

ASPHALTIC PLUG JOINT:

Description

This work shall consist of supplying and installing a binder and aggregate system composed of specially blended polymer modified asphalt and specific aggregate placed in layers into a prepared expansion joint block-out. When properly installed, the asphaltic plug joint will provide a flexible waterproof bridge joint, which will allow for a joint movement of 1" in expansion and 1" in compression.

Material

Binder Material:

The bridge joint binder shall be a polymer modified asphalt, as manufactured by and shall meet the following requirements when tested according to ASTM test methods:

TEST METHOD TYPICAL VALUES

Softening Point	ASTM D-36. 180° F (82° C)
Tensile Adhesion	ASTM D-3583. 750% Min.
Ductility @ 77°F (25°C)	ASTM D-113 40 cm. Min
Penetration	ASTM D-3407 77°F (25°C) 150g, 5 sec. 90 dmm Max. 0° F (-18°C) 200g, 60 sec. ... 10 dmm Min.
Flow 5h @ 140° F(60°C)	ASTM D-3407. 3.0 MM Max.
Resilience @ 77° F (25°C)	ASTM D-3407. 40% Min
Asphalt Compatibility	ASTM D-3407. Pass
Recommended Pouring Temperature.....	390° F (199° C)
Safe Heating Temperature.....	410° F (216° C)

Aggregate:

The stone type shall consist of Granite, Basalt, Gabbro, Porphyry or Gritstones. The specified aggregate shall be crushed, double washed, and shall meet the following requirements:

Gradation

Sieve Size	¾" Percent Passing
7/8	95-100
5/8	30-50
½	10-30
3/8	0-7
¼	-
#8	-

Backer Rod:

The backer rod shall be a closed cell, foam expansion joint filler, capable of withstanding the elevated temperature of the polymeric binder. Backer Rod will be considered incidental and no direct payment will be made. The backer rod shall have the following typical physical properties using a 2" specimen and test method ASTM D-545:

Density:	2.0Lbs/Cu.Ft, min
Tensile Strength:	30 psi, min.
Compression:	5 psi @ 25%, min
Water Absorption:	0.03 g/cc by weight, min
Temperature @ 410°F (210°C)	No Melting

Bridging Plate:

The bridging plate shall be a mild steel plate, ¼" thick by 8" wide, cut in 4' to 5' lengths. Spike holes shall be drilled on a longitudinal centerline at 1' intervals.

Construction MethodsInstallation Crews:

The asphaltic plug joint is to be installed only by factory trained and certified installation professionals with documented training.

Equipment:

The equipment will consist of:

1. Small self-propelled dry cut saw
2. Pneumatic compressor of 185 CFM capacity.
3. One Hot-Compressed Air Lance (HCA Lance), capable of delivering flame retarded air stream with a temperature of 3,000° F (1648° C), at a speed of 3,000 feet per second.
4. Rotating vented or un-vented drum type mixers each with a Hot-Compressed Air Lance (HCA Lance), or a pressure – air injection torch (PAT torch).
5. Melter unit equipped with agitation and an automatic temperature control which can accurately maintain the material temperature from 100°F - 650°F (38°C - 343°C). A thermometer to monitor the material temperature must be provided. The burner system shall have a safety pilot capable of shutting off the gas supply in the event of a flame-out.
6. 100 lb. Bottles of propane or smaller
7. Vibratory roller or plate capable of compacting up to 1” in one pass.
8. Hand held calibrated digital temperature sensor.
9. Chop-saw with carbide blade, if needed.
10. Sandblasting equipment, required only for installation in a concrete overlay.
11. Safety clothing and equipment as required by OSHA.

Installation:

The following procedures are to be followed to ensure a successful installation:

Note: The asphaltic plug joint must be installed at a minimum depth of two inches (2”).

Marking out: The asphaltic plug joint shall be located centrally over the deck expansion gap or fixed joint and marked out to the recommended minimum width of 20”.

Excavation: The joint shall be excavated by the use of saws and pneumatic hand tools. Where possible, saws shall be set to cut the full required depth of the wearing surface and any membrane present. Variations in the depth of the wearing surface across the road should be considered to insure, where possible, that the deck is not damaged. All debris from the excavation channel shall be removed to allow the full volume of new joint to be installed.

Cleaning: The entire channel must be thoroughly cleaned and dried. Small debris will be removed by using compressed air. The Hot Compressed Air Lance will then be applied throughout the length of the channel. Installation in concrete overlays requires sandblasting of the concrete vertical walls and adjacent deck area prior to the use of the HCA Lance application.

Clean the joints by sandblasting with clean dry sand immediately before placing the bonding agent. Sandblast the joint opening or provide a firm, clean joint surface free of curing compound, loose material and any foreign matter. Sandblast the joint opening without causing pitting or uneven surfaces. The aggregate in the elastomeric concrete may be exposed after sandblasting.

After blasting, either brush the surface with clean brushes made of hair, bristle or fiber, blow the surface with compressed air, or vacuum the surface until all traces of blast products and abrasives are removed from the surface.

If nozzle blasting is used to clean the joint opening, use compressed air that does not contain detrimental amounts of water or oil.

Repairs: Spalled and defective concrete should be repaired with an approved material as agreed upon by the Project Engineer.

Caulking: The gap shall be caulked with the backer rod, allowing for approximately 1" of binder in the gap on top of the rod. If the previous caulking is intact and will hold the binder, it may be used to take the place of the backer rod. A small amount of hot binder should be placed onto the caulking to insure that the gap is adequately plugged.

Tanking: Immediately after cleaning and caulking, the entire channel shall be coated with a thin layer of hot binder. If significant delay occurs, the channel shall be inspected to determine if re-cleaning is necessary.

Plating: The gap shall be bridged with the steel plates centered over the gap by placing locating pins in the centerline of the plate. There must be at least 2" between the edge of the steel plate and the wall of the channel. Once the locating pins are in place, the top of the plate shall be coated with a thin layer of hot binder.

Material Preparation:

Aggregate: The aggregate must be heated in a vented or un-vented rotating drum mixer by the use of a hot compressed air lance (HCA Lance), or a pressure air injection torch (PAT torch). Once the aggregate has been heated to a temperature of 370° - 380° F (188° - 193° C), it is then coated with a small quantity of binder. One gallon of binder per 100 lbs. of stone should be sufficient to coat the stone.

Binder: The binder shall be heated to the recommended pouring temperature, 370° - 385° F (188° - 196° C). At no time shall the recommended safe heating temperature of 400° F (204° C) be exceeded.

Material Installation: Layers of hot pre-coated aggregate not more than 2.5" thick shall be placed in the channel and immediately covered to the level of the coated aggregate. This will ensure that the 3:1 weight ratio of aggregate to binder has been achieved. Layers shall be raked to insure the aggregate is completely coated and that all air pockets are eliminated. This process shall cease approximately three-quarters of an inch (3/4") from the top of the channel.

Surface Layer: The surface layer shall be applied as other layers except that the pre-coated aggregate is not flooded with binder. The pre-coated aggregate shall be transferred to the joint and leveled slightly higher than the adjacent road surface. On a standard 2" deep joint, the topcoat should be one quarter inch (1/4") higher than the road surface. Deeper joints will require higher levels before tamping.

Compaction: Compaction should take place after the joint has cooled to approximately 225° F (107° C). The joint surface shall be made approximately level with the existing road surface by using the vibratory plate or roller.

Top Coating: After compaction, lines of 4" tape are placed one inch beyond the joint width on each side of the joint to insure evenness of appearance. The joint and at least one inch of the road surface shall be top-coated with the hot binder until the surface is smooth and absent of voids.

Note: If it is impossible to topcoat the joint during the same working day/night, it is allowable that the topcoat step be completed on the next working day/night. However, the surface must be cleaned, dried, and heated with the HCA Lance.

Surface Dressing: Immediately after top-coating, an anti-skid material is spread evenly over the joint to eliminate material tracking (Black Beauty Sand, Medium Grade).

Final Preparation: Prior to departure the crew will insure that the entire work area is clean of debris.

Temporary Joint: In the event of a work stoppage while constructing a joint, the following procedure can be used for low ADT roadways (<20,000). Fill the cavity with cold uncoated aggregate to the level of the road surface and top the aggregate with binder to form a temporary riding surface. Roadways with an ADT greater than 20,000 will require materials similar to a cold patch asphalt. Be sure whatever is used is approved by the state agency.

Quality Control:

Upon request, certifications of the materials will be provided.

The Engineer may require the contractor to provide samples during the course of the work for laboratory test of any or all of the properties specified.

Measurement and Payment

Payment will be made under:

Pay Item	Pay Unit
Asphalt Plug Joint Repair/Replacement (18"-24" wide, w/plate)	Linear Feet

ELASTOMERIC CONCRETE PLACEMENT:

Description

Contractor shall repair damaged concrete adjacent to expansion joints as directed by the Engineer with elastomeric concrete.

Contractor shall submit falsework plans for approval. Falsework plans shall take into account expansion of the bridge deck due to changes in temperature.

Do not place elastomeric concrete if the ambient air temperature is below 45°F (7°C). Prepare and apply a primer, as per manufacturer's recommendations, to all vertical concrete faces, all steel components to be in contact with elastomeric concrete, and to areas specified by the manufacturer. Align the angles with the joint opening.

Prepare, batch, and place the elastomeric concrete in accordance with the manufacturer's instructions. Place the elastomeric concrete while the primer is still tacky and within 2 hours after applying the primer. Pay careful attention to properly consolidate the elastomeric concrete around the steel and anchors.

Tarps are to be utilized under the mixing areas, and the bridge deck joint shall be taped off to protect the bridge deck from spills during elastomeric concrete installation.

Materials

Provide materials that comply with the following minimum requirements at 14 days.

ELASTOMERIC CONCRETE PROPERTIES	TEST METHOD	MINIMUM REQUIREMENT
Compressive Strength, psi	ASTM D695	2000
5% Deflection Resilience	ASTM D695	95
Splitting Tensile Strength, psi	ASTM D3967	625
Bond Strength to Concrete, psi	ASTM D882 (D882M)	450
Durometer Hardness	ASTM D2240	50
BINDER PROPERTIES (without aggregate)	TEST METHOD	MINIMUM REQUIREMENT
Tensile Strength, psi	ASTM D638	1000
Ultimate Elongation	ASTM D638	150%
Tear Resistance, lb/in	ASTM D624	200

In addition to the requirements above, the elastomeric concrete must be resistant to water, chemical, UV and ozone exposure and withstand temperature extremes. Elastomeric concrete systems requiring preheated aggregates are not allowed.

Furnish a manufacturer's certification verifying that the materials satisfy the above requirements. Provide samples of elastomeric concrete to the Engineer, if requested, to independently verify conformance with the above requirements.

The entire cost for joint repair using elastomeric concrete including but not limited to labor, maintenance, equipment, tools, and incidentals will be included in the unit prices for Joint Repair using Elastomeric Concrete. Linear feet measurement will include both sides of the joint to be repaired.

Measurement and Payment

Payment will be made under:

Pay Item	Pay Unit
Joint Repair using Elastomeric Concrete (Less than 16" wide or less than 2" deep)	LF
Joint Repair using Elastomeric Concrete (Greater than 16" wide or greater than 2" deep)	LF

SILANE DECK TREATMENT

Description

This work consists of preparation of concrete bridge deck surfaces and the furnishing and application of alkylalkoxysilane (silane) penetrant sealers, with 100% solids, to seal bridge deck surfaces and cracks. Prepare the surface of the concrete deck and apply the silane bridge deck sealer in accordance with this special provision and as indicated on the plans, or as approved by the Engineer.

Work includes: bridge deck surface preparation, placement of silane deck sealer, and any incidentals necessary to complete the project, as specified or as indicated on the plans.

Submittals

Submit for approval the following requested items and any other relevant documents:

- (A) A safety data sheet (SDS) for each shipment of the silane materials.
- (B) Silane material information and manufacturer's written preparation and application instructions.
- (C) Certification from an independent testing laboratory that the materials meet the requirements of these provisions. Do not incorporate these materials into the project until the Engineer has accepted and approved the certification for the material.
- (D) The dates of manufacture of the silane materials, their lot numbers and date of shelf-life expiration for each lot number.
- (E) A table indicating the likely cure time, in minutes, to allow vehicular traffic on the silane-treated deck surface. Provide time for the allowable ambient temperature range, in increments of 10° F (6° C).
- (F) A work plan for each structure that includes estimated times for surface preparation and silane application.

MATERIAL DELIVERY AND STORAGE

Store at the site sufficient quantities of silane materials to perform the entire application.

Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Ensure that each container is clearly marked by the manufacturer with the following information:

- (A) Manufacturer's name and address.
- (B) Product name.
- (C) Date of manufacture.
- (D) Expiration date.
- (E) Lot identification number.
- (F) Container serial number.

Provide the Engineer a certification from the manufacturer, confirming that the silane materials meet the requirements of this special provision. Do not incorporate these materials into the project until the Engineer has accepted and approved the certification for the material. Submit such certification for each lot of material delivered to the project. In each certification, identify the serial or lot numbers of the containers certified.

The Engineer may require samples from each lot or container of materials delivered to the project or from containers at the point of use. When samples are required, furnish samples in accordance with the Engineer's instructions.

Store silane materials in unopened containers in a clean, dry area between 40° F and 90° F. Store containers in a manner that prevents leakage or spillage.

MANUFACTURER'S REPRESENTATIVE

Provide a manufacturer's representative on site for the duration of the surface preparation and silane application work, to provide expert assistance on surface preparation, storage, mixing, application, clean-up, and disposal of materials.

Materials

Provide silane from a single manufacturer, and provide silane that conforms to requirements indicated in Table 1, below.

**Table 1
SILANE PROPERTIES**

Property	Test Method	Requirement
Silane Content		100%
VOC content	EPA method 24	Less than 350 g/l
Surface Appearance after Application		Unchanged
Flash Point	ASTM D3278	140° F, minimum
Resistance to Chloride Ion Penetration	AASHTO T259 and T260	Less than: 0.52 pounds/yd ³ (criteria of 1.5) at 1/2 inch level; 0.00 pounds/yd ³ (criteria of 0.75) at 1 inch level
Water absorption test	ASTM C 642	0.50% maximum/48 hours; 1.5% maximum/50 days
Scaling resistance	ASTM C 672	(non-air-entrained concrete) 0 rating "No Scaling" (100 cycles)
NCHRP 244		
Water weight gain	Series II - cube test	85% reduction, minimum
Absorbed chloride		87% reduction, minimum
Absorbed chloride	Series IV - Southern climate	95% reduction, minimum

SURFACE PREPARATION

Prepare the surface of the concrete deck for application of the silane by shotblasting in order to remove all existing grease, slurry, oils, paint, dirt, striping, curing compound, rust, membrane, weak surface mortar, or any other contaminants that could interfere with the proper adhesion, penetration, and the curing of the silane material.

Prepare a final surface that adheres to the following requirements:

- (A) For areas to receive deck seal treatment, clean by shotblasting. Where approved by the Engineer, abrasive sandblasting may be used in areas that cannot be accessed by the shotblaster. Select the size of shot or sand, and travel speed of the equipment to provide a uniformly clean surface with a uniform profile. Remove striping to the maximum extent

determined to be practical by the Engineer using up to three passes with shotblasting, sandblasting, or other approved equipment. Do not expose cleaned surfaces to vehicular traffic unless approved by the Engineer. If the deck becomes contaminated before placing the silane deck sealer, shotblast or abrasive sandblast the contaminated areas to the satisfaction of the Engineer, at no additional cost.

- (B) Prior to silane application, protect cracks on the concrete bridge deck from materials that can interfere with the penetration and the curing of the silane material. Just prior to placement of the silane, remove, by magnets and oil-free compressed air and vacuuming, any loose particles, such that no excess particles remain. The concrete deck shall be completely dry. Power washing will not be allowed.
- (C) The silane manufacturer may suggest cleaning and preparation methods other than those detailed by this special provision. The Engineer must approve such alternative methods prior to implementation.

SILANE APPLICATION

(A) Test Area

- (1) Test a small area of the surface (minimum 5 ft. by 5 ft.) before general application to ensure desired performance results, aesthetics, and application rates and to verify application technique. Allow 5–7 days for the product to react fully before evaluating.
- (2) Application rates may vary depending on field conditions and the substrate to be treated.
- (3) Conduct at least one absorption test in the test area, using a Rilem Tube Test. Acceptable results are no loss of water in the Rilem tube over a period of 20 minutes. Adjust application to achieve required repellent performance.
- (4) The manufacturer's representative shall assist the Contractor in determining the application rates. Use test applications on actual surfaces to determine accurate application rates. Extremely porous surfaces may require two (2) coats of silane.
- (5) Do not begin production application of silane until Engineer has approved the test area, including approval of aesthetics, color, texture, and appearance.

(B) Application

Immediately before placing silane, all exposed surfaces shall be completely dry and blown clean with oil-free compressed air to remove any loose dust and debris. Apply silane as soon as practical after the exposed surfaces have been properly prepared and conditions are satisfactory:

- (1) Stir material thoroughly before and during application.
- (2) Apply silane with low-pressure spray or by flooding, followed by brooming or squeegeeing for even distribution, in accordance with manufacturer's instructions.
- (3) Maintain operating pressures in sprayers used for application of the silane sealer material sufficiently low so that atomization or misting of the material does not occur.
- (4) Begin the application of the silane at the lowest elevation and proceed upward, toward higher elevations, unless otherwise approved by the Engineer.
- (5) Apply even distribution of silane. Take care when applying the silane, so that running or ponding does not occur.
- (6) Apply silane in a single application to the concrete deck surface with enough material to saturate the surface. Remove excess material with a broom or squeegee and dispose of

excess material appropriately. If a second coat is required, it should be applied “wet on wet” before first coat dries.

- (7) Application of sealant by spray methods will not be permitted when wind speeds are 20 mph or more, or if in the opinion of the Engineer, unsatisfactory results will be obtained. Other application methods or rescheduling will be required.
- (8) Avoid application with hand pump sprayers. For small areas of silane application, the use of hand pump sprayers must be approved by the Engineer.
- (9) Contractor shall protect from overspray all pedestrians, vehicles, plants and vegetation, and other areas not receiving silane application.
- (10) Allow product to penetrate the bridge deck and dry, as required by the manufacturer, prior to opening to traffic.

LIMITATIONS OF OPERATIONS

- (1) Prior to application of any silane sealer, cure concrete or concrete repairs for a minimum of 28 days or as required by the silane manufacturer.
- (2) Do not use silane material after the shelf life date.
- (3) Do not return unused material in opened containers to storage for later use. Either apply such material to appropriate areas on concrete deck surfaces or remove and appropriately dispose of it at offsite locations provided by the Contractor.
- (4) If expansion joints are not being replaced or have been replaced prior to shotblasting, they shall be protected from damage from the shotblasting operation. Deck drains and areas of curb or railing above the proposed surface shall be protected from the shotblasting operation.
- (5) Pick up and store all blast media and contaminants in a vacuum unit. Do not create dust during the blasting operation that will obstruct the view of motorists in adjacent roadways. Store, handle, and dispose of blast media and contaminants in accordance with all applicable local, state, and federal requirements.
- (6) Cover deck joint seal and elastomeric material, plug deck drain scuppers, seal cracks on underside of deck, and use other necessary protective measures to prevent leakage of silane below the concrete deck, to protect waterways, bridge components, pedestrians, vehicles, roadway, vegetation, and any other items or areas below or near the bridge.
- (7) Application of sealant by spray methods will not be permitted during windy conditions, if in the opinion of the Engineer, unsatisfactory results will be obtained. Other application methods or rescheduling will be required.
- (8) Avoid application with hand pump sprayers. For small areas of silane application, the use of hand pump sprayers might be allowed, but must be approved by the Engineer.
- (9) Protect traffic from rebound, dust, overspray, and construction activities. Provide appropriate shielding, as required and/or directed by the Engineer.
- (10) The Contractor shall provide suitable coverings (e.g. heavy-duty drop cloths) as needed to protect all exposed areas not to receive silane treatment, such as asphalt pavement, curbs, sidewalks, parapets, etc.
- (11) Clean and/or repair all damage or defacement resulting from Contractor’s operations to the Engineer’s satisfaction at no additional cost to the Department.

- (12) The equipment used for silane application must be clean of foreign materials and approved by the Engineer before use.
- (13) The surface to receive the treatment shall be dry for at least 48 hours before treatment and shall be free from sand, surface dust and dirt, oil, grease, chemical films, and other contaminants prior to application of the silane.
- (14) The surface, air, and material temperatures shall be between 40°F and 90°F during application.
- (15) Do not apply silane materials during cold, hot, or wet weather conditions or when adverse weather conditions are forecast within 12 hours of the completion of the silane application. Correct any coating damaged by rain or moisture by an additional application or as required by the silane manufacturer.
- (16) Protect prepared surfaces from precipitation and heavy dew during and after the application of the silane.
- (17) Conduct the work in a continuous operation, with the silane application as soon as practical following surface preparation.
- (18) Apply silane during the lowest temperature period of the day, typically between 1:00 a.m. and 9:00 a.m., when the cracks are open to the greatest extent.
- (19) Clean up, dispose of any surplus material, and restore any disturbed areas unless otherwise directed.
- (20) 100% Silane is a combustible liquid; take appropriate precautions during handling, storage, and operations. KEEP AWAY FROM OPEN FLAME.
- (21) Work crews should wear appropriate personal protection equipment and follow manufacturer's recommendations when applying silane. Refer to the SDS and all applicable local, state, and federal laws, and rules and regulations of authorities having jurisdiction over the project, for specific guidance for personal and environmental protection and safety requirements.

Measurement and Payment

Shotblasting Bridge Deck will be measured and paid for at the contract unit price per square yard and will be full compensation for the shotblasting and necessary sandblasting and handwork to prepare the entire concrete bridge deck, and removal and disposal of all waste material generated.

Silane Deck Treatment will be measured and paid for at the contract unit price per square yard and will be full compensation for bridge deck surface and crack preparation; for furnishing and applying the silane deck treatment; for protection of waterways, bridge, and other nearby surfaces, vehicles, and pedestrians; and for all labor, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Shotblasting Bridge Deck	Square Yard
Silane Deck Treatment	Square Yard

SHOTCRETE REPAIRS

The work covered by this special provision consists of removing deteriorated concrete from the structure in accordance with the limits, depth and details shown on the plans, described herein and as established by the Engineer. This work also includes removing and disposing all loose debris, cleaning and repairing reinforcing steel and applying structural shotcrete.

The location and extent of repairs shown on the plans are general in nature. The Engineer shall determine the extent of removal in the field based on an evaluation of the condition of the exposed surfaces.

Any portion of the structure that is damaged from construction operations shall be repaired to the Engineer's satisfaction, at no extra cost to the Department.

Material Requirements

Use prepackaged dry mix shotcrete conforming to the requirements of ASTM C1480, the applicable sections of the *Standard Specifications* and the following:

Test Description	Test Method	Age (Days)	Specified Requirements
Silica Fume (%)	ASTM C1240	-	10 (Max.)
Air Content - As Shot (%)	ASTM C231 or ASTM C457	-	5 ± 2
Minimum Compressive Strength (psi)	ASTM C109	7 28	3,000 5,000
Minimum Bond Pull-off Strength (psi)	ASTM C1583 or ASTM C882	28	250
Rapid Chloride Permeability Tests (range in coulombs)	ASTM C1202	-	100 - 1000

Admixtures are not allowed unless approved by the Engineer. Store shotcrete in an environment where temperatures remain above 40°F and less than 95°F

All equipment must operate in accordance with the manufacturer's specifications and material must be placed within the recommended time.

Quality Control

(A) Qualification of Shotcrete Contractor

The shotcrete Contractor shall provide proof of experience by submitting a description of jobs similar in size and character that have been completed within the last five (5) years. The name, address and telephone number of references for the submitted projects shall also be furnished. Failure to provide appropriate documentation will result in the rejection of the proposed shotcrete contractor.

(B) Qualification of Nozzleman

The shotcrete Contractor's nozzleman shall be certified by the American Concrete Institute (ACI). Submit proof of certification to the Engineer prior to beginning repair work. The

nozzleman shall maintain certification at all times while work is being performed for the Department. Failure to provide and maintain certification will result in the rejection of the proposed nozzleman.

Temporary Work Platform

Prior to beginning any repair work, provide details for a sufficiently sized temporary work platform at each repair location. Design steel members to meet the requirements of the American Institute of Steel Construction Manual. Design timber members in accordance with the *National Design Specification for Stress-Grade Lumber and Its Fastenings* of the National Forest Products Association. Submit the platform design and plans for review and approval. The design and plans shall be sealed and signed by a North Carolina registered Professional Engineer. Do not install the platform until the design and plans are approved. Drilling holes in the superstructure for the purpose of attaching the platform is prohibited. Upon completion of work, remove all anchorages in the substructure and repair the substructure at no additional cost to the Department.

Surface Preparation

Prior to starting the repair operation, delineate all surfaces and areas assumed to be deteriorated by visually examining and sounding the concrete surface with a hammer or other approved method. The Engineer is the sole judge in determining the limits of deterioration.

Prior to removal, introduce a shallow saw cut approximately ½" in depth around the repair area at right angles to the concrete surface. Remove all deteriorated concrete 1 inch below the reinforcing steel with a 17 lb (maximum) pneumatic hammer with points that do not exceed the width of the shank or with hand picks or chisels as directed by the Engineer. Do not cut or remove the existing reinforcing steel. Unless specifically directed by the Engineer, do not remove concrete deeper than 1 inch below the reinforcing steel.

Abrasive blast all exposed concrete surfaces and existing reinforcing steel in repair areas to remove all debris, loose concrete, loose mortar, rust, scale, etc. After sandblasting examine the reinforcing steel to ensure at least 90% of the original diameter remains. If there is more than 10% reduction in the rebar diameter, splice in and securely tie supplemental reinforcing bars as directed by the Engineer.

Provide stainless welded wire fabric at each repair area larger than one square foot if the depth of the repair exceeds 2 inches from the existing, intact exterior face of the concrete member. Provide a minimum 4" x 4" - 12 gage stainless welded wire fabric unless otherwise shown on the plans. Rigidly secure the welded wire fabric to existing steel or to 3/16" diameter stainless hook fasteners adequately spaced to prevent sagging. Encase the welded wire fabric in shotcrete a minimum depth of 1½ inches.

With the exception of overhead applications, the contractor has the option to use synthetic fiber reinforcement as an alternate to welded wire fabric if attaching welded wire fabric is impractical or if approved by the Engineer. Welded wire fabric and synthetic fiber reinforcement shall not be used in the same repair area.

Thoroughly clean the repair area of all dirt, grease, oil or foreign matter, and remove all loose or weakened material before applying shotcrete. Saturate the repair area with clean water the day before applying shotcrete. Bring the wetted surface to a saturated surface dry (SSD) condition prior to applying shotcrete and maintain this condition until the application begins. Use a

blowpipe to facilitate removal of free surface water. Only oil-free compressed air is to be used in the blowpipe.

The time between removal of deteriorated concrete and applying shotcrete shall not exceed five (5) calendar days. If the time allowance exceeds (5) calendar days, prepare the surface at the direction of the Engineer before applying shotcrete.

Application and Surface Finish

Apply shotcrete only when the surface temperature of the repair area is greater than 40°F and less than 95°F. Do not apply shotcrete to frosted surfaces. Maintain shotcrete at a minimum temperature of 40°F for three (3) calendar days after placement.

Apply shotcrete in layers. The properties of the applied shotcrete determine the proper thickness of each layer or lift.

The nozzleman should hold the nozzle three (3) to four (4) feet from the surface being covered in a position that ensures the shotcrete strikes at right angles to the surface being covered without excessive impact. The nozzleman shall maintain the water amount at a practicable minimum, so the mix properly adheres to the repair area. Water content should not become high enough to cause the mix to sag or fall from vertical or inclined surfaces, or to separate in horizontal layers.

Use shooting wires or guide strips that do not entrap rebound sand. Use guide wires to provide a positive means of checking the total thickness of the shotcrete applied. Remove the guide wires prior to the final finish coat.

To avoid leaving sand pockets in the shotcrete, blow or rake off sand that rebounds and does not fall clear of the work, or which collects in pockets in the work. Do not reuse rebound material in the work.

If a work stoppage longer than two (2) hours takes place on any shotcrete layer prior to the time it has been built up to required thickness, saturate the area with clean water and use a blowpipe as outlined previously, prior to continuing with the remaining shotcrete course. Do not apply shotcrete to a dry surface.

Finish all repaired areas, including chamfered edges, as close as practicable to their original dimensions and configuration, unless otherwise required to provide a minimum 2" of cover for reinforcing steel exposed during repair. If necessary to extend shotcrete repair material beyond the original member dimensions and geometry, coordinate with the Engineer to determine methods, geometry, and dimensions of the final finished surface to provide a minimum 2" of cover on reinforcing steel. Slightly build up and trim shotcrete to the final surface by cutting with the leading edge of a sharp trowel. Use a rubber float to correct any imperfections. Limit work on the finished surface to correcting imperfections caused by trowel cutting.

Immediately after bringing shotcrete surfaces to final thickness, thoroughly check for sags, bridging, and other deficiencies. Repair any imperfections at the direction of the Engineer.

Cure the completed shotcrete surface in accordance with Article 420-15(B) Water Method, of the *Standard Specifications* for seven (7) calendar days. If the water method is impracticable and if approved by the Engineer, a membrane curing compound may be used in accordance with Subarticle 420-15(C) at double the manufacturer's recommended coverage rate.

Material Testing & Acceptance

Each day shotcreting takes place, the nozzleman shall shoot one 18" x 18" x 3.5" test panel in the same position as the repair work that is being done to demonstrate the shotcrete is being applied properly. Store, handle and cure the test panel in the same manner as the repaired substructure and do not disturb for the first 24 hours after shotcreting.

Approximately 72 hours after completing the final shotcrete placement, thoroughly test the surface with a hammer. At this time, the repair area should have sufficient strength for all sound sections to ring sharply. Remove and replace any unsound portions prior to the final inspection of the work. No additional compensation will be provided for removal and replacement of unsound shotcrete.

In accordance with Subarticle 1002-3(H) of the Standard Specifications, core three (3) 3" diameter samples from each test panel. Compressive strength values on test panels shall equal or exceed the required 28-day strength requirements. Should failures occur on the test panel cores, acceptance of the material will be determined by tests on cores from the installed work on the structure. A minimum of (3) three cores shall be taken from the area in question of the structure. The average compressive strength of the cores taken from the structure shall equal or exceed the specified strength of the shotcrete applied, and no single core shall have strength less than 85% of the specified value. Any cores taken from the structure shall penetrate into the existing concrete at least two (2) inches. Cores shall also be inspected for delamination, sand pockets, segregation, and voids.

The adequacy of the bond between the existing concrete and the shotcrete shall be determined by direct tension bond testing, in accordance with ASTM C1583 or ASTM C882, as directed by the Engineer. A minimum bond strength of 250 psi will be accepted as satisfactory. Bond failure less than 250 psi attributable to the failure of existing concrete will not be cause for rejection. The cost of up to three passing direct tension bond tests shall be the responsibility of the Contractor; additional passing pull-off tests will be the responsibility of the Department.

Any repair work failing to meet the requirements of this provision will be rejected and the Contractor shall implement a remediation plan to correct the deficiency at no additional cost to the Department. No extra payment will be provided for drilling extra cores. Patch all core holes in the repaired structure to the satisfaction of the Engineer.

Measurement And Payment

Shotcrete Repairs will be measured and paid for at the contract unit price bid per cubic foot and will be full compensation for removal, containment and disposal off-site of unsound concrete including the cost of materials, labor, tools, equipment and incidentals necessary to complete the repair work. Depth will be measured from the original outside concrete face. If modifications to the dimensions and geometry are approved by the Engineer to achieve proper clearance over reinforcing steel, depth measurements will be made from the modified final outside face. The Contractor and Engineer will measure quantities after removal of unsound concrete and before application of repair material. Payment will also include the cost of sandblasting, surface cleaning and preparation, cleaning of reinforcing steel, placement of new steel, cost of temporary work platform, testing for soundness and bond strength, curing of shotcrete and taking core samples from the test panels and the structure.

Payment will be made under:

Pay Item

Shotcrete Repairs

Pay Unit

Cubic Feet

MATERIAL AND EQUIPMENT STORAGE & PARKING OF PERSONAL VEHICLES:

11-17-21(Rev. 8-16-22)

1101

SP11 R03

Revise the *2018 Standard Specifications* as follows:

Page 11-2, Article 1101-8 MATERIAL AND EQUIPMENT STORAGE, line 35-38, delete and replace with the following:

When work is not in progress, keep all personnel, equipment, machinery, tools, construction debris, materials and supplies away from active travel lanes that meets Table 1101-1.

TABLE 1101-1 MATERIAL AND EQUIPMENT STORAGE FROM ACTIVE TRAVEL LANES	
Posted Speed Limit (mph)	Distance (ft)
40 or less	≥ 18
45-50	≥ 28
55	≥ 32
60 or higher	≥ 40

When vehicles, equipment and materials are protected by concrete barrier or guardrail, they shall be offset at least 5 feet from the barrier or guardrail.

Page 11-2, Article 1101-9 PARKING OF PERSONAL VEHICLES, line 40-41, delete and replace with the following:

Provide staging areas for personal vehicle parking in accordance with Article 1101-8 or as directed by the Engineer before use.

TEMPORARY TRAFFIC CONTROL:

(9-01-2021)

General Requirements

The Contractor shall maintain traffic on all roads during construction and shall furnish, install, relocate, maintain, and remove traffic control devices as shown in the Roadway Standard Drawings or as directed by the Engineer.

Maintain traffic on all roads in accordance with Divisions 10, 11 and 12 of the *2018 Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs when work is within 40 ft. from the edge of the travel lane in accordance with Standard Drawing No. 1101.01 of the *2018 Roadway Standard Drawings*

prior to beginning any other work. If signs are installed more than 3 calendar days prior to the beginning of work, cover the signs until the work begins. Install each work zone advance warning sign separately and not on the same post or stand with any other sign.

When personnel and/or equipment are working within 15 ft. of an open travel lane, close the nearest open shoulder using Roadway Standard Drawing No. 1101.04 unless the work area is protected by barrier or guardrail or a lane closure is installed.

When personnel and/or equipment are working on the shoulder adjacent to an undivided facility and within 5 ft. of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings* unless the work area is protected by barrier or guardrail.

When personnel and/or equipment are working on the shoulder adjacent to a divided facility and within 10 ft. of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings*, unless the work area is protected by barrier or guardrail.

When personnel and/or equipment are working within a lane of travel of an undivided or divided facility, close the lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings* or as directed by the Engineer. Conduct the work so that all personnel and/or equipment remain within the closed travel lane. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

Do not work simultaneously within 15 ft. on both sides of an open travel way, ramp, or loop within the same location, unless protected with guardrail or barrier.

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 or as directed by the Engineer.

Temporary Traffic Control (TTC)

Refer to Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *2018 Roadway Standard Drawings* when closing a lane of travel or shoulder in the work zone.

Notify the Engineer (30) calendar days prior to any traffic pattern alteration.

Ensure all necessary signing is in place prior to altering any traffic pattern.

When lane closures are not in effect, space channelizing devices in work areas no greater in feet than twice the posted speed limit (MPH), except 10 ft. on-center in radii, and 3 ft. off the edge of an open travelway. Refer to *2018 Standard Specifications* Sections 1130 (Drums), 1135 (Cones), and 1180 (Skinny Drums) for additional requirements.

Place additional sets of three channelizing devices (Drums, Cones, or Skinny Drums) perpendicular to the edge of travelway on 100 to 500 ft. centers, as directed by the Engineer, when unopened lanes are closed to traffic.

Use uniformed Law Enforcement officers to control traffic at signalized intersections when the temporary traffic pattern cannot be controlled by the signal's normal operation.

Contractor shall maintain sidewalk access at all times. Contractor shall be responsible to provide temporary sidewalks (concrete, asphalt, or other suitable material as approved by the Engineer) at all locations where the open pedestrian travel way has been closed/removed for construction operations. ADA compliant pedestrian barricades/channelizing devices shall be used to close sidewalks and redirect pedestrians along the temporary sidewalk, as directed by the Engineer. Mount appropriate sidewalk closure and pedestrian detour signs to these barricades/channelizing devices to inform pedestrians of the closure and pedestrian detour.

Project Requirements

Failure to comply with the following requirements will result in a suspension of all other operations:

1. Prior to beginning work, the Contractor shall submit a written construction sequence for traffic control and construction lighting to the Engineer at the first pre-construction meeting and the sequence must be approved before closing a lane of traffic.
2. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures. The maximum length of any one lane closure is 1 mile unless otherwise directed by the Engineer.
3. If Lane Closure Restrictions apply, see Special Provision, "Intermediate Contract Times and Liquidated Damages".
4. The Contractor on this and any adjacent projects, or subcontractors working within this project shall coordinate lane closure location, type, and direction with the Engineer to best maintain lane continuity through the limits of this and adjacent projects.
5. Operate equipment and conduct operations in the same direction as the flow of traffic unless the operation is protected by barrier or guardrail or as directed by the Engineer. Maintain vehicular access in accordance with Section 1101-05 of the *2018 Standard Specifications*.
6. Provide appropriate construction lighting in accordance with Section 1413 of the *2018 Standard Specifications*. No direct payment will be made for "Portable Lighting" as it will be considered incidental to the various items in the contract.

Measurement and Payment

Temporary Traffic Control shall include but not be limited to providing Signs (portable, stationary, or barricade), including detour signing, Truck Mounted Attenuators (TMA), Portable Changeable Message Signs (PCMS), Flashing Arrow Boards (FAB), Portable lighting, Pilot Vehicle, Flaggers, Cones, Skinny Drums and Drums as shown in the applicable Roadway Standard Drawings and all labor, tools, equipment and incidentals necessary to furnish, install, maintain and remove traffic control devices when no longer required. No additional payment will be made for Law Enforcement as this item will be considered incidental to Temporary Traffic Control.

All” Lane Closure “ items include the work of satisfactorily installing and removing work zone advance and/or general warning signs, including, but not limit to, furnishing, locating, installing, covering, uncovering and removing stationary signs.

Measurement and payment for Traffic Control will be made for each satisfactorily installed “ Lane Closure” as described below.

Payment will be made under:

Pay Item	Pay Unit
Temporary Lane Closure (Multi- Lane Roadway)	EA
Temporary Ramp Closure	EA
Temporary Shoulder Closure	EA

LAW ENFORCEMENT:

(6-21-22)(Rev. 11-15-22)

1190

SP11 R30

Revise the *2018 Standard Specifications* as follows:

Page 11-19, Article 1190-1 DESCRIPTION, lines 4-5, replace the paragraph with the following:

Furnish Law Enforcement Officers and official Law Enforcement vehicles to direct traffic in accordance with the contract.

Page 11-19, Article 1190-2 CONSTRUCTION METHODS, lines 7-10, replace the first and second paragraph with the following:

Use off duty uniformed Law Enforcement Officers and official Law Enforcement vehicles equipped with blue lights to direct or control traffic as required by the plans or by the Engineer.

Law Enforcement vehicles shall not be parked within the buffer space on any roadway. Law Enforcement vehicles shall not be used to close or block an active travel lane on multilane roadways with a posted speed limit of 45 MPH or higher, except as allowed during rolling roadblock operations as shown in the *Roadway Standard Drawings* or while responding to an

emergency.

Page 11-19, Article 1190-3 MEASUREMENT AND PAYMENT, lines 14-15, replace the second sentence of the first paragraph with the following:

There will be no direct payment for official Law Enforcement vehicles as they are considered incidental to TTC.

WORK ZONE INSTALLER:

(7-20-21)(Rev. 8-16-22)

1101, 1150

SP11 R04

Provide the service of at least one qualified work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way. The qualified work zone installer shall serve as crew leader and shall be on site and directing the installation and removal of temporary traffic control. If multiple temporary traffic control installations or removals are occurring simultaneously, then each shall have a qualified work zone installer.

The work zone installer shall be qualified by an NCDOT approved training agency or other NCDOT approved training provider in the safe and competent set up of temporary traffic control. For a complete listing of approved training agencies, see the Work Zone Safety Training webpage.

A work zone supervisor, in accordance with Article 1101-13 of the *Standard Specifications*, may fulfill the role of the work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way provided they are on site and directing the installation and removal of temporary traffic control.

All other individuals participating in the setup, installation, and removal of temporary traffic control within the highway right of way shall be certified as a qualified flagger in accordance with Article 1150-3 of the *Standard Specifications*, even if flagging is not being performed as part of the traffic control.

Provide the name and contact information of all qualified work zone installers to the Engineer prior to or at the preconstruction conference. Additionally, provide a qualification statement that all other individuals participating in the setup, installation, and removal of temporary traffic control are qualified flaggers that have been properly trained through an NCDOT approved training agency or other NCDOT approved training provider.

All certification records for qualified work zone installers and flaggers shall be uploaded by the approved training agency or other NCDOT approved training provider to the Department's Work Zone Education Verification App (WZ-EVA) prior to the qualified work zone installer or flagger performing any traffic control duties on the project. For more information about WZ-EVA, see the Work Zone Safety Training webpage.

CONSTRUCTION MATERIALS MANAGEMENT:

(3-19-19) (rev. 04-24-19)

Description

The requirements set forth shall be adhered to in order to meet the applicable materials handling requirements of the NCG010000 permit. Structural controls installed to manage construction materials stored or used on site shall be shown on the E&SC Plan. Requirements for handling materials on construction sites shall be as follows:

Polyacrylamides (PAMS) and Flocculants

Polyacrylamides (PAMS) and flocculants shall be stored in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures designed to protect adjacent surface waters. PAMS or other flocculants used shall be selected from the NC DWR List of Approved PAMS/Flocculants. The concentration of PAMS and other flocculants used shall not exceed those specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions. The NC DWR List of Approved PAMS/Flocculants is available at:

https://files.nc.gov/ncdeq/Water%20Quality/Environmental%20Sciences/ATU/ApprovedPAMS_4_1_2017.pdf

Equipment Fluids

Fuels, lubricants, coolants, and hydraulic fluids, and other petroleum products shall be handled and disposed of in a manner so as not to enter surface or ground waters and in accordance with applicable state and federal regulations. Equipment used on the site must be operated and maintained properly to prevent discharge of fluids. Equipment, vehicle, and other wash waters shall not be discharged into E&SC basins or other E&SC devices. Alternative controls should be provided such that there is no discharge of soaps, solvents, or detergents.

Waste Materials

Construction materials and land clearing waste shall be disposed of in accordance with North Carolina General Statutes, Chapter 130A, Article 9 - Solid Waste Management, and rules governing the disposal of solid waste (15A NCAC 13B). Areas dedicated for managing construction material and land clearing waste shall be at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. Paint and other liquid construction material waste shall not be dumped into storm drains. Paint and other liquid construction waste washouts should be located at least 50 feet away from storm drain inlets unless there is no alternative. Other options are to install lined washouts or use portable, removable bags or bins. Hazardous or toxic waste shall be managed in accordance with the federal Resource Conservation and Recovery Act (RCRA) and NC Hazardous Waste Rules at 15A NCAC, Subchapter 13A. Litter and sanitary waste shall be managed in a manner to prevent it from entering jurisdictional waters and shall be disposed of offsite.

Herbicide, Pesticide, and Rodenticides

Herbicide, pesticide, and rodenticides shall be stored and applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, North Carolina Pesticide Law of 1971 and labeling restrictions.

Concrete Materials

Concrete materials onsite, including excess concrete, must be controlled and managed to avoid contact with surface waters, wetlands or buffers. No concrete or cement slurry shall be discharged from the site. (Note that discharges from onsite concrete plants require coverage under a separate NPDES permit – NCG140000.) Concrete wash water shall be managed in accordance with the *Concrete Washout Structure* provision. Concrete slurry shall be managed and disposed of in accordance with *NCDOT DGS and HOS DCAR Distribution of Class A Residuals Statewide* (Permit No. WQ0035749). Any hardened concrete residue will be disposed of, or recycled on site, in accordance with state solid waste regulations.

Earthen Material Stock Piles

Earthen material stock piles shall be located at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available.

Measurement and Payment

Conditions set within the *Construction Materials Management* provision are incidental to the project for which no direct compensation will be made.

STANDARD SPECIAL PROVISIONS

AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS:

(5-20-08)

Z-2

General Statute 143C-6-11. (h) Highway Appropriation is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(E) of the 2018 Standard Specifications.

ERRATA

(10-16-18) (Rev. 6-20-23)

Z-4

Revise the *2018 Standard Specifications* as follows:

Division 1

Page 1-1, Article 101-2 Abbreviations, line 13, replace " American National Standards Institute, Inc." with "American National Standards Institute".

Page 1-1, Article 101-2 Abbreviations, line 32, replace "Equivalent Single Axis Load" with "Equivalent Single Axle Load".

Page 1-16, Subarticle 102-9(A) General, line 26, replace "10 U.S.C. 2304(g)" with "10 U.S.C. 3205".

Page 1-43, Article 104-13 RECYCLED PRODUCTS OR SOLID WASTE MATERIALS, line 4, replace "104-13(B)(2)" with "104-13(B)".

Page 1-52, Article 106-1 RECYCLED PRODUCTS OR SOLID WASTE MATERIALS, line 25, replace "13 NCAC 7CF.0101(a)(99)" with "29 CFR 1910.1200".

Page 1-79, Article 109-1 MEASUREMENT AND PAYMENT, Test Method prior to line 34, replace "AASHTO M 32" with "AASHTO M 336".

Division 2

Page 2-5, Article 210-2 CONSTRUCTION METHODS, line 21, replace " NCGS §§ 130A-444 to -452" with "NCGS §§ 130A-444 to -453".

Page 2-13, Article 225-2 EROSION CONTROL REQUIREMENTS, line 17, replace "the Sedimentation and Pollution Control Act" with "Article 107-12".

Page 2-20, Subarticle 230-4(B)(3) Reclamation Plan, line 12, replace " Department's borrow and waste site reclamation procedures for contracted projects" with "Department's *Borrow Waste and Staging Site Reclamation Procedures for Contract Projects*".

Page 2-25, Subarticle 235-3(E) Surcharges and Waiting Periods, line 21 and 27, delete "Department's Materials and Tests Unit."

Page 2-27, Article 240-4 MEASUREMENT AND PAYMENT, line 23, replace "Section 225" with "Article 225-7".

Page 2-30, Article 275-4 MEASUREMENT AND PAYMENT, line 33, replace "Section 815" with "Article 815-4".

Division 4

Page 4-18, Subarticle 411-5(C)(3) Coring, line 11, replace "in accordance with ASTM D5079" with "with methods acceptable to the Engineer".

Page 4-50, Article 430-2 MATERIALS, prior to line 15, replace Section "1080-9" with "1080-7".

Page 4-53, Article 440-2 MATERIALS, prior to line 6, replace Section “1080-9” with “1080-7”.

Page 4-58, Article 442-2 MATERIALS, prior to line 15, replace Section “1080-6” with “1080-12”.

Page 4-59, Subarticle 442-7(A) Blast Cleaning, line 36, replace Article “1080-6” with “1080-12”.

Page 4-76, Article 454-2 MATERIALS, prior to line 24, replace Section “815-2” with “1044”.

Page 4-79, Article 455-2 MATERIALS, prior to line 21, replace Section “815” with “1044”.

Page 4-80, Subarticle 455-3(B) Precast Gravity Wall Designs, line 23 and lines 25-26, replace “AASHTO LRFD specifications” with “*AASHTO LRFD Bridge Design Specifications*”.

Page 4-84, Article 458-5 MEASUREMENT AND PAYMENT, line 31, replace article number “454-1” with “458-1”.

Division 6

Page 6-7, Article 609-1 DESCRIPTION, line 29, replace article number “609-10” with “609-9”.

Page 6-10, Subarticle 609-6(C) Control Charts, line 17, replace Section number “7021” with “7.20.1”.

Page 6-13, Article 609-9 QUALITY ASSURANCE, line 31, replace Section number “7.60” with “7.6”.

Page 6-26, Subarticle 610-13(A)(1) Acceptance for New Construction, line 31, replace Table number “610-7” with “610-8”.

Page 6-29, Subarticle 610-13(B) North Carolina Hearne Straightedge, line 32, replace Table number “610-8” with “610-9”.

Page 6-31, Article 610-14 DENSITY ACCEPTANCE, Specified Density prior to line 30 and line 32, replace Table number “610-6” with “610-7”.

Page 6-37, Article 650-5 CONSTRUCTION METHODS, line 10, replace Section number “9.5(E)” with “9.5.1(E)”.

Page 6-44, Subarticle 660-8(B) Asphalt Mat and Seal, line 40, replace Subarticle number “660-8(A)” with “660-8(C)”.

Page 6-44, Subarticle 660-8(B) Asphalt Mat and Seal, line 42, replace Subarticle number “660-8(C)” with “660-8(A)”.

Division 7

Page 7-11, Subarticle 700-15(E) Compressive Strength, line 5, replace “AASHTO T 23” with “AASHTO R 100”.

Page 7-24, Article 723-4 Very High Early Strength Concrete for Concrete Pavement Repair, line 4, replace “AASHTO T126” with “AASHTO R 39”.

Page 7-24, Article 723-5 MEASUREMENT AND PAYMENT, line 34, replace "Section 225" with “Article 225-7”.

Page 7-24, Article 723-5 MEASUREMENT AND PAYMENT, line 36, replace "Section 270" with “Article 270-4”.

Page 7-27, Article 725-1 MEASUREMENT AND PAYMENT, line 4, replace article number “725-1” with “724-4”.

Page 7-28, Article 725-1 MEASUREMENT AND PAYMENT, line 10, replace article number “725-1” with “725-3”.

Division 8

Page 8-11, Article 815-1 MATERIALS, after line 35, replace “1080-12” with “1080-10”.

Page 8-13, Article 816-1 MATERIALS, after line 28, replace “1080-12” with “1080-10”.

Page 8-17, Article 825-1 Description, line 5, delete “853” and “855”.

Division 10

Page 10-2, Subarticle 1000-3(B) Air Entrainment, line 33, replace “Chase” with “Chace”.

Page 10-4, Subarticle 1000-4(A) Composition and Design, after line 17, replace “T23” with “R100”.

Page 10-4, Subarticle 1000-4(B) Air Entrainment, line 31 and 33, replace “Chase” with “Chace”.

Page 10-4, Subarticle 1000-4(C) Strength of Concrete, line 39 and 41, replace “T 23” with “R 100”.

Page 10-15, Subarticle 1000-11(B) Mixing Time for Central Mixed Concrete, after line 35, replace “T 23” with “R 100”.

Page 10-22, Article 1003-3 COMPOSITION AND DESIGN, line 9, replace “Engineer” with “engineer”.

Page 10-23, Article 1003-4 GROUT REQUIREMENTS, line 16 and 18, replace “T 23” with “R 100”.

Page 10-26, Article 1005-4 TESTING, after line 26, replace “1014-2€(6)” with “1014-2€(6)” in C. of Table 1005-1 footnote and replace “Lightweight^B” with “Lightweight^C”.

Page 10-29, Subarticle 1012-1(B)(4) Flat and Elongated Pieces, line 44, delete “SF9.5A”

Page 10-36, Subarticle 1012-2(E) Toughness (Resistance to Abrasion), line 31, replace “course” with “coarse”.

Page 10-37, Article 1012-4, LIGHTWEIGHT AGGREGATE, line 4, replace Table number “1012-8” with “1012-5”.

Page 10-48, Subarticle 1020-10(A) Mineral Fibers, line 27, replace “Table 1012-5” with “Table 1020-2”.

Page 10-52, Article 1024-5 FLY ASH, line 12, replace “Table 2” with “Table 3”.

Page 10-60, Subarticle 1032-6(F) Joint Materials, line 15, replace “AASHTO M 198” with “ASTM C990” and delete “Type B”.

Page 10-61, Article 1034-3 CONCRETE SEWER PIPE, line 33, replace “AASHTO M 198” with “ASTM C990” and delete “Type A or B”.

Page 10-64, Article 1040-1 BRICK, line 12, replace “ASTM C62” with “ASTM C62 or ASTM C216”.

Page 10-67, Article 1044-7 CORRUGATED PLASTIC PIPE AND FITTINGS, line 24, replace “AASHTO M 294 for heavy duty tubing” with “Article 1032-7 and AASHTO M 252”.

Page 10-68, Subarticle 1046-3(D) Offset Blocks, lines 30-32, delete “Before beginning the installation of recycled offset block, submit the FHWA acceptance letter for each type of block to the Engineer for approval.”

Page 10-69, Subarticle 1046-3(D) Offset Blocks, before line 1, replace “WIRE DIAMETER” with “COMPOSITE OFFSET BLOCKS” as the title of Table 1046-1, delete “Testing” property and associated requirement from Table 1046-1, and replace “Approval” requirement of “Approved for use by the FHWA” with “Approved for use on the NCDOT APL” in Table 1046-1.

Page 10-80, Article 1060-2 FERTILIZER, line 18, replace “North Carolina Fertilizer Law” with “North Carolina Commercial Fertilizer Law”.

Page 10-83, Article 1060-9 WATER, line 9, replace “15 NCAC 2B.0200” with “15A NCAC 02B.0200”.

Page 10-86, Article 1070-3 COLD DRAWN STEEL WIRE AND WIRE REINFORCEMENT, line 23 and 25, replace “M 32” and “M 55” with “M 336”.

Page 10-87, Article 1070-6 DOWELS AND TIE BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT, line 17, replace “AASHTO M 32” with “AASHTO M 336”.

Page 10-88, Subarticle 1070-7(D) Handling, Storage and Transportation, line 40, replace “Section” with “Subarticle”.

Page 10-89, Article 1070-8 SPIRAL COLUMN REINFORCING STEEL, line 21, replace “AASHTO M 32” with “AASHTO M 336”.

Page 10-91, Article 1072-3 BEARING PLATE ASSEMBLIES, line 44, replace “Article 1080-9” with “Article 1080-7”.

Page 10-92, Subarticle 1072-5(A) General, after line 30, replace “SAMPLING REQUIREMENTS FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS” with “SAMPLING REQUIREMENTS FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS TO INCLUDE DIRECT TENSION INDICATORS” as the title of Table 1072-1.

Page 10-95, Subarticle 1072-5(D)(7)(a) Mill Test Report(s), line 18, replace title with “Mill Test Report(s) (MTR)”.

Page 10-95, Subarticle 1072-5(D)(7)(b) Manufacturer Certified Test Report(s), line 24, replace title with “Manufacturer Certified Test Report(s) (MCTR)”.

Page 10-96, Subarticle 1072-5(D)(7)(c) Distributor Certified Test Report(s), line 1, replace title with “Distributor Certified Test Report(s) (DCTR)”.

Page 10-98, Subarticle 1072-5(F) Galvanized High Strength Bolts, Nuts and Washers, line 11, replace “Article 1080-9” with “Article 1080-7”.

Page 10-111, Subarticle 1072-18(B) General, line 24, replace “Structural Welding Code-Reinforcing Steel” with “Structural Welding Code-Steel Reinforcing Bars”.

Page 10-117, Article 1074-1 WELDING, lines 21-22, replace “Structural Welding Code-Reinforcing Steel” with “Structural Welding Code-Steel Reinforcing Bars”.

Page 10-119, Article 1074-7(B) Gray Iron Castings, line 16, replace “M306” with “AASHTO M 306”.

Page 10-121, Article 1076-7, REPAIR OF GALVANIZING, line 8, replace article number “1080-9” with “1080-7”.

Page 10-125, Subarticle 1077-5(B) Testing, line 31, replace “T 23” with “R 100”.

Page 10-131, Subarticle 1078-4(A) Composition and Design, after line 23, in Table 1078-2 replace “T 23” with “R 100”.

Page 10-135, Subarticle 1078-4(J)(2) Mixing Time for Central Mixed Concrete, line 46, replace “Table 1078-2” with “Table 1078-3”

Page 10-136, Subarticle 1078-4(J)(2) Mixing Time for Central Mixed Concrete, after line 17, replace “T23” with “R100”.

Page 10-153, Subarticle 1079-1 PREFORMED BEARING PADS, line 8, replace “MIL-C882-D” with “MIL-C-882-E”.

Page 10-154, Subarticle 1079-2(A) General, line 6, delete “and 1079-2(E)”.

Page 10-156, Article 1080-5 SELF-CURING INORGANIC ZINC PAINT, line 8, replace “AASHTO M 252” with “AASHTO M 300”.

Page 10-156, Article 1080-5 SELF-CURING INORGANIC ZINC PAINT, line 20, replace “AASHTO M 253” with “AASHTO M 300”.

Page 10-156, Subarticle 1080-9(A) Composition, line 40, replace “Tables 1080-7 through 1080-14” with “Tables 1080-1 through 1080-3”.

Page 10-157, Subarticle 1080-9(B) Properties, line 5, replace “Tables 1080-7 through 1080-14” with “Tables 1080-1 through 1080-3”.

Page 10-157, Subarticle 1080-9(B) Properties, line 35, replace “Materials and Tests Standards CLS-P-1.0” with “*Structural Steel Shop Coatings Program*”.

Page 10-159, Subarticle 1080-9(E) Color Variation, Table 1080-1, replace “ASTM D1159” with “ASTM D1199”.

Page 10-159, Subarticle 1080-9(E) Color Variation, Table 1080-1, replace “NCDOT M&T P-10” with “ASTM D6280”.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace “ASTM D13278” and “ASTM D3278”.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace “NCDOT M&T P-10” and “Structural Steel Shop Coatings Program”.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, add Test Method “ASTM D4400” for the Leneta Sag Test property in Table 1080-3.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, add Test Method “ASTM D523” for the Gloss, Specular property in Table 1080-3.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace Test Method “ASTM” with “ASTM E70” for the pH property in Table 1080-3.

Page 10-162, Article 1080-50 PAINT FOR VERTICAL MARKERS, line 1, replace article number “1080-50” with “1080-10”.

Page 10-162, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL, line 5, replace article number “1080-61” with “1080-11”.

Page 10-162, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL, line 22, replace article number “1080-72” with “1080-12”.

Page 10-163, Article 1080-83 FIELD PERFORMANCE AND SERVICES, line 25, replace article number “1080-83” with “1080-13”.

Page 10-166, Subarticle 1081-1(E) Prequalification, line 24, replace “Value Management Unit” with “Product Evaluation Program”.

Page 10-168, Subarticle 1081-3(A) Physical Requirements, after line 25, replace “Subarticle 1081-4(B)” with “Subarticle 1081-3(B)” in Table 1081-2.

Page 10-168, Subarticle 1087-2(A) Paint Composition, lines 19-20, replace “Federal Specification TTP 1952F” with “Federal Specification TT-P-1952”.

Page 10-200, Subarticle 1090-1(C) Anchor Bolts, line 38, replace ASTM number “A325” with “F3125”.

Page 10-202, Subarticle 1091-3(F) Solid Wall HDPE Conduit, line 5, replace “, Table 1091-1, 1091-2 and 1091-3” with “and Table 1091-1”.

Page 10-208, Subarticle 1094-1(A) Breakaway or Simple Steel Beam Sign Supports, line 19, replace ASTM number “A325” with “F3125”.

Page 10-209, Subarticle 1094-1(D) Steel Square Tube Posts, line 10, replace ASTM number “A123” with “A653”.

Page 10-209, Subarticle 1094-1(E) Wood Supports, line 17, replace “Article 1082-2 and 1082-3” with “Section 1082”.

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 21, replace “NEMA Type 3R” with “NEMA 3R”.

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 36, replace “UL Standard 231” with “UL Standard UL-231”.

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 37, replace “UL Standard 67” with “UL Standard UL-67”.

Page 10-224, Subarticle 1098-14(H)(1) Type I – Pedestrian Pushbutton Post, line 3, replace ASTM number “325” with “F3125”.

Page 10-224, Article 1098-16 CABINET BASE ADAPTER/EXTENDER, line 33, replace Section number “6.7” with “6.8”.

Division 14

Page 14-11, Subarticle 1401-2(B) Lowering Device, line 36, replace Military Specification “MIL-W-83420E” with “MIL-DTL-83420”.

Page 14-22, Article 1412-2 MATERIALS, line 29, replace UL Standard “1572” with “1598”.

Division 15

Page 15-6, Subarticle 1510-3(B) Testing and Sterilization, line 40, replace Section number “4.4.3” with “4.4”.

Page 15-14, Article 1525-2 MATERIALS, line 9, replace “AASHTO M 198” with “ASTM C990”.

Page 15-14, Article 1525-2 MATERIALS, lines 17-18, delete “in the Grout Production and Delivery provision”.

Page 15-19, Article 1550-2 MATERIALS, line 16, replace “*AASHTO LRFD Bridge Design Specifications*” with “*AASHTO LRFD Bridge Construction Specifications*”.

Division 16

Page 16-9, Article 1630-3 MEASUREMENT AND PAYMENT, line 7, replace "Section 225" with “Article 225-7”.

Page 16-9, Article 1630-3 MEASUREMENT AND PAYMENT, line 8, replace "Section 230" with “Article 230-5”.

Page 16-16, Article 1637-5 MEASUREMENT AND PAYMENT, line 17, replace "Section 310" with “Article 310-6”.

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, lines 42-44, replace the second sentence with the following:

An example is an installation of a single 1.25 inch HDPE conduit would be paid as:

Directional Drill (1)(1.25") Linear Foot

Page 17-15, Subarticle 1715-3(E) Bore and Jack, line 5, replace article number “1540-4” with “1550-4”.

Page 17-15, Subarticle 1715-3(E) Bore and Jack, lines 10 & 11, replace "*NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way*" with “*NCDOT Utilities Accommodations Manual*”.

PLANT AND PEST QUARANTINES:

(Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, Guava Root Knot Nematode, And Other Noxious Weeds)

(3-18-03) (Rev. 5-21-19)

Z-04a

Within Quarantined Area

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

Originating in a Quarantined County

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or <https://www.ncagr.gov/plantindustry/Plant/quaran/table2.htm> to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed, emerald ash borer, guava root knot nematode, or other noxious

MINIMUM WAGES

(7-21-09)

Z-5

FEDERAL: The Fair Labor Standards Act provides that with certain exceptions every employer shall pay wages at the rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

STATE: The North Carolina Minimum Wage Act provides that every employer shall pay to each of his employees, wages at a rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all skilled labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all intermediate labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all unskilled labor on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

This determination of the intent of the application of this act to the contract on this project is the responsibility of the Contractor.

The Contractor shall have no claim against the Department of Transportation for any changes in the minimum wage laws, Federal or State. It is the responsibility of the Contractor to keep fully informed of all Federal and State Laws affecting his contract.

TITLE VI AND NONDISCRIMINATION:

(6-28-77)(Rev 6/19/2018)

Z-6

Revise the *2018 Standard Specifications* as follows:

Replace Article 103-4(B) with the following:

The North Carolina Department of Transportation is committed to carrying out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts.

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

(1) Title VI Assurances (USDOT Order 1050.2A, Appendix A)

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(a) Compliance with Regulations

The contractor (hereinafter includes consultants) shall comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(b) Nondiscrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

(c) Solicitations for Subcontractors, Including Procurements of Materials and Equipment

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

(d) Information and Reports

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance:

In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it and/or the FHWA may determine to be appropriate, including, but not limited to:

- (i) Withholding payments to the contractor under the contract until the contractor complies; and/or
- (ii) Cancelling, terminating, or suspending a contract, in whole or in part.

(f) Incorporation of Provisions

The contractor shall include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(2) Title VI Nondiscrimination Program (23 CFR 200.5(p))

The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:

- (a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
 1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.

2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
 3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:

“The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award.”
 4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
 5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
 6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.
- (b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))
- (c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))
- (d) The Contractor is responsible for notifying subcontractors of NCDOT’s External Discrimination Complaints Process.
1. Applicability

Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.

2. Eligibility

Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.

3. Time Limits and Filing Options

Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:

- (i) The date of the alleged act of discrimination; or
- (ii) The date when the person(s) became aware of the alleged discrimination; or
- (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.

Title VI and related discrimination complaints may be submitted to the following entities:

- North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
- Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010
- US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070

4. Format for Complaints

Complaints must be in writing and signed by the complainant(s) or a representative, and include the complainant’s name, address, and telephone number. Complaints received by fax or e-mail will be acknowledged and processed. Allegations received by telephone will be reduced to writing and provided to the complainant for confirmation or revision before processing. Complaints will be accepted in other languages, including Braille.

5. Discrimination Complaint Form

Contact NCDOT Civil Rights to receive a full copy of the Discrimination Complaint Form and procedures.

6. Complaint Basis

Allegations must be based on issues involving race, color, national origin (LEP), sex, age, disability, or religion (in the context of employment, aviation or transit). “Basis” refers to the complainant’s membership in a protected group category.

TABLE 103-1 COMPLAINT BASIS			
Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities

Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. (<i>Executive Order 13166</i>)
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin (<i>Limited English Proficiency</i>)	Place of birth. Citizenship is not a factor. (<i>Discrimination based on language or a person's accent is also covered</i>)	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. <i>Note: Sex under this program does not include sexual orientation.</i>	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990
Religion (in the context of employment) (<i>Religion/ Creed in all aspects of any aviation or transit-related construction</i>)	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. <i>Note: Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.</i>	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. (<i>49 U.S.C. 5332(b); 49 U.S.C. 47123</i>)

(3) Pertinent Nondiscrimination Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

- (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- (b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- (c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- (d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;

- (e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- (f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
- (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).

(4) Additional Title VI Assurances

***The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*

(a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the North Carolina Department of Transportation (NCDOT) will accept title to the lands and maintain the project constructed thereon in accordance with the North Carolina General Assembly, the Regulations for the Administration of the Federal-Aid Highway Program, and the policies and procedures prescribed by the Federal Highway Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the NCDOT all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the North Carolina Department of Transportation (NCDOT) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the NCDOT, its successors and assigns.

The NCDOT, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the NCDOT will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

- (b) Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program (1050.2A, Appendix C)

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(a):

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
 - (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
 2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. *
 3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

- (c) Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program (1050.2A, Appendix D)

The following clauses will be included in deeds, licenses, permits, or similar instruments/ agreements entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(b):

1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.

2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. *
3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

ON-THE-JOB TRAINING:

(10-16-07) (Rev. 4-21-15)

Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties.

The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract document

Form IDIQ-1MA
 Rev Feb 18, 2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
WORK ORDER ASSIGNMENT – Multiple Award Contracts

Contract Title:		Bonding Required (yes or no)
Awarded Contractors:		LDs (yes or waived):
1st Award		PO #:
2nd Award		PO #:
3rd Award		PO #:

Work order Number: _____
Project Location: _____
Project WBS: _____

Project Description and Special Notes:

Estimate of Line Items and Quantities, add additional rows if needed. Payment will be based on actual line items and quantities verified in the field.			
Line Code Item No.	Description	Unit	Quantity
Estimate Total:			

Estimate
Approved By: _____ **Date:** _____

In acceptance of this work order, the contractor agrees to mobilize and pursue the work diligently with workers in sufficient numbers, abilities, and supervision, and with equipment, materials and methods of construction as may be required to complete the work described in the contract or as may be amended by the completion date.

Date of Availability:	Completion Date:
NCDOT's Signature:	Date of Signature:
Contractor's Signature:	Date of Signature:

<u>LISTING OF MBE/WBE SUBCONTRACTORS</u>					
Sheet		of			
Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				

* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:
If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.
If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

<u>LISTING OF MBE/WBE SUBCONTRACTORS</u>					
Sheet _____ of _____					
Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
Address	WBE				

* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:

**** Dollar Volume of MBE Subcontractor** \$ _____

MBE Percentage of Total Contract Bid Price _____ %

**** Dollar Volume of WBE Subcontractor** \$ _____

WBE Percentage of Total Contract Bid Price _____ %

*If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.
If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.*

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR

CONTRACT:	NAME OF BIDDER:
------------------	------------------------

The undersigned intends to perform work in connection with the above contract upon execution of the bid and subsequent award of contract by the Local Public Agency as:

Name of MBE/WBE/DBE Subcontractor _____

Address _____

City _____ State _____ Zip _____

Please check all that apply:
 Minority Business Enterprise (MBE) _____
 Women Business Enterprise (WBE) _____
 Disadvantaged Business Enterprise (DBE) _____

The MBE /WBE /DBE status of the above named subcontractor is certified by the North Carolina Department of Transportation. The above named subcontractor is prepared to perform the described work listed on the attached MBE/WBE/DBE Commitment Items sheet, in connection with the above contract upon execution of the bid and subsequent award of contract by the Local Public Agency. The above named subcontractor is prepared to perform the described work at the estimated Commitment Total for Subcontractor Price identified on the MBE/WBE/DBE Commitment Items sheet and amount indicated below.

Commitment Total based on estimated Unit Prices and Quantities on the “attached” MBE/WBE/DBE Commitment Items sheet:

Amount \$ _____

The above named bidder and subcontractor mutually accepts the Commitment Total estimated for the Unit Prices and Quantities. This commitment total is based on estimated quantities only and most likely will vary up or down as the project is completed. Final compensation will be based on actual quantities of work performed and accepted during the pursuance of work. The above listed amount represents the entire dollar amount quoted based on these estimated quantities. No conversations, verbal agreements, and/or other forms of non-written representations shall serve to add, delete, or modify the terms as stated.

This document shall not serve in any manner as an actual subcontract between the two parties. A separate subcontractor agreement will describe in detail the contractual obligations of the bidder and the MBE/WBE/DBE subcontractor.

Affirmation

The above named MBE/ WBE/ DBE subcontractor affirms that it will perform the portion(s) of the contract for the estimated dollar value as stated above.

Name of MBE/ WBE/ DBE Subcontractor	Name of Bidder
Signature / Title	Signature / Title
Date	Date

EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

CORPORATION

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

_____ Full name of Corporation

_____ Address as Prequalified

Attest _____
Secretary/Assistant Secretary
Select appropriate title

By _____
President/Vice President/Assistant Vice President
Select appropriate title

_____ Print or type Signer's name

_____ Print or type Signer's name

Date of Execution _____

CORPORATE SEAL

**EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**

PARTNERSHIP

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

_____ Full Name of Partnership

_____ Address as Prequalified

_____ By _____
Signature of Witness Signature of Partner

_____ Print or type Signer's name

_____ Print or type Signer's name

Date of Execution _____

**EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**

LIMITED LIABILITY COMPANY

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

Full Name of Firm

Address as Prequalified

Signature of Witness

Signature of Member/Manager/Authorized Agent
Select appropriate title

Print or type Signer's name

Print or type Signer's Name

Date of Execution _____

**EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**

JOINT VENTURE (2) or (3)

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

Instructions: **2 Joint Venturers** Fill in lines (1), (2) and (3) and execute. **3 Joint Venturers** Fill in lines (1), (2), (3) and (4) and execute. On Line (1), fill in the name of the Joint Venture Company. On Line (2), fill in the name of one of the joint venturers and execute below in the appropriate manner. On Line (3), print or type the name of the other joint venturer and execute below in the appropriate manner. On Line (4), fill in the name of the third joint venturer, if applicable and execute below in the appropriate manner.

(1) _____
Name of Joint Venture

(2) _____
Name of Contractor

Address as Prequalified

Signature of Witness or Attest By _____
Signature of Contractor

Print or type Signer's name _____
Print or type Signer's name

If Corporation, affix Corporate Seal and

(3) _____
Name of Contractor

Address as Prequalified

Signature of Witness or Attest By _____
Signature of Contractor

Print or type Signer's name _____
Print or type Signer's name

If Corporation, affix Corporate Seal and

(4) _____
Name of Contractor (for 3 Joint Venture only)

Address as Prequalified

Signature of Witness or Attest By _____
Signature of Contractor

Print or type Signer's name _____
Print or type Signer's name

If Corporation, affix Corporate Seal

Date of Execution _____

**EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION
INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

Name of Prequalified Bidder

_____ Individual name

Trading and doing business as

_____ Full name of Firm

_____ Address as Prequalified

_____ Signature of Witness

_____ Signature of Prequalified Bidder, Individually

_____ Print or type Signer's name

_____ Print or type Signer's name

Date of Execution _____

**EXECUTION OF BID
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION
INDIVIDUAL DOING BUSINESS IN HIS OWN NAME**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF PREQUALIFIED BIDDER

Name of Prequalified Bidder _____
Print or type name

Address as Prequalified

Signature of Prequalified Bidder, Individually

Print or type Signer's Name

Signature of Witness

Print or type Signer's name

Date of Execution _____

DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Municipality if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

Check here if an explanation is attached to this certification.

ADDENDUM(S)

SPD 25-100

(3-3-2014)

ADDENDUM #1

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #1.

ADDENDUM #2

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #2.

ADDENDUM #3

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #3.

ITEMIZED PROPOSAL FOR MJ00027

WBS #	10BPR.10603, etc.	TIP# NA	FA# NA
Type of Work	Interstate and Bridge Maintenance Concrete Repair		
County	Anson, Cabarrus, Mecklenburg, Stanly, Union		
Location	Various Interstate, Primary and Secondary Routes		

LINE NO.	DESC. NO.	MASTER ITEM NO.	SEC. NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT PRICE	TOTAL AMOUNT
2	13	0000915000-N	SP	EMERGENCY MOBILIZATION (24 HOUR RESPONSE)	2	EA		
3	34	0036000000-E	225	UNDERCUT EXCAVATION	2	CY		
4	50	0170000000-E	SP	REMOVAL OF EXISTING CONCRETE PAVEMENT SLABS	25	SY		
5	56	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	60	SY		
6	176	1121000000-E	520	AGGREGATE BASE COURSE	5	TON		
7	224	1702000000-E	SP	SEALING EXISTING CRACKS & SPALLS, (POLYMER PATCH)	250	LB		
8	224	1702000000-E	SP	SEALING EXISTING PAVEMENT CRACKS & JOINTS (WITHOUT ROUTER OR DIAMOND SAW)	250	LB		
9	224	1702000000-E	SP	SEALING EXISTING PAVEMENT CRACKS & JOINTS (WITH ROUTER OR DIAMOND SAW)	250	LB		
10	231	1736000000-E	723	SELECT MATERIAL, CLASS IV	2	TON		
11	255	1847000000-E	710	PORTLAND CEMENT CONCRETE PAVEMENT, THROUGH LANES (WITH DOWELS)	15	SY		
15	638	4600000000-N	SP	TEMPORARY LANE CLOSURE (MULTI LANE ROADWAY)	30	EA		
16	638	4600000000-N	SP	TEMPORARY RAMP CLOSURE	10	EA		
17	638	4600000000-N	SP	TEMPORARY SHOULDER CLOSURE	20	EA		
20	1444	8660000000-E	SP	CONCRETE REPAIRS, 0.5 TO 2 CF	10	CF		
21	1444	8660000000-E	SP	CONCRETE REPAIRS, 2.1 TO 5 CF	10	CF		
22	1444	8660000000-E	SP	CONCRETE REPAIRS, 5.1 TO 10 CF	10	CF		
23	1444	8660000000-E	SP	CONCRETE REPAIRS, OVER 10 CF	10	CF		
24	1445	8664000000-E	SP	SHOTCRETE REPAIRS	300	CF		
25	1447	8678000000-E	SP	EPOXY RESIN INJECTION	50	LF		
26	1496	8867000000-E	SP	SILICONE JOINT REPLACEMENT	500	LF		

27	1496	8867000000-E	SP	EVAZOTE/FOAM JOINT REPLACEMENT	50	LF		
28	1496	8867000000-E	SP	REMOVAL OF EXISTING ARMOR/ANCHOR ASSEMBLY	250	LF		
29	1496	8867000000-E	SP	ASPHALT PLUG JOINT REPAIR/REPLACEMENT (18"-24" WIDE W/PLATE)	250	LF		
30	1496	8867000000-E	SP	JOINT REPAIR USING ELASTOMERIC CONCRETE (LESS THAN 16" WIDE OR LESS THAN 2" DEEP)	175	LF		
31	1496	8867000000-E	SP	JOINT REPAIR USING ELASTOMERIC CONCRETE (GREATER THAN 16" WIDE OR GREATER THAN 2" DEEP)	25	LF		
32	1502	8892000000-E	SP	CLASS I CONCRETE DECK/SPALL REPAIR	125	SF		
33	1502	8892000000-E	SP	CLASS II CONCRETE DECK/SPALL REPAIR	375	SF		
34	1502	8892000000-E	SP	CLASS III CONCRETE DECK/SPALL REPAIR	125	SF		
35	1503	8893000000-E	SP	SHOTBLASTING BRIDGE DECK	3000	SY		
36	1503	8893000000-E	SP	SILANE DECK TREATMENT	3000	SY		

Total Bid for Project

CONTRACTOR _____

ADDRESS _____

Federal ID No. _____

Contr. License No. _____

Telephone No. _____

Vendor No. _____

Authorized Agent _____

Signature _____

Witness _____

Signature _____



Title _____

Date _____

Title _____

Date _____

EXECUTION OF CONTRACT

Contract No: MJ00027

County: Anson, Cabarrus, Mecklenburg, Stanly and Union

ACCEPTED BY THE DEPARTMENT

Contracts Engineer

Date

EXECUTION OF CONTRACT
APPROVED AS TO FORM:

Division Engineer