STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 13

PROPOSAL

DATE AND TIME OF BID OPENING: JULY 7, 2021 AT 2:00 PM

CONTRACT ID: 11979145

WBS ELEMENT NO.: 13.101131, 13.101111, 13.201111, 13.201121, ETC.

FEDERAL AID NO.: STATE FUNDED

COUNTY: BUNCOMBE, BURKE, MADISON, MCDOWELL, MITCHELL,

RUTHERFORD, AND YANCEY COUNTIES

TIP NO.: N/A

MILES: N/A

ROUTE NO.: VARIOUS INTERSTATE, PRIMARY, AND SECONDARY

ROUTES

LOCATION: VARIOUS

TYPE OF WORK: CULVERT PIPE LINING AND REPAIR UPON REQUEST

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 MAINTENANCE PROJECT.

BID BONDS ARE REQUIRED.

NAME OF BIDDER

ADDRESS OF BIDDER

PROPOSAL FOR THE CONSTRUCTION OF

CONTRACT No. 11979145 IN BUNCOMBE, BURKE, MADISON, MCDOWELL, MITCHELL, RUTHERFORD, AND YANCEY COUNTIES, NORTH CAROLINA

20

Date		20
DEPAR	TMENT OF TRA	NSPORTATION,
RA	LEIGH, NORTH	CAROLINA

Doto

The Bidder has carefully examined the location of the proposed work to be known as Contract No. <u>11979145</u>; 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 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. 11979145 in Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey 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.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the Standard Specifications; otherwise said deposit will be returned to the Bidder.

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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. All entries on the itemized proposal sheet (bid form) shall be written in ink or typed.
- **3.** 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 TWO decimal places.
- **4.** 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.
- 5. 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.
- **6.** 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.
- 7. 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.
- 8. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
- **9.** 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.
- 10. THE PROPOSAL WITH THE ITEMIZED PROPOSAL SHEET ATTACHED SHALL BE PLACED IN A <u>SEALED</u> ENVELOPE AND SHALL BE DELIVERED TO AND RECEIVED IN THE NCDOT DIVISION 13 OFFICE, LOCATED AT 55 ORANGE STREET, BY 2:00 PM ON WEDNESDAY, JULY 7, 2021.
- 11. The sealed bid must display the following statement on the front of the sealed envelope:

QUOTATION FOR CONTRACT PROPOSAL #11979145 – CULVERT PIPE LINING AND REPAIR UPON REQUEST ON VARIOUS INTERSTATE, PRIMARY, AND SECONDARY ROUTES IN BUNCOMBE, BURKE, MADISON, MCDOWELL, MITCHELL, RUTHERFORD, AND YANCEY COUNTIES TO BE OPENED AT 2:00 PM ON WEDNESDAY, JULY 7, 2021.

ATTN: DAN JOHNSON

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

N. C. DEPARTMENT OF TRANSPORTATION ATTN: DAN JOHNSON 55 ORANGE STREET ASHEVILLE, NC 28801

PROJECT SPECIAL PROVISIONS

GENERAL

PROJECT DESCRIPTION:

This renewable contract is an as-needed contract for culvert pipe lining and repair upon request on various interstate, primary, and secondary routes in Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey Counties. The items and quantities included on the bid form are for bidding purposes only.

This work shall consist of furnishing all labor, equipment, and materials to repair pipes using the cured in place pipe liner or the cementitious/geopolymer spray pipe liner method as required by the Engineer at locations determined by the Engineer. Work includes placement of the required lining type, filling voids around the pipe, headwall repair if required, dewatering the work site, cleaning the pipe, waste disposal, erosion control, and all incidental items necessary to complete the requested work as specified. Plans for dewatering at each site shall be approved by the Department prior to beginning work. Should the Contractor determine that a Right of Entry is needed at any work location, the Department will be responsible for its acquisition.

All work in this contract is to be completed on an as-needed basis. Notification of work will be verbal followed by a faxed or emailed work order with location(s) and estimated quantities. There will be no minimum quantities for any line item associated with a particular work order. The Contractor shall notify the Engineer 48 hours in advance of beginning work. All work included in a work order shall be agreed upon by the Engineer and the Contractor prior to beginning work.

Pipe lining for any arch pipe culverts that might be specified by the Engineer will be paid at the contract unit price for the equivalent pipe diameter as shown in the Equivalent Diameter Table.

EQUIVALENT DIAMETER TABLE

Equivalent	Nominal Span	Nominal Rise			
Diameter (inches)	(inches)	(inches)			
54	60	46			
60	66	51			
66	73	55			
72	81	59			
78	87	63			
84	95	67			
90	103	71			
96	112	75			
102	117	79			
108	128	83			
114	137	87			
120	142	91			

For example, 100 LF of 103" x 71" arch pipe culvert would be paid as 100 LF of 90" pipe.

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 2018 Standard Specifications.

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.

BOND REQUIREMENTS:

(06-01-16)

102-8, 102-10

SPD 01-420A

A Bid Bond is required in accordance with Article 102-10 of the 2018 Standard Specifications for Roads and Structures.

Contract Payment and Performance Bonds are required in accordance with Article 103-7 of the 2018 Standard Specifications for Roads and Structures.

CONTRACT PERIOD:

(05-19-21)

SPD

This contract shall be effective for one (1) contract period (12 months). At the option of the Department and upon agreement by the Contractor, this contract may be extended for up to two (2) additional one (1) year periods.

If the contract is to be extended, the Engineer will offer an extension to the Contractor in writing within seventy-five days of the current contract completion date. The Contractor shall notify the Engineer in writing within fifteen days of his acceptance or rejection of the extension offer. Failure on the part of the Contractor to reply within fifteen days of an extension offer will be considered an offer rejection.

For each additional year the contract is extended, the Contractor shall provide an ACORD insurance certificate showing a minimum of \$5,000,000 Liability Insurance along with proof of all other legally required insurance a minimum of thirty (30) days prior to the expiration of the current contract.

CONTRACT TIME AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 12-18-07) 108 SPI G10 A

The date of availability for this contract is **August 16, 2021**.

The completion date for this contract is **August 15, 2022**.

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.

The liquidated damages for this contract shall be in accordance with **Intermediate Contract Time Number 1**.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

The Engineer will notify the Contractor of locations for pipe rehabilitation and repair. Notification of work will be verbal followed by a faxed or emailed work order. The Contractor will be required to mobilize within the specified time frame.

The Contractor will be provided a work order with location(s) and estimated quantities. There will be no minimum quantities for any line item associated with a particular mobilization. All work assigned in the work order shall be agreed upon by the Engineer and the Contractor prior to work commencing.

The contractor will be required to begin work within **Thirty** (30) **Calendar Days** after notification from the State, unless otherwise waived by the Engineer. **Failure to respond to a request within the specified time frame will result in the application of liquidated damages.**

Liquidated damages will be in the amount of **Seven Hundred Dollars** (\$700.00) per calendar day for not beginning work within the time frame as specified above. Work shall be accomplished in a continuous manner once the contractor begins.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:

(2-20-07) 108 SP1 G14 B

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

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

- 1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.
- 2. For **New Year's Day**, between the hours of **3:00 PM** December 31st and **7:00 AM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday, or Monday, then until **7:00 AM** the following Tuesday.
- 3. For **Easter**, between the hours of **3:00 PM** Thursday and **7:00 AM** Monday.
- 4. For **Memorial Day**, between the hours of **3:00 PM** Friday and **7:00 AM** Tuesday.
- 5. For **Independence Day**, between the hours of **3:00 PM** the day before Independence Day and **7:00 AM** the day after Independence Day.
 - If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **3:00 PM** the Thursday before Independence Day and **7:00 AM** the Tuesday after Independence Day.
- 6. For **Labor Day**, between the hours of **3:00 PM** Friday and **7:00 AM** Tuesday.
- 7. For **Thanksgiving Day**, between the hours of **3:00 PM** Tuesday and **7:00 AM** Monday.
- 8. For **Christmas**, between the hours of **3:00 PM** the Friday before the week of Christmas Day and **7:00 AM** the following Tuesday after the week of Christmas Day.

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 existing traffic pattern.

The liquidated damages are **Seven Hundred Dollars** (\$700.00) per hour.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:

SP1 G14 C

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on I-40, I-26, and I-240 in Division 13 or any US route in Buncombe County during the following time restrictions unless approved by the Engineer:

DAY AND TIME RESTRICTIONS

7:00 AM to 7:00 PM (EVERYDAY)

In addition to the above restrictions, no work is allowed on I-26 south of I-40 7:00 AM to 12:00 AM (midnight) Friday, Saturday, and Sunday.

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the lane closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the lane closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern.

The liquidated damages are **Seven Hundred Dollars** (\$700.00) per hour.

INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES:

(2-20-07) SP1 G14 C

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on any US route in Burke, Madison, McDowell, and Rutherford counties or any NC route in Buncombe, Burke, Madison, McDowell, and Rutherford counties during the following time restrictions unless approved by the Engineer:

DAY AND TIME RESTRICTIONS

7:00 AM to 9:00 AM and 4:00 PM to 7:00 PM (EVERYDAY)

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the lane closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the lane closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern.

The liquidated damages are **Seven Hundred Dollars** (\$700.00) per hour.

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 work. 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. **The Contactor shall at no time leave a worksite in an unsafe condition once work has begun.**

In the event that the Contractor's operations are suspended in violation of the above provisions, the sum of \$700.00 will be charged 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.

NO MAJOR CONTRACT ITEMS:

(2-19-02) (Rev. 8-21-07) 104 SPI G31

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

NO SPECIALTY ITEMS:

(7-1-95) 108-6 SPI G34

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

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS):

(10-16-07)(Rev. 2-19-19) 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 <u>not</u> 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% 20 Forms/Joint% 20 Check% 20 Notification% 20 Form.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%20 a%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

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 additional MBE/WBE subcontractors. additional subcontractors and Any 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 **three** (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 <u>not</u> 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.

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).

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.

MULTI-YEAR MAINTENANCE CONTRACTS:

(A 20 21)

SP1 G75

This contract is a multi-year maintenance contract let pursuant to the provisions of N.C. General Statute §136-28.1. In accordance with N.C. General Statute §136-28.1, an award in a maintenance contract shall not exceed \$5,000,000 per year. This contract award is limited to \$5,000,000 per year. No payments in excess of this amount will be disbursed, in accordance with the Statute.

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:

(11-17-20)

SP01 G090

All telecommunications, video or other ITS equipment or services installed or utilized on this project must be in conformance with UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS 2 CFR, § 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19)

SP01 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 SPI 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.

OUTSOURCING OUTSIDE THE USA:

(9-21-04) (Rev. 5-16-06) SPI GI50

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.

MOBILIZATION:

(05-19-21)

Revise the 2018 Standard Specifications as follows:

Page 8-1, Article 800-2 Measurement and Payment, delete the entire section and replace with the following:

No direct payment will be made for Mobilization, as the cost of this work will be considered incidental to the work being paid for under the various items included in the contract.

QUANTITIES ESTIMATED:

(05-19-21) 102-5 SPD

The contract quantities shown on the itemized bid form are estimated for a one year **as-needed** contract term and are provided for comparison of bids. The actual quantities of completed work may be more or less than the contract quantities.

INVOICES:

(05-19-21) SPD

The Contractor and the NCDOT inspector shall discuss and agree on all line items and quantities, prior to the Contractor submitting an invoice.

The Contractor may submit a request for payment monthly or another interval as approved by the Engineer. The amount of payments will be based on the work completed and accepted as of the last day of the approved pay period.

All invoices must show the purchase order number on the invoice and any other subsequent paperwork as required as part of this contract.

Invoices shall be submitted to:

North Carolina Department of Transportation Chris Guffey, District 1 Engineer 3931 NC 226 South Marion, NC 28752

CPI PRICE ADJUSTMENTS:

(07-07-21) SPD

The compensation payable to the contractor shall be fixed for the first twelve months of this contract. However, upon acceptance for renewal by the contractor, sixty (60) days prior to the end of each contract period, the renewed contract may be adjusted to reflect the increase or decrease in the Consumer Price Index (CPI-U) for the previous twelve (12) month period as published by the US Bureau of Labor Statistics (https://www.bls.gov/cpi/). If the amount of the requested increase is more than ten (10) percent, the Department of Transportation reserves the right to cancel this contract.

The CPI will be determined from May-to-May periods. Example of May 2020 to May 2021 below:

Yr	J	F	M	A	M	J	J	A	S	O	N	D
20	257.971	258.678	258.115	256.389	256.394	257.797	259.101	259.918	260.280	260.388	260.229	260.474
21	261.582	263.014	264.877	267.054	269.195							

CPI for current period	269.195
Less CPI for previous period	267.054
Equals index point change	2.141
Divided by previous period CPI	267.054
Equals	0.00802
Result multiplied by 100	0.00802 x 100
Equals percent change	0.80%

If approved for renewal, the cost adjustment period for the first renewal of this contract will be May 2021 to May 2022. If approved for renewal, the cost adjustment period for the second renewal of this contract will be May 2022 to May 2023.

PROJECT SPECIAL PROVISIONS

ROADWAY

WORK ZONE INSTALLER:

(7-20-21) 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 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.

STANDARD SPECIAL PROVISION 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(D) of the 2018 Standard Specifications.

STANDARD SPECIAL PROVISION

ERRATA

(10-16-18) (Rev.2-16-21)

Z-4

Revise the 2018 Standard Specifications as follows:

Division 6

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

Division 7

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 10

Page 10-78, Article 1056-4 GEOTEXTILES, TABLE 1056-1, Permittivity, Type 2, replace "Table 6^D" with "Table 7^D" and Permittivity, Type 3^B, replace "Table 7^D" with "Table 8^D".

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

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".

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

STANDARD SPECIAL PROVISION

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 Ouarantined 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

<u>https://www.ncagr.gov/plantindustry/Plant/quaran/table2.htm</u> 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 weeds.

STANDARD SPECIAL PROVISION

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.

STANDARD SPECIAL PROVISION

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 (a) through (f) 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 US.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

Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey Counties

- (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. (Executive Order 13166)		
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.			
National Origin (Limited English Proficiency)	Place of birth. Citizenship is not a factor. (Discrimination based on language or a person's accent is also covered)	Mexican, Cuban, Japanese, Vietnamese, Chinese			
Sex	Gender. The sex of an individual.	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.		

Age	Note: Sex under this program does not include sexual orientation. 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) (Religion/ Creed in all aspects of any aviation or transit-related construction)	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:</i> 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.	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. (49 U.S.C. 5332(b); 49 U.S.C. 47123)

(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);
- (1) 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.)

STANDARD SPECIAL PROVISION

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.\

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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.

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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 documents.

WORK ZONE TRAFFIC CONTROL GENERAL REQUIREMENTS

TEMPORARY TRAFFIC CONTROL (TTC):

(05-19-21) SPD

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

Install Work Zone Advance Warning Signs in accordance with the detail drawing provided in these plans prior to beginning any other work. Use a lane closure or slow-moving operation to complete the work, as necessary, unless otherwise indicated. Refer to Standard Drawing No. 1101.02, 1101.11, 1110.01, 1110.02, 1130.01 1135.01 and 1180.01 of the 2018 Roadway Standard Drawings. Use a moving operation only if the minimum speed maintained at all times is 3 mph with no stops that narrow or close a lane of travel. If the moving operation is progressing slower than 3 mph at any time, install a lane closure. Maintain the existing traffic pattern at all times, except in the immediate work zone where lane closures are allowed as determined by the Engineer.

Refer to attached details and Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.05, 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 in a stationary work zone such as pavement patching resurfacing, or pavement marking removal. Properly ballasted cones and skinny drums may be used instead of drums. However, drums are required for the upstream taper portion of lane closures in all applications. The stationary work zone shall be a maximum of 1 mile in length at any given time on 2 Lane, 2 Way facilities unless otherwise approved by the Engineer. A pilot vehicle operation may be used in conjunction with flaggers and the appropriate pilot vehicle warning signing as directed by the Engineer. During periods of construction inactivity, return the traffic pattern to the existing alignment and remove or cover any work zone signs. When covering work zone signs, use an opaque material that prevents reading of the sign at night by a driver using high beam headlights. Use material, which does not damage the sign sheeting. Replace any obliterated markings as required by other sections of the 2018 Standard Specifications and the Engineer.

When personnel and/or equipment are working on the shoulder adjacent to and within 5 feet of an open travel lane, close the nearest open travel lane using Standard Drawing No. 1101.02 of the 2018 Roadway Standard Drawings. When personnel and/or equipment are working within a lane of travel of an undivided facility, close the lane according to the traffic control plans, 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. Do not work simultaneously on both sides of an open travel way, within the same location, on a two-lane, two-way road. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

When utilizing a slow-moving operation for such items as pavement marking and marker placement, the operation shall consist of the vehicles and devices as shown on Roadway Standard Drawing No. 1101.02, sheet 11 or 12 of the 2018 Roadway Standard Drawings. Traffic cones may be used when necessary to provide additional protection of wet pavement markings. Ballast all traffic cones so they will not be blown over by traffic.

PROJECT REQUIREMENTS:

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

- Before working on any LOCATION, the Contractor shall submit a written construction sequence
 for traffic control and construction lighting to the Engineer for the specified location, and the
 sequence must be approved before closing a lane of traffic. The Contractor and Engineer will
 coordinate with the Traffic Management Unit at 919- 814-5000 or Traffic Services for
 additional traffic control guidance, as necessary.
- 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 1/4 mile unless otherwise directed by the Engineer.

If Lane Closure Restrictions apply, see Special Provision, "Intermediate Contract Times and Liquidated Damages".

MEASUREMENT AND PAYMENT:

No direct payment will be made for temporary traffic control. All associated costs will be considered incidental to the work being paid for under the various items in the contract.

PROJECT SPECIAL PROVISIONS

STRUCTURES

PIPE REHABILITATION – CURED IN PLACE PIPE (CIPP) LINER:

I. Description

This work shall consist of the rehabilitation of existing storm water pipes, or culverts by the method or methods required by the Engineer at locations determined by the Engineer.

Pipe liner systems used for rehabilitation shall be from the NCDOT Approved Products List and may be subject to limitations for use as specified herein, by site-specific limitations for those locations listed in the Contract, or limitations as shown on the NCDOT Approved Products List for the specific liner system. The Contractor shall consult the Contract to determine the method or methods that are permitted at each rehabilitation location.

The Contractor shall submit to the Engineer a minimum of 10 days prior to start of installation: A certification of the acceptability of the proposed rehabilitation system to provide the necessary hydraulic capacity and structural strength to support the anticipated total load and hydrology at the site of rehabilitation, as determined from a review that has been signed and sealed by a Professional Engineer holding a valid license to practice engineering in the State of North Carolina (unless an exception is noted below). Such certification shall cover all design data, supporting calculations, installation plan, and planned rehabilitation materials. The certification shall indicate that the liner design is for a full structural replacement of a fully deteriorated host pipe.

II. Materials

Cured-In-Place Pipe (CIPP) liners are lining an existing culvert by either pulling or inverting a resin-impregnated fabric tube and curing the tube in place. When CIPP liners are specified, the liner system supplied by the Contractor shall conform to the following requirements as supported by submitted design calculations:

- Shall list host pipe diameter ranges for which the product is applicable.
- Shall indicate corrosion potential/acid reaction potential.
- Shall provide hydraulic calculations comparing existing culvert to proposal culvert liner.
- Shall provide structural calculations.
- Shall list allowable cure methods (e.g., UV, steam, hot water, etc.).
- Shall list typical, minimum, maximum application thicknesses.
- Shall provide proof of initial Manning's Number (n value for roughness in open channel flow) of product.
- Must provide and comply with specification for installation, and provide NCDOT Type 1 or Type 4 Certificates of compliance with material specifications as applicable to the below, or equivalent as approved by the Engineer:
 - o ASTM D5813
 - ASTM F1216 for inverted CIPP
 - o ASTM F1743 for pulled-in-place CIPP
 - o ASTM F2019 for pulled-in-place GRP CIPP

- ASTM F2599 for sectional inverted CIPP (applies to pipe sections, not full length)
- Temperature cure profile.
- Must exactly follow ASTM F1216 Appendix X1.2.2 Fully Deteriorated Gravity Pipe Conditions, and check as follows:
 - Liner thickness to be greatest of: partially deteriorated Eqn. X1.1, partially deteriorated Eqn. X1.2, partially deteriorated Max. SDR (DR) of 100 Note X1.2, fully deteriorated Eqn. X1.3, and fully deteriorated minimum thickness check Eqn. X1.4. Per ASTM F1216 X1.2.2.2.
- Minimum pipe ovality of 2% used for calculations.
 - o If actual ovality is greater than 10% as described in ASTM F1216 X1.1.1, submit calculations based on alternative design methods per ASTM F1216 X1.1.1.
- Soil Enhancement Factor, maximum of 7.
- Poisson's Ratio = 0.3.
- Grout is assumed to have no greater load bearing capacity than surrounding soil.
- Assume groundwater table elevation at greater of: crown of pipe or ½ the distance between lowest invert of pipe and highest ground elevation over pipe.
- Traffic loading is HS-20. Neglect after 8 ft of cover on single barrel culverts if span length is 8 ft or less. For multiple span culverts, the effects may be neglected where the depth of fill exceeds the distance between inside faces of endwalls. See AASHTO LRFD Bridge Design Specifications for additional information.
- Total unit weight of soil is 120 pcf.
- Modulus of soil reaction is 1000psi.
- Factor of safety N = 2.0.
- Long Term Modulus of Elasticity for calculations = 150,000 psi. NCDOT Type 2 or Type 5 certifications may be submitted by vendors or contractors for proof of alternate Long Term Modulus of Elasticity based on ASTM D2990, 10000-hour test performed in the last 3 years by an ISO 17025 lab suitable to the Engineer. Design value of Long Term Modulus of Elasticity may be no greater than 50% of Initial Modulus of Elasticity.
- Initial Modulus of Elasticity for calculations = 300,000 psi. NCDOT Type 2 or Type 5 certifications may be submitted by vendors or contractors for proof of alternate Initial Modulus of Elasticity based on ASTM D790, performed in the last 3 years by an ISO 17025 lab suitable to the Engineer.
- Long Term Flexural Strength = 2250 psi. NCDOT Type 2 or Type 5 certifications may be submitted by vendors or contractors for proof of alternate Long Term Flexural

Strength based on ASTM D2990, 10000-hour test performed in the last 3 years by an ISO 17025 lab suitable to the Engineer.

III. Construction

Pipe Clean-out - The Contractor shall clear the existing pipe(s) designated for rehabilitation of any debris, sediment, protrusions greater than ½ inch in height, and any other potential obstructions prior to the start of rehabilitation efforts. The Contractor shall then thoroughly clean and prepare the host pipe prior to the liner installation. Cleaning shall conform to the recommendations of the liner manufacturer, and any additional requirements of this special provision. In the absence of manufacturer recommendations, the Contractor shall submit his/her proposed method for cleaning and preparing the host pipe for the Engineer's review and acceptance at least 10 working days prior to beginning the work at that location.

Pre-Installation Inspection – The Contractor shall perform a pre-installation **video inspection** of pipe using NASSCO certified personnel. The camera shall be situated at the centerline of the pipe, and shall be mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection. Inspection equipment shall be capable of measuring protrusions and obstructions of ½ inch or greater. Provide a pipe profile, on which deflections that may affect the installation of the liner are located and noted. The inspection shall be performed in the presence of the Engineer, unless waived by the Engineer. Dewater the host pipe to the satisfaction of the Engineer, and in accordance with NCDOT Best Management Practices for Construction and Maintenance Activities. A thorough culvert inspection is required to determine the number of existing "pipe to pipe" connections and the extent, if any, of obstruction removal and voids. The inspection shall be performed by experienced personnel trained in locating breaks, obstacles, voids and service connections. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. A copy of the video inspection shall be furnished to the Engineer prior to the start of rehabilitative construction. The cost of pre-Installation Inspection will be considered incidental to the cost of the installation. In the event the Contractor's inspection shows the method of rehabilitation the Contractor has selected is no longer viable at that location as verified by the Engineer, the Contractor shall select another allowable method, if specified, from those designated in the contract.

Grouting Host Pipe - The Contractor shall perform grouting work described in the contract, prior to pipe liner installation.

Inlet & Outlet Sealing – All pipe liner installations shall be sealed to the host pipe at the terminal ends of the liner to prevent flow between the liner and host pipe.

De-Watering – All pipe liners and grout shall be installed in dry conditions. The Contractor shall de-water by diverting, pumping, or bypassing any water flow through an existing pipe or drainage system prior to and during the lining process. The method of de-watering is to be determined by the contractor but must be approved by the Engineer prior to implementing.

Cured-In-Place Pipe liner method. The Cured-In-Place Pipe liner system shall be designed, fabricated and installed in such a manner as to result in a maintained full contact tight fit to the internal circumference of the host pipe for its entire length. The installation shall adhere to the cure times and temperatures stipulated in the manufacturers recommended installation and cure

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specifications and the finished product shall be free of de-lamination, bubbling, rippling or other signs of installation failure.

Install per specification or standard practice for installation (ASTM F1216 inverted CIPP, or F1743 pulled-in-place CIPP, or F2019 pulled-in-place GRP CIPP, or F2599 sectional inverted CIPP for example).

Pulled-in-place liner installation must be accomplished without significant liner twisting, or stretching the liner greater than 1% of its original length during installation. At no time shall the pulling force, as measured by a contractor-provided dynamometer or load cell, exceed that established by the liner manufacturer. For liner lengths greater than 100 feet, protect the pipe liner end using a device that uniformly distributes the applied load around the perimeter of the liner.

Curing for styrene-based, epoxy-based, and vinyl ester-based CIPP may be accomplished by water, steam or ultraviolet light and shall be in accordance with the liner manufacturer's recommendations.

Installation and curing requirements of pipe sections shall be in accordance with the manufacturer's recommendations for the specific product, as applicable. The Contractor shall furnish installation and curing requirements for the various flexible liners including individual components of the system, tube type (reinforced or non-reinforced), manufacturer name and type of resin including catalyst, volume of resin required to achieve proper impregnation and curing. All components of the systems shall be as recommended by the manufacturer for the specific system used, and all components shall include lot numbers and expiration dates. The Contractor shall submit this documentation, as well as installation recommendations, to the Engineer at least 10 days prior to installation.

The Contractor shall submit the following information to the Engineer a minimum of 10 days prior to installation.

- Designation of Air or water inversion or pull-in-place method.
- Maximum allowable pulling force.
- Curing method (UV, steam, hot water)
- Site specific cure time.
- Minimum pressure to hold liner tight against the host pipe.
- Maximum pressure to ensure liner does not sustain damage.
- Maximum and minimum cure temperatures.
- Ambient temperature range allowable during installation.
- Post cure temperature.
- Calculated minimum thickness of liner.
- Sample of temperature and pressure log to be used for monitoring the curing process.
- Certification on manufacturer's letterhead indicating you are approved by the fabric tube and resin manufacturer to perform CIPP installation work.
- Manufacturer moisture limitations (e.g. installation in the dry, humidity restrictions, etc.).
- Material safety data sheets for all hazardous chemicals that will be used on the job site
 including resin, catalyst, cleaners, and repair agents. Identify the proposed use for each
 hazardous chemical and where it will be used in the work.
- Disposal plan indicating how by-products and waste are to be contained, captured, transported offsite, and disposed of in accordance with project permits and local, state and federal regulations. It shall be the Contractor's responsibility to report and take

appropriate corrective actions to remediate any water quality alteration resulting from lining operations in accordance with project permits and applicable local, state or federal regulations. The cost for such remediation shall be at the Contractor's expense.

The Contractor shall place an impermeable barrier immediately upstream and downstream of the host pipe, prior to liner insertion, to capture any possible raw resin spillage during installation and shall dispose of any materials in accordance with the submitted disposal plan.

Where the pulled-in-place method of installation is used, the Contractor shall install a semi-rigid plastic slip sheet over any interior portions of the host pipe that could tear the outer film or over any significant voids in the host pipe.

Reconnect the existing storm drain lateral connections immediately after the liner has been cured in place. Use robotic cutting devices to re-establish tie-ins in non-man accessible pipes.

The Contractor shall thoroughly rinse the cured lined pipe with clean water prior to re-introducing flow. The Contractor shall capture and properly dispose of all cure water and/or steam condensate and rinse water and be responsible for the proper transportation and off-site disposal of process residuals. If a vacuum truck is used, it shall be capable of removing debris in drainage networks up to and including 48" in size. Vacuum truck shall be a minimum 16-yard capacity, 8" vacuum intake hose, hydraulic boom with 270 degrees rotation and up to 3,000 psi and 120 gpm water system.

The Contractor shall monitor temperature via a minimum of three thermocouples on the outer surface (interface between the host pipe and liner) of the liner (one each at the upstream and downstream ends and one approximately mid-length of the host pipe). The Contractor shall monitor pressure during inversion and curing and maintain pressure between minimum and maximum allowable pressures as provided by the manufacturer. The Contractor shall automatically log cure time-temperature and time-pressure data once per minute with a printout from a data logger and provide such information to the Engineer.

Submit the tape and log of recorded temperatures and pressure to the Engineer within 48 hours after completing the resin-curing process.

Within 21 days of completing the resin curing at a given culvert location, submit the test results from an ISO 17025 lab suitable to the Engineer. The report must be signed by a representative of the independent testing lab. The report must include:

- Flexural strength and flexural modulus test results for field samples.
- Thickness measurements for the liner using prepared core samples.
- Description of the defects in the tested samples in terms of the effect on CIPP performance.

The Engineer may perform testing at NCDOT facilities at his discretion.

Make cured samples from the identical materials (tube, resin and catalyst) to be used for the CIPP. Identify each sample by date, contract number, drainage system number of the corresponding culvert, thickness, name of resin, and name of catalyst.

The samples must be 6 by 16 inches in size: Comply with the following sampling procedures unless UV cured:

- Place 3 aluminum-plate clamped molds, each containing a flat plate sample, inside the downtube when heated circulated water is used, and in the silencer when steam is used during the resin curing period
- Seal each flat plate sample in a heavy-duty plastic envelope inside the mold
- Remove the 3 cured flat plate samples after draining all of the moisture from the cured CIPP

If UV cured, comply with field sampling procedures under ASTM F2019, Section 7: Recommended Inspection Practices.

Test the samples for flexural properties under ASTM D790, ASTM D5813, ASTM F1216, ASTM F1743, or ASTM F2019. Verify that physical properties of the field samples comply with the minimum values under:

- ASTM F1216, Table 1 (modified values), for heat cured polyester, vinyl ester, and epoxy resins. The flexural strength must be at least 5,000 psi. The flexural modulus must be at least 300,000 psi.
- ASTM F2019, Table 1, for UV cured CIPP. The flexural strength must be at least 6,500 psi. The flexural modulus must be at least 725,000 psi. Comply with sampling and testing procedures under ASTM F2019, Section 7: Recommended Inspection Practices.

Take core samples in the presence of the Engineer. Comply with the following core sample requirements:

- Take 2 samples. Take the samples at least 1 foot from each end of the culvert at a location near the top of the culvert. Samples must be at least 2 inches in diameter.
- If culvert material is corrugated metal, obtain samples at the corrugation crests.

Prepare the core samples by separating the CIPP material from the culvert material. If heat cured, remove the film from the inner lining or preliner. If UV cured, remove the film from the inner and outer foil.

Measure the thickness of the liner at 3 spots on each sample. If the culvert material is corrugated metal, measure the thickness at 3 spots that are along a line corresponding to the corrugation crests. Calculate the thickness as an average of at least 6 measurements.

If UV cured, comply with sampling and testing procedures under ASTM F2019, Section 7: Recommended Inspection Practices. If the culvert material is corrugated metal, measure the thickness at 3 spots that are along a line corresponding to the corrugation crests. Calculate the thickness as an average of at least 6 measurements.

CIPP may be rejected if any of:

- Actual temperature and curing time and schedule do not comply with those shown in the authorized work plan
- Pressure deviates more than 1 psi from the required pressure
- At any time during installation the manufacturer's required minimum cool-down time or maximum cool-down rate is violated
- There are defects including:
 - Concentrated ridges, including folds and wrinkles exceeding 8 percent of the CIPP diameter
 - o Dry spots

- o Lifts
- Holes
- o Tears
- Soft spots
- o Blisters or bubbles
- o Delaminations
- o Gaps in the length of the CIPP
- o Gaps or a loose fit between the exterior of the CIPP and the culvert
- Test results indicate one of the following:
 - o If heat cured, 2 of the 3 flat plate samples do not have any of the following:
 - the specified modulus of elasticity
 - the specified flexural strength
 - either the specified modulus of elasticity or the specified flexural strength
 - o If UV cured, 2 of the 3 cured samples do not have any of the following:
 - the specified modulus of elasticity
 - the specified flexural strength
 - either the specified modulus of elasticity or the specified flexural strength
- The liner thickness is less than the greater of either one of the following:
 - Specified thickness
 - o Calculated minimum thickness shown in your authorized work plan
- Materials and installation methods are not those shown in your authorized installation plan
- Defects are excessive or unrepairable
- CIPP is not continuous or does not fit tightly for the full length of the culvert

If UV cured, and post installation inspections reveal signs of incomplete curing (dripping resin, etc), contractor will trim liner obscuring uncured liner, re-wet, and re-cure with UV.

Point Repair - This work must be done to the host pipe to allow for CIPP liner system placement, which may include removal of an obstruction that prevents CIPP liner installation without demolition. Point repair will include all labor and materials necessary to complete the work.

Invert Placement - This work shall consist of placement of an invert in a pipe that has lost its invert. Placement will allow for CIPP liner of new pipe. Invert Placement will include all labor and materials necessary to complete the work.

Post Installation Inspection – In addition to the inspection performed by the Department, the Contractor shall perform two post-installation video inspections using NASSCO certified personnel. The first inspection shall take place between 90 and 100 calendar days after completion of installation for each culvert or system to a single outfall. The second inspection shall take place 30 calendar days prior to the end of the liner warranty period (one year, secured by construction bond). The camera shall be situated at the centerline of the pipe, and shall be mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection. Inspection equipment shall be capable of measuring protrusions and obstructions of ½ inch or greater. The inspection shall be performed in the presence of the Engineer. Dewater the host pipe to the satisfaction of the Engineer. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. A copy of the video inspection shall be furnished to the Engineer prior to acceptance of the work.

The finished liner shall be continuous over its entire length and free from visual defects such as foreign inclusions, joint separation, cracks, insufficient liner thickness, material loss, roughness, deformation, dry spots, pinholes, insufficient bonding to host pipe, delamination, or other material or installation deficiencies as described herein.

The cost of post installation inspection will be considered incidental to the cost of the liner installation.

Warranty –The Contractor shall provide a one year warranty on all materials and workmanship.

IV. Measurement and Payment

____" Pipe Rehabilitation — CIPP Liner will be measured and paid for as the actual number of linear feet of pipe for the size that has been incorporated into the completed and accepted work. This price shall include inspection, cleaning and preparation of the host pipe, furnishing and installing the liner, lateral reconnection, coupling and expansion devices, design and shop drawing preparation, furnishing and installing liner and all components of the liner system, capturing any discharges or releases during installation or curing operations, furnishing any documentation or fees required for effluent or condensate disposal, all testing and sampling including furnishing reports and post installation video inspections for flexible liners, waste disposal costs, excavation, sheeting, shoring, disposing of surplus and unsuitable material; backfilling and backfill material; compaction, restoring existing surfaces, and clearing debris and obstructions.

Point Repair will be measured and paid as the actual number of point repairs required to complete Pipe Rehabilitation. All material, equipment, labor, or other resources shall be incidental to the unit cost of *Point Repair*.

Invert Placement will be measured and paid as the actual number of linear feet of invert placed in pipe. All material, equipment, labor, or other resources shall be incidental to the unit cost of *Invert Placement*.

Dewatering, __"Pump will be measured and paid as the actual number of preapproved dewatering operations for the size pump necessary to complete the requested pipe rehabilitation work at a site including dewatering for pre-inspection, liner installation, and post inspections. Payment for Dewatering, __" Pump includes all materials, equipment, labor, and incidentals required to dewater a site. Dewatering with pumps smaller than 2" will be considered incidental to the cost of pipe rehabilitation.

Payment will be made under:

Pay Unit
Linear Foot
Each
Linear Foot
Each

PIPE REHABILITATION – CEMENTITIOUS/GEOPOLYMER SPRAY LINER:

I. Description

This work shall consist of the rehabilitation of existing storm water pipes, or culverts by the method or methods required by the Engineer at locations determined by the Engineer.

Pipe liner systems used for rehabilitation shall be from the NCDOT Approved Products List and may be subject to limitations for use as specified herein, by site-specific limitations for those locations listed in the Contract, or limitations as shown on the NCDOT Approved Products List for the specific liner system. The Contractor shall consult the Contract to determine the method or methods that are permitted at each rehabilitation location.

The Contractor shall submit to the Engineer a minimum of 10 days prior to start of installation: A certification of the acceptability of the proposed rehabilitation system to provide the necessary hydraulic capacity and structural strength to support the anticipated total load and hydrology at the site of rehabilitation, as determined from a review that has been signed and sealed by a Professional Engineer holding a valid license to practice engineering in the State of North Carolina (unless an exception is noted below). Such certification shall cover all design data, supporting calculations, installation plan, and planned rehabilitation materials. The certification shall indicate that the liner design is for a full structural replacement of a fully deteriorated host pipe.

II. Materials

Spray-on liners consist of conduit lining with spray applied, factory blended cementitious, geopolymer, or other material. The liner system supplied by the Contractor shall conform to the following requirements as supported by submitted design calculations:

- Shall list host pipe diameter ranges for which the product is applicable.
- Shall indicate corrosion potential/acid reaction potential.
- Shall provide hydraulic calculations comparing existing culvert to proposal culvert liner.
- Shall provide structural calculations.
- Shall list typical, minimum, maximum application thicknesses.
- Shall provide proof of initial Manning's Number (n value for roughness in open channel flow) of product.
- Shall list liner material type.
- Shall include documentation of specification or standard practice for installation.
- Shall give proof of long term and short term modulus, long term and short term strength.
- The liner pipe must carry one hundred (100) percent of the design load without taking into account the strength of the host pipe.
- Host pipe grouting is assumed to have no greater load bearing capacity than surrounding soil.
- Traffic loading is HS-20. Neglect after 8 ft. of cover on single barrel culverts if span length is 8 ft. or less. For multiple span culverts, the effects may be neglected where the depth of fill exceeds the distance between inside faces of endwalls. See AASHTO LRFD Bridge Design Specifications for additional information.
- Minimum thickness for cementitious or geopolymer liner material is 1 inch (clear of corrugations and/or bolt heads.

For cementitious or geopolymer liners, submit to the Engineer NCDOT Type 2 or Type 5
certifications for the categories below, and a letter of certification from the manufacturer
that states the material to be used conforms to manufacturer specifications. Actual
properties must meet or exceed the values used in structural calculations when field
tested.

Property	Test Method	Duration	Provide Value
Compressive Strength	ASTM C 109	1 Day	3,000 psi (20.7 MPa)
		28 Days	8,000 psi (55.2 (MPa)
Flexural Strength	ASTM C 348	28 Days	1,300 psi (9.0 MPa)
Modulus of Elasticity	ASTM C 469	28 Days	3.35 x 106 psi (23.1 MPa)
Bond Strength	ASTM C 882	28 Days	2,000 psi (13.8 MPa)

• For Ready Mix or Project Produced cementitious or geopolymer liners, submit a mix design to the Engineer for approval.

III. Construction

Pipe Clean-out - The Contractor shall clear the existing pipe(s) designated for rehabilitation of any debris, sediment, protrusions greater than ½ inch in height, and any other potential obstructions prior to the start of rehabilitation efforts. The Contractor shall then thoroughly clean and prepare the host pipe prior to the liner installation. Cleaning shall conform to the recommendations of the liner manufacturer, and any additional requirements of this special provision. In the absence of manufacturer recommendations, the Contractor shall submit his/her proposed method for cleaning and preparing the host pipe for the Engineer's review and acceptance at least 10 working days prior to beginning the work at that location.

Pre-Installation Inspection – The Contractor shall perform a pre-installation **video inspection** of pipe using NASSCO certified personnel. The camera shall be situated at the centerline of the pipe, and shall be mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection. Inspection equipment shall be capable of measuring protrusions and obstructions of ½ inch or greater. Provide a pipe profile, on which deflections that may affect the installation of the liner are located and noted. The inspection shall be performed in the presence of the Engineer, unless waived by the Engineer. Dewater the host pipe to the satisfaction of the Engineer, and in accordance with NCDOT Best Management Practices for Construction and Maintenance Activities. A thorough culvert inspection is required to determine the number of existing "pipe to pipe" connections and the extent, if any, of obstruction removal and voids. The inspection shall be performed by experienced personnel trained in locating breaks, obstacles, voids and service connections. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. A copy of the video inspection shall be furnished to the Engineer prior to the start of rehabilitative construction. The cost of pre-Installation Inspection will be considered incidental to the cost of the installation. In the event the Contractor's inspection shows the method of rehabilitation the Contractor has selected is no longer viable at that location as verified by the Engineer, the Contractor shall select another allowable method, if specified, from those designated in the Contract.

Grouting Host Pipe - The Contractor shall perform grouting work described in the contract, prior to pipe liner installation.

Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey Counties

Inlet & Outlet Sealing – All pipe liner installations shall be sealed to the host pipe at the terminal ends of the liner to prevent flow between the liner and host pipe.

De-Watering – All pipe liners and grout shall be installed in dry conditions. The Contractor shall de-water by diverting, pumping, or bypassing any water flow through an existing pipe or drainage system prior to and during the lining process. The method of de-watering is to be determined by the Contractor but must be approved by the Engineer prior to implementing.

Disposal Plan – The Contractor shall submit a Disposal Plan to the Engineer a minimum of 10 days prior to installation. The Disposal Plan shall indicate how by-products and waste are to be contained, captured, transported offsite, and disposed of in accordance with project permits and local, state and federal regulations. It shall be the Contractor's responsibility to report and take appropriate corrective actions to remediate any water quality alteration resulting from lining operations in accordance with project permits and applicable local, state or federal regulations. The cost for such remediation shall be at the Contractor's expense.

Spray-On cementitious, geopolymer, or other materials shall be installed in accordance with the liner material manufacturer's recommendations. For spray-on cementitious, geopolymer, or other liner systems, the following requirements shall apply:

- The Contractor shall submit to the Engineer a minimum of 10 days prior to start of installation:
 - o Calculated minimum thickness of liner.
 - o Minimum compressive strength of material (cementitious or geopolymer) used in structural calculations.
 - o Manufacturer moisture limitations (e.g. installation in the dry, humidity restrictions, etc.).
 - Certification on manufacturer's letterhead indicating you are approved by the manufacturer to perform installation work.
 - Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work.
 - o Site specific cure time.
 - o Ambient temperature range during installation.
 - Other submittals as appropriate for the type of spray-on liner, as determined by the Engineer.

Control the temperature and humidity in the host pipe according to the manufacturer's recommendation, including stopping air drafts through the pipe. Measure and record the temperature and humidity. The Contractor shall automatically log cure time-humidity and time-temperature data at 30-minute intervals with a data logger and provide such information in a format acceptable to the Engineer.

Patch and fill voids, holes, and gaps in the host pipe with an approved hydraulic cement or the same cementitious or geopolymer based material to be used for the liner to provide a solid continuous surface on which to spray. Stop water infiltration into the host pipe by applying dry hydraulic cement, or other methods approved by the Engineer. Prepare lateral connections to the host pipe according to the manufacturer's recommendations. Record the batch or lot number from the containers used each day.

To achieve bonding to the host pipe: Before placing liner, remove all coatings, corrosion, and other surface material until only base steel (or other host pipe material) is exposed by sandblasting the portion of the culvert to be coated. Where human access is limited, you must substitute sandblasting with mechanical scraping tools, water-jetting and a swab.

Application of liner material must be uninterrupted and continuous. Use a machine approved by the manufacturer, and capable of projecting liner material against the culvert wall without rebound and at a velocity sufficient to cause liner material to pack densely and adhere in place. Obtain authorization from the Engineer for placing liner material by hand to fill gaps left by dewatering pipe during the time period after application before fully cured, while material may be added.

The machine operator must continuously monitor the application of cementitious material.

The travel of the projecting machine and the discharge rate of liner material must be entirely mechanically controlled and must produce a uniform thickness of liner material without segregation around the perimeter and along the culvert length. The pipe liner must be free of sand pockets or visible lack of homogeneity.

Remove splatter and the accumulation of other undesirable substances along the culvert invert.

Obtain authorization from the Engineer for placing liner material by hand methods at sharp bends and special locations where machine placement is impracticable.

Provide a smooth finished surface texture.

After placement, the lining must be the greater of 1 inch thick (cementitious or geopolymer), or calculated thickness. For corrugated pipe, the thickness must be measured over the top of the corrugation crests. For host pipe with protruding bolt heads, the thickness must be measured over the top of the bolt heads. The tolerance for the pipe liner's thickness is plus 0.12 inch with no minus tolerance.

During the time period after application before fully cured, while material may be added, verify the applied thickness at various, random perimeter locations at least once every 10 feet to the satisfaction of the Engineer. Apply additional material to any areas found to be less than the design thickness.

Ensure the liner is continuous over the entire length of the host pipe and free from defects such as foreign inclusions, holes and cracks no larger than 0.01 inches wide. Ensure the renewed conduit is impervious to infiltration and exfiltration.

Protect walls, surfaces, streambed and plants at the entrance and exit of the host pipe from overspray. The Contractor shall install a temporary curtain at the outlet and inlet to prevent overspray during installation.

The Contractor shall reinstate water flow no sooner than recommended by manufacturer or 24 hours following installation, whichever is greater.

The Contractor shall thoroughly rinse the cured pipe with clean water.

Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey Counties

For cementitious or geopolymer spray-on liners, the Contractor shall prevent the escape of any rinse water from the lined pipe or otherwise capture it until he/she can either (1) dispose of it in accordance with the submitted disposal plan; or (2) continuously monitor the pH of the rinse water until the pH is less than 9 whereupon he/she may release it.

For other liner types, the Contractor shall capture and dispose of the rinse water in accordance with the submitted disposal plan, prior to reinstating flow.

Quality Control for Geopolymer or Cementitious Liner:

The Contractor shall submit NCDOT Type 1 or Type 4 certifications for each lined pipe in accordance with required cementitious liner properties table in the Materials section. Engineer, at his option, may collect concrete mix samples for testing. If the material does not achieve the specified properties listed in the Materials section, the pipe liner may be rejected. Submit a new work plan for the placement of material before replacing the rejected pipe liner.

The Contractor shall take core samples of the liner under direction and in the presence of the Engineer. Core sample diameter shall be at least twice the liner thickness. Repair cored area with liner material. The Department transports core samples to a Materials and Tests Regional Laboratory for testing.

- If there are visible defects in the pipe liner, submit a work plan for repairing the defects. Measure the length of the defect along the centerline of the culvert.
- If the length of the defect is 60 inches long or less, patch defects using the same cementitious material used in the work. Hand methods may be used.
- If the length of the defect is greater than 60 inches long, replace the defective length of the pipe liner for the full diameter of the pipe liner. Replace the defective length using machine methods.

Quality Control for other liner material will be determined per manufacturer recommendations and the Engineer.

Point Repair - This work must be done to the host pipe to allow for Cementitious/Geopolymer Spray liner system, which may include removal of an obstruction that prevents spray liner installation without demolition. Point repair will include all labor and materials necessary to complete the work.

Invert Placement - This work shall consist of placement of an invert in a pipe that has lost its invert. Placement will allow for Cementitious/Geopolymer Spray liner of new pipe. Invert Placement will include all labor and materials necessary to complete the work.

Post Installation Inspection – In addition to the inspection performed by the Department, the Contractor shall perform two post-installation video inspections using NASSCO certified personnel. The first inspection shall take place between 90 and 100 calendar days after completion of installation for each culvert or system to a single outfall. The second inspection shall take place 30 calendar days prior to the end of the liner warranty period (**one year**, secured by construction bond). The camera shall be situated at the centerline of the pipe and shall be mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection. Inspection equipment shall be capable of measuring protrusions and obstructions of ½ inch or greater. The inspection shall be

performed in the presence of the Engineer. Dewater the host pipe to the satisfaction of the Engineer. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. A copy of the video inspection shall be furnished to the Engineer prior to acceptance of the work.

The finished liner may be rejected if not continuous over its entire length and free from visual defects such as foreign inclusions, joint separation, cracks, insufficient liner thickness, material loss, roughness, deformation, dry spots, pinholes, insufficient bonding to host pipe, delamination, or other material or installation deficiencies as described herein.

Remedies for rejection of liner - In the event the first post inspection of the installation reveals defects in localized areas of the liner pipe (comprising less than 20 percent of the pipe length) the localized defects shall be repaired as specified by the manufacturer. Where defects occur on 20 percent or more of the pipe length the defects shall be repaired, however, the Contractor will not be allowed to continue with his methodology of installation and/or the liner system used until he/she can demonstrate to the Engineer that he/she has remedied his/her operations to a sufficient level of quality as determined by the engineer. All such remedial efforts shall be at the Contractor's expense. Further failure(s) to perform a proper installation may result in the disallowance of the use of that liner system and an adjustment in the cost or non-payment of the failed installations depending on the severity of the failure.

In the event the first post installation inspection is not conducted until all or most of the locations in the Contract permitting this methodology have been performed, and the inspection reveals defects on 20 percent or more of the host pipe's length, then an adjustment in the cost or non-payment of the failed installations may be made by the Engineer depending on the severity of the failure.

In the event the second post inspection of the installation reveals defects, the Department may execute the option to call the construction bond to reimburse the Department for repairs or corrections, or to act as an adjustment in the cost, or both.

Warranty – The Contractor shall provide a one-year warranty on all materials and workmanship.

IV. Measurement and Payment

Point Repair will be measured and paid as the actual number of point repair required to complete Pipe Rehabilitation. All material, equipment, labor, or other resources shall be incidental to the unit cost of *Point Repair*.

Invert Placement will be measured and paid as the actual number of linear feet of invert placed in pipe. All material, equipment, labor, or other resources shall be incidental to the unit cost of Invert Placement.

Dewatering, __"Pump will be measured and paid as the actual number of preapproved dewatering operations for the size pump necessary to complete the requested pipe rehabilitation work at a site including dewatering for pre-inspection, liner installation, and post inspections. Payment for Dewatering, __" Pump includes all materials, equipment, labor, and incidentals required to dewater a site. Dewatering with pumps smaller than 2" will be considered incidental to the cost of pipe rehabilitation.

Payment will be made under:

Pay ItemPay Unit__"Pipe Rehabilitation – Spray LinerLinear FootPoint RepairEachInvert PlacementLinear FootDewatering, ___"Pump,Each

VACUUM TRUCK:

(07-07-21)

Description

The Contractor shall use a vacuum truck to remove materials from inside of a pipe when required by the Engineer.

Construction Methods

Vacuum all materials from inside of a pipe. Dispose of all vacuumed materials at an approved disposal site.

Measurement and Payment

Vacuum Truck will be measured and paid for the actual number of hours a vacuum truck is used to remove material from inside a pipe when required by the Engineer. Measurement of hours shall be to the nearest tenth of an hour. Payment includes all labor, equipment, and incidentals necessary to complete the required work and dispose of all vacuumed materials. No payment will be made for using a vacuum truck without approval of the Engineer.

Payment will be made under:

Pay ItemPay UnitVacuum TruckHour

HOST PIPE GROUTING:

Description

Fill voids found during cleaning and inspection below and around a culvert or are apparent by inverts perforated by corrosion either mid-pipe or at the ends of a culvert before installing pipe liners in culverts of accessible size.

Materials

Refer to Section 1003 of the 2018 Standard Specifications for cement-based grout requirements. The Contractor may also choose to use a polyurethane grout, resin, or foam from the approved products list found at: https://apps.ncdot.gov/vendor/approvedproducts/Default.aspx

Construction Methods

Prevent the flow of cementitious material and water from construction activities into waterways and drainage facilities. Follow provisions of the NCDOT Best Management Practices for Construction and Maintenance Activities manual.

If voids are found, install grout ports as ordered. Install valves or removable plugs at grout ports. Probe at each grout port location. The probe must be at least 4 feet long, fit through the grout ports, and be rigid enough to sense probe refusal. Grout ports must be watertight. If authorized, you may screw grout ports in place or attach them by other methods. Do not weld grout ports to galvanized surfaces.

Where practicable, pump from downstream / downhill end of pipe toward upstream / uphill end of pipe. Pump grout into voids until it appears that all water and air has been ejected. Where possible, pump until grout escapes from adjacent, unplugged ports. Plug grout ports or close port valves as soon as pumping the grout ceases.

Multiple grouting stages may be necessary to 1) close invert, annular, or joint perforations, and 2) inject grout into remaining voids surrounding pipe.

Block or sandbag culvert ends to retain grout during grouting procedure. Remove sandbags or blockages after curing.

Finish grout that surcharges from perforations or cracks to a smooth surface.

Grout shall be introduced into voids by injection. The maximum injection pressure at the nozzle must not exceed 5 psi for fluid, unsanded grout mix. Pressure shall be monitored by a pressure gauge.

Monitor the culvert for deformation and cracks. If cracking occurs in a concrete culvert or lining, reduce the grout injection pressure. If deformation of the existing structure exceeds 1/2 inch at any location, reduce the injection pressure. Grouting in lifts may be required to prevent deformation. Repair any permanent deformations or cracks resulting from your grouting work. Such work is incidental to grouting.

Measurement and Payment

Record the quantity of grout that is installed and submit this quantity. No payment will be made for grout that leaks through to the inside of the culvert. No payment will be made for grout that is wasted, disposed of, or remaining on hand after completion of the work.

Payment will be made under:

Pay ItemHost Pipe Grouting

Pay Unit Gallon

LISTING OF MBE/WBE SUBCONTRACTORS

				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) (DE				
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Name					
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^{*} 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:

 $^{{\}it If firm is a Material Supplier Only, show Dollar Volume as 60\% of Agreed Upon Amount from Letter of Intent.}$

If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

LISTING OF MBE/WBE SUBCONTRACTORS

				Sheet	of
Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name	MBE			11100	
Address	WBE				
Name	MBE				
Address	WBE				
Name	MBE				
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Name	MBE				
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					id Price%
			** Dollar Volume o	of WBE Subcontr	actor \$

^{*}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.

WBE Percentage of Total Contract Bid Price ______%

^{**} 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.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH, NC

CONTRACT PAYMENT BOND

Date of Payment Bond Execution	
Name of Principal Contractor	
Name of Surety:	
Name of Contracting Body:	
Amount of Bond:	
Contract ID No.:	11979145
County Name:	Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Affix Seal of Surety Company	
	Print or type Surety Company Name
ī	Ву
1	Print, stamp or type name of Attorney-in-Fact
	1 min, somme or experiment of the control in 1 week
	Signature of Attorney-in-Fact
Signature of Witness	
Print or type Signer's name	
Time of type Signer's name	
	Address of Attorney-in-Fact

CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

Full nan	ne of Corporation	
Address	s as prequalified	
	r	
$\mathbf{p}_{\mathbf{v}}$		
Ву		Signature of President, Vice President, Assistant Vice President
		Select appropriate title
		Print or type Signer's name
Affix Corp	orate Seal	
Attest		
	Signature of Secretary, Assistant Sec Select appropriate title	retary
	Select appropriate time	
	Print or type Signer's name	
	z zmi or type signer s name	

LIMITED LIABILITY COMPANY

	SIGNATURE OF CONTRACTOR (Principal)
Name of Contractor	Full name of Firm
	Address as prequalified
By:	
	Signature of Member, Manager, Authorized Agent Select appropriate title
	Print or type Signer's name

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor	Individual Name
Trading and doing business as	Full name of Firm
	Address as prequalified
Signature of Contractor	Individually
	Print or type Signer's name
Signature of Witness	
Print or type Signer's name	

CONTRACT PAYMENT BOND

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

Name of Contractor				
-		Print or type Individ	ual name	
	A ddragg	as prequalified		
	Address	as prequamed		
Signature of Contractor				
		Individually		
		Print or type Signer'	s name	
		Time of type signer	5 Harre	
Signature of Witness				
Print or type Signer's na	ame			

CONTRACT PAYMENT BOND

PARTNERSHIP

Full name of Partnership		
Address as prequalified		
	Dv	
	Ву	Signature of Partner
		Print or type Signer's name
Ciamatum of Witness	.	
Signature of Witness		
Print or type Signer's name	-	

CONTRACT PAYMENT BOND JOINT VENTURE (2) or (3)

SIGNATURE OF CONTRACTORS (Principal)

Instructions to Bidders: 2 Joint Ventures, Fill in lines (1), (2) and (3) and execute. 3 Joint Venturers Fill in lines (1), (2), (3), (4) and execute. On Line (1), print or type the name of Joint Venture. On line (2), print or type the name of one of the joint venturers and execute below in the appropriate manner required by Article 102-8 of the NCDOT Standard Specifications. On Line (3), print or type the name of second joint venturer and execute below in the appropriate manner required by said article of the Specifications. On Line (4), print or type the name of the third joint venturer, if applicable and execute below in the appropriate manner required by said article of the Specifications. This form of execution must be strictly followed.

Signature of Witness or Attest	Ву	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	
	and		
Signature of Witness or Attest	By	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	
	and		
Signature of Witness or Attest	Ву	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	

CONTRACT PAYMENT BOND

Attach certified copy of Power of Attorney to this sheet

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH, NC

CONTRACT PERFORMANCE BOND

Date of Performance Bond Execution:	
Name of Principal Contractor:	
Name of Surety:	
Name of Contracting Body:	
Amount of Bond:	
Contract ID No.:	11979145
County Name:	Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Affix Seal of Surety Company	
	Print or type Surety Company Name
В	у
	Print, stamp or type name of Attorney-in-Fact
	Signature of Attorney-in-Fact
Signature of Witness	
Print or type Signer's name	
	Address of Attorney-in-Fact

CORPORATION

Full nan	ne of Corporation	
Address	as prequalified	
	r	
Ву		
Бу		Signature of President, Vice President, Assistant Vice President
		Select appropriate title
		Print or type Signer's name
Affix Corp	orate Seal	
Attest		
	Signature of Secretary, Assistant Sec Select appropriate title	retary
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	Print or type Signer's name	
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LIMITED LIABILITY COMPANY

Name of Contractor

Full name of Firm

Address as prequalified

By:

Signature of Member, Manager, Authorized Agent
Select appropriate title

Print or type Signer's name

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

Name of Contractor	Individual Name
Trading and doing business as	Full name of Firm
	Address as prequalified
Signature of Contractor	Individually
	Print or type Signer's name
Signature of Witness	
Print or type Signer's name	

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

Name of Contractor				
-		Print or type Individ	lual name	
-	Address	as prequalified		
Signature of Contractor				
Signature of Contractor	-	Individually		
	-	Print or type Signer	's name	
Signature of Witness				
Signature of witness				
Print or type Signer's na	ıme			

PARTNERSHIP

Full name of Partnership		
Address as prequalified		
	D	
	Ву	Signature of Partner
		Print or type Signer's name
C' (TY)	_	
Signature of Witness		
Print or type Signer's name	_	

CONTRACT PERFORMANCE BOND JOINT VENTURE (2) OR (3)

SIGNATURE OF CONTRACTORS (Principal)

Instructions to Bidders: 2 Joint Ventures, Fill in lines (1), (2) and (3) and execute. 3 Joint Venturers Fill in lines (1), (2), (3), (4) and execute. On Line (1), print or type the name of Joint Venture. On line (2), print or type the name of one of the joint venturers and execute below in the appropriate manner required by Article 102-8 of the NCDOT Standard Specifications. On Line (3), print or type the name of second joint venturer and execute below in the appropriate manner required by said article of the Specifications. On Line (4), print or type the name of the third joint venturer, if applicable and execute below in the appropriate manner required by said article of the Specifications. This form of execution must be strictly followed.

Signature of Witness or Attest	Ву	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	
Time of type signer's manie		Time of type orginers mane	
	and		
	and		
C' CYY'	p		
Signature of Witness or Attest	Ву	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	
	and		
Signature of Witness or Attest	By	Signature of Contractor	
Print or type Signer's name		Print or type Signer's name	

Attach certified copy of Power of Attorney to this sheet

Print or type Signer's Name

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH, NC

BID BOND

Contract Number:	11979145	County:	Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey
and SURETY above named, of five (5) percent of the tota	ESE PRESENTS, That we, the PRI are held and firmly bound unto the I al amount bid by the Principal for the bind ourselves, our heirs, executors,	Department of Trane project stated abo	nsportation in the full and just sum ove, for the payment of which sum
after the opening of the bids, Transportation shall award a written notice of award is receperformance of the contract prosecution of the work. It accordance with the provision conditions and obligations of makes a final determination event a determination is made with the requirements set for provided in Article 103-3, or may be required and to provi	ndition of this obligation is: the Principal or within such other time period as a contract to the Principal, the Principal or within, provide bonds with go and for the protection of all person in the event the Principal requests ions of Article 103-3 of the Stand of this Bid Bond shall remain in full for to either allow the bid to be withdrated to award the contract, the Principal rafter award of the contract has been determined to the Department of Transportation.	may be provided in cipal shall, within cood and sufficient as supplying labor permission to with dard Specification are and effect until two or to proceed that shall have four that withdraws its beautiful made fails to exercise period specified	n the proposal, and if the Board of fourteen (14) calendar days after surety, as required for the faithful r, material, and equipment for the thdraw his bid due to mistake in as for Roads and Structures, the I the Department of Transportation with award of the contract. In the teen (14) calendar days to comply id after bids are opened except as cute such additional documents as above, then the amount of the bid
IN TESTIMONY WHEREO	PF, the Principal and Surety have cau	ised these presents	to be duly signed and sealed.
This the day of	, 20		
			Surety
	Ву		
		General Agent	or Attorney-in-Fact Signature
Seal o	of Surety		

CORPORATION

	SIGNITURE OF CONTINUETOR	(Timelpai)
	Full name of Corpora	ation
	•	
	A 1.1 1'	C' 1
	Address as prequalit	nea
	By	
		resident, Vice President, Assistant Vice President
		Select appropriate title
		Tr Tr
		Print or type Signer's name
		Time of type signer's imme
	Affix Cornorate Seal	,
	Affix Corporate Seal	
Attest		
1 1000 50	Signature of Secretary, Assistant Secretary	
	Select appropriate title	
	Seitet appropriate inte	
	Print or type Signer's name	

LIMITED LIABILITY COMPANY

Name of Contractor

Full name of Firm

Address as prequalified

Signature of Member/
Manager/Authorized Agent

Individually

Print or type Signer's name

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

Name of Contractor	
	Individual Name
Trading and doing business as	
	Full name of Firm
	Address as prequalified
Signature of Contractor	Individually
	Print or type Signer's name
Signature of Witness	
Print or type Signer's name	

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

Name of Contractor				
	Print or type Individual Name			
	Address as prequalified			
	r			
Signature of Contractor	Individually			
	marriadary			
	Print or type Signer's name			
	Time of type Signer's name			
Signature of Witne	SS			
Print or type Signer's	name			

PARTNERSHIP

SIGNATURE	OF CONTRACTO	OR (Principal)
- Eul	l name of Partne	orghin
rui	i manne of Farthe	ersinp
Ad	ldress as prequal	lified
	F	
	Ву	
		Signature of Partner
	_	
		Print or type Signer's name
Signature of Witness		
Signature of Witness		
Print or type Signer's name		

BID BOND JOINT VENTURE (2 or 3) SIGNATURE OF CONTRACTORS (Principal)

Instructions to Bidders: **2 Joint Ventures**, Fill in lines (1), (2) and (3) and execute. **3 Joint Venturers** Fill in lines (1), (2), (3), (4) and execute. Line (1), print or type the name of Joint Venture. On line (2), print or type the name of one of the joint venturers and execute below in the appropriate manner required by Article 102-8 of the *Specifications*. On Line (3), print or type the name of second joint venturer and execute below in the appropriate manner required by said article of the Specifications. On Line (4), print or type the name of the third joint venturer, if applicable

and execute below in the appropriate manner required by said article of the Specifications. This form of execution must be strictly followed.

Signature of Witness or Attest	Ву	Signature of Contractor
Print or type Signer's name	-	Print or type Signer's name
	and	
Signature of Witness or Attest	By	Signature of Contractor
Print or type Signer's name	-	Print or type Signer's name
	and	
Signature of Witness or Attest	By	Signature of Contractor
Print or type Signer's name		Print or type Signer's name

ADDENDUM(S)

ADDENDUM #1	
I,(SIGNATURE)	representing
Acknowledge receipt of Addendum #1.	
ADDENDUM #2	
I,	representing
(SIGNATURE)	
Acknowledge receipt of Addendum #2.	
ADDENDUM #3	
I,	representing
(SIGNATURE)	. 0
Acknowledge receipt of Addendum #3.	

North Carolina Department of Transportation Bid Form

Contract Number: 11979145

WBS Element: 13.101131, 13.101111, 13.201111, 13.201121, etc.

Description: Culvert Pipe Lining and Repair

County: Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey

Line No.	Sect	Description	Qty	Unit	Unit Price	Amount Bid
1	SP	Vacuum Truck	40	HR		
2	SP	Host Pipe Grouting	250	GAL		
3	SP	15" Pipe Rehabilitation – CIPP Liner	100	LF		
4	SP	18" Pipe Rehabilitation – CIPP Liner	240	LF		
5	SP	24" Pipe Rehabilitation – CIPP Liner	500	LF		
6	SP	30" Pipe Rehabilitation – CIPP Liner	500	LF		
7	SP	36" Pipe Rehabilitation – CIPP Liner	100	LF		
8	SP	42" Pipe Rehabilitation – CIPP Liner	100	LF		
9	SP	48" Pipe Rehabilitation – CIPP Liner	100	LF		
10	SP	30" Pipe Rehabilitation – Spray Liner	100	LF		
11	SP	36" Pipe Rehabilitation – Spray Liner	100	LF		
12	SP	42" Pipe Rehabilitation – Spray Liner	60	LF		
13	SP	48" Pipe Rehabilitation – Spray Liner	60	LF		
14	SP	54" Pipe Rehabilitation – Spray Liner	60	LF		
15	SP	60" Pipe Rehabilitation – Spray Liner	60	LF		
16	SP	66" Pipe Rehabilitation – Spray Liner	60	LF		
17	SP	72" Pipe Rehabilitation – Spray Liner	60	LF		
18	SP	78" Pipe Rehabilitation – Spray Liner	60	LF		
19	SP	84" Pipe Rehabilitation – Spray Liner	60	LF		
20	SP	90" Pipe Rehabilitation – Spray Liner	60	LF		
21	SP	96" Pipe Rehabilitation – Spray Liner	60	LF		
22	SP	Invert Placement	50	LF		
23	SP	Point Repair	15	EA		
24	SP	Dewatering, 2" Pump	10	EA		
25	SP	Dewatering, 4" Pump	5	EA		
26	SP	Dewatering, 6" Pump	5	EA		

TOTAL BID FOR PROJECT:	

North Carolina Department of Transportation Bid Form

Contract Number: 11979145

WBS Element: Buncombe: 13.101131, 13.101111, 13.201111, 13.201121

Burke: 13.101231, 13.101211, 13.201211, 13.201221 Madison: 13.105731, 13.105711, 13.205711, 13.205721 McDowell: 13.105931, 13.105911, 13.205911, 13.205921

Mitchell: 13.106111, 13.206111, 13.206121 Yancey: 13.110011, 13.210011, 13.210021 Rutherford: 13.108111, 13.208111, 13.208121

Description: Culvert Pipe Lining and Repair

County: Buncombe, Burke, Madison, McDowell, Mitchell, Rutherford, and Yancey

Contractor:	 	
Address:		
Phone:		
Contractor's License Number:		
Authorized Agent:		
Signature:	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 his own bona fide 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	on
	7 L A	D 1:6: -	
	Address as I	Prequamne	a
Attest		By	
	Secretary/Assistant Secretary		President/Vice President/Assistant Vice President
	(Select appropriate title)		(Select appropriate title)
	Print or type Signer's name		Print or type Signer's name

CORPORATE SEAL

NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION 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 bona fide 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
	Tarticismp
	Address as
	Prequalified
Signature of Witness	Signature of Partner
Print or Type Signer's Name	Print or Type Signer's Name

NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION 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 bona fide 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

F	ull Name of Firm
Add	lress as Prequalified
Signature of Witness	Signature of Member/Manager/Authorized Agent (Select appropriate Title)

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 bona fide 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.

	Name of Joint Venture	
	Name of Contractor	
	Address as Prequalified	
	BY	
Signature of Witness or Attest		Signature of Contractor
Print or Type Signer's Name		Print or Type Signer's Name
If Corporation, affix Corporate Sea	l AND	
	Name of Contractor	
	Address as Prequalified	
	BY	
Signature of Witness or Attest		Signature of Contractor
Print or Type Signer's Name		Print or Type Signer's Name
If Corporation, affix Corporate Sea	l AND	
	Name of Contractor	
	Name of Contractor	
	Address as Prequalified	
	BY	
Signature of Witness or Attest		Signature of Contractor
Print or Type Signer's Name		Print or Type Signer's Name
If Corporation, affix Corporate Sea	1	

NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION 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 bona fide 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			
Addr	ress as Prequalified			
Signature of Witness	Signature of Prequalified Bidder, Individual			
Print or Type Signer's Name	Print or Type Signer's Name			

NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION 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 bona fide 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				

DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER

Conditions for certification:

- 1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file 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.	
---	--

Execution of Contract

Contract No: 11979145									
County:	Buncombe, Burke, Counties	Madison,	McDowell,	Mitchell,	Rutherford,	and	Yancey		
ACCEPT	ED BY THE DEPART	MENT							
	Division Project N	Manager							
	Date								