

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

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;

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.

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 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 reintroducing 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 print out 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
 - Dry spots
 - Lifts
 - Holes
 - Tears
 - Soft spots
 - Blisters or bubbles
 - Delamination's
 - Gaps in the length of the CIPP
 - Gaps or a loose fit between the exterior of the CIPP and the culvert
- Test results indicate one of the following:
 - 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
 - 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
 - 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

Pipe Extension – This work shall consist of extending the length of pipe by building a new pipe in place where no host pipe exists for the CIPP liner system, including all labor and materials necessary to complete the work.

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 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

Pipe Extension __” 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. All material, equipment, labor, or other resources shall be incidental to the unit cost of Pipe Extension.

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.

Vacuum Truck will be measured and paid on an hourly basis for each hour or any portion thereof that the Engineer directs the use of a vacuum truck. This cost will include disposal at an approved site.

De-watering will only be paid when the Engineer determines that site conditions warrant Dewatering. *De-Watering __” Pump* will be measured and paid as the actual number of water diversions or bypasses required to complete Pipe Rehabilitation work. Each instance of De-Watering paid includes De-Watering for pre-inspection, installation, post inspections, and remediation (if necessary). All materials, equipment, labor, or other resources required to dewatering a site shall be incidental to the unit cost for De-watering. De-watering with pumps smaller than 2” will be incidental to the cost of pipe rehabilitation.

Payment will be made under:

Pay Item	Pay Unit
15" Pipe Rehabilitation CIPP	Linear Foot
18" Pipe Rehabilitation CIPP	Linear Foot
24" Pipe Rehabilitation CIPP	Linear Foot
30" Pipe Rehabilitation CIPP	Linear Foot
36" Pipe Rehabilitation CIPP	Linear Foot
Pipe Extension 15"	Linear Foot
Pipe Extension 18"	Linear Foot
Pipe Extension 24"	Linear Foot
Pipe Extension 30"	Linear Foot
Pipe Extension 36"	Linear Foot
Pipe Extension 42"	Linear Foot
Pipe Extension 48"	Linear Foot
Point Repair	Each
Invert Placement	Linear Foot
Vacuum Truck	Hour
De-Watering 2" Pump	Each
De-Watering 4" Pump	Each
De-Watering 6" Pump	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 10 ⁶ 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.

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:

- Calculated minimum thickness of liner.
- Minimum compressive strength of material (cementitious or geopolymer) used in structural calculations.
- 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.
- Site specific cure time.
- 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.

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.

Pipe Extension – This work shall consist of extending the length of pipe by building a new pipe in place where no host pipe exists, including all labor and materials necessary to complete the work.

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

TRAFFIC CONTROL AND WORK ZONE SAFETY

(On Call - Div.3)

The Contractor shall maintain traffic during construction and provide, install, maintain and remove all traffic control devices in accordance with the Project Special Provisions, the most current edition of the Standard Specifications for Roads and Structures, NCDOT Standard Drawings and the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor performing the work zone traffic control shall have a minimum of one (1) NCDOT Certified Work Zone Supervisor present at all times. For information on how to become a Certified Work Zone Supervisor go to <https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx>

The Contractor shall abide by all traffic control regulations and maintain an open, safe lane of traffic at all times for the traveling public with the necessary flagmen and or pilot vehicle as the job deems necessary with the approval of the Engineer. The Contractor must maintain service to all businesses during their hours of operations.

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All signs, traffic control, and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Work Zone & Work Zone Advanced Warning Signs will be required (refer to Roadway Standard Drawing 1101.01). Portable signs may be used on this project. The portable work zone signs shall be 48"x 48" black on orange signs and must meet or exceed the requirements of NCHRP 350 for Work Zone Category II Devices. Use portable work zone signs and stands specifically designed for one another. Roadway to sign mounting height shall be 5 feet minimum off the ground (refer to Roadway Standard Drawing 1110.02). Signs shall be either composite, aluminum, or retroreflective roll-up (Non-reflective Mesh Signs will not be accepted). Portable work zone signs shall be mounted 3' minimum from travel lane on the right shoulder or in the median to maintain a work zone of 2-mile maximum length. Shoulder and median signing will be required for Divided Facilities. Additional signs should be placed at intersections and interchanges where traffic is entering the work area. Care should be taken that these signs are displayed only while work is underway. Any nighttime work shall be approved by the Engineer and shall comply with the requirements of Article 105-14 of the Standard Specifications.

The Contractors equipment shall not be parked within the highway right of way overnight or at other times of inactivity unless approved by the Engineer and in no case within 30 feet of the edge of the travel lane.

When personnel and equipment are working within a lane of travel of **any roadway** facility, close the open travel lane according to *Roadway Standard Drawings* No. 1101.02 or as directed by the Engineer. Conduct the work so that all personnel and equipment remain within the closed travel lane.

When personnel and equipment are working on the shoulder adjacent to **any roadway** facility **less than 5 feet** from an open travel lane, close the nearest open travel lane using the *Roadway Standard Drawings* No. 1101.02 unless the work area is protected by barrier or guardrail.

When personnel and equipment are working on the roadway shoulder adjacent to a **multi-lane or divided facility** and within **5 to 10 feet** of an open travel lane, close the nearest open travel lane using the *Roadway Standard Drawings* No. 1101.02 unless the work area is protected by barrier or guardrail.

When personnel and equipment are working on the roadway shoulder adjacent to a **multi-lane or divided facility** and within **10 to 40 feet** of an open travel lane a shoulder closure shall be required utilizing drums (refer to *Roadway Standard Drawings* 1101.04). A Temporary Lane Closure for any **multi-lane roadway** may be required at the discretion of the Engineer.

Do not work simultaneously on both sides of an open travel way, within the same location, on any undivided roadway. Do not perform work involving heavy equipment within 15 feet of the edge of travel way when work is being performed behind a lane closure on the opposite side of the travel way. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

Traffic movements through lane closures on roads with two-way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to safety vests, hard hats, and stop/slow paddles (refer to *Roadway Standard Drawing 1150.01*).

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest which meets the most current reflectivity standards and the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control as specified in this contract shall result in suspension of work as provided in Subarticle 108-7(2) of the *2024 Standard Specifications*.

Payment will be made as follows:

Pay Item	Pay Unit
Lane Closure (Two lane – Two way)	Each
Lane Closure (multi-lane undivided)	Each
Lane Closure (multi-lane divided facility)	Each

All lane closures require prior approval from the Engineer or their representative. Payment will be made for each approved lane closure satisfactorily installed, maintained & removed.

Except for the specific pay items included in this provision, no separate or direct payment will be made for supplying traffic control, traffic control devices, or signing as all such work will be considered incidental to the various other pay items included in this contract.

STANDARD SPECIAL PROVISION**AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

(5-20-08)(Rev. 1-16-24)

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 *Standard Specifications*.

STANDARD SPECIAL PROVISION
ERRATA

(1-16-24)

Z-4

Revise the *2024 Standard Specifications* as follows:

Division 3

Page 3-5, Article 305-2 MATERIALS, after line 16, replace " 1032-3(A)(7)" with "1032-3" and add the item "Galvanized Corrugated Steel Pipe" with Section "1032-3".

Page 3-6, Article 310-2 MATERIALS, after line 9, add the item "Galvanized Corrugated Steel Pipe" with Section "1032-3".

Division 9

Page 9-17, Article 904-4 MEASUREMENT AND PAYMENT, prior to line 1, replace " Sign Erection, Relocate Type (Ground Mounted)" with "Sign Erection, Relocate Type ___ (Ground Mounted)".

Division 10

Page 10-51, Article 1024-4 WATER, prior to line 1, delete the "unpopulated blank row" in Table 1024-2 between "Time of set, deviation from control" and "Chloride Ion Content, Max.".

Page 10-170, Subarticle 1081-1(C) Requirements, line 4, replace "maximum" with "minimum".

Division 11

Page 11-15, Article 1160-4 MEASUREMENT AND PAYMENT, line 24, replace "Where barrier units are moved more than one" with "Where barrier units are moved more than once".

Division 15

Page 15-10, Article 1515-4 MEASUREMENT AND PAYMENT, lines 11, replace " All piping" with "All labor, the manhole, other materials, excavation, backfilling, piping".

Division 16

Page 16-14, Article 1633-5 MEASUREMENT AND PAYMENT, line 20-24 and prior to line 25, delete and replace with the following " *Flocculant* will be measured and paid in accordance with Article 1642-5 applied to the temporary rock silt checks."

Page 16-3, Article 1609-2 MATERIALS, after line 26, replace "Type 4" with "Type 4a".

Page 16-25, Article 1644-2 MATERIALS, after line 22, replace "Type 4" with "Type 4a".

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 Quarantined Area

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

Originating in a Quarantined County

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

Contact

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

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed, emerald ash borer, guava root knot nematode, or other noxious 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 1/16/2024)

Z-6

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

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

2. Eligibility

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

3. Time Limits and Filing Options

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

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

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

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

4. Format for Complaints

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

5. Discrimination Complaint Form

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

6. Complaint Basis

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

**TABLE 103-1
COMPLAINT BASIS**

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

(3) Pertinent Nondiscrimination Authorities

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

- (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

- (b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- (c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- (d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;
- (e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- (f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
- (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).

(4) Additional Title VI Assurances

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

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

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

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

(HABENDUM CLAUSE)

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

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

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

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

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

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

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

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

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

1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. *
3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

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

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.\

Training Classifications

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

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

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

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

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

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

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

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

Records and Reports

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

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

Trainee Interviews

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

Trainee Wages

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

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

LISTING OF MBE/WBE SUBCONTRACTORS

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:

If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.

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

LISTING OF MBE/WBE SUBCONTRACTORS

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

**** Dollar Volume of MBE Subcontractor \$ _____**

MBE Percentage of Total Contract Bid Price _____%

**** Dollar Volume of WBE Subcontractor \$ _____**

WBE Percentage of Total Contract Bid Price _____%

***The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.**

**** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price.**

If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.

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

ADDENDA

ADDENDUM #1

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #1.

ADDENDUM #2

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #2.

ADDENDUM #3

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #3.

AWARD LIMITS ON MULTIPLE PROJECTS

It is the desire of the Proposer to be awarded contracts, the value of which will not exceed a total of \$ _____, for those projects indicated below on which bids are being opened on the same date as shown in the Proposal Form. Individual projects shall be indicated by placing the project number and county in the appropriate place below. Projects not selected will not be subject to an award limit.

(Project Number)

(County)

(Project Number)

(County)

(Project Number)

(County)

(Project Number)

(County)

*If a Proposer desires to limit the total amount of work awarded to him in this letting, he shall state such limit in the space provided above in the second line of this form.

It is agreed that in the event that I am (we are) the successful bidder on indicated projects, the total value of which is more than the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated which have a total value not exceeding the award limit and which will result in the best advantage to the Department of Transportation.

**Signature of Authorized Person

**Only those persons authorized to sign bids under Subarticle 102-8(A)(12) shall be authorized to sign this form.

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

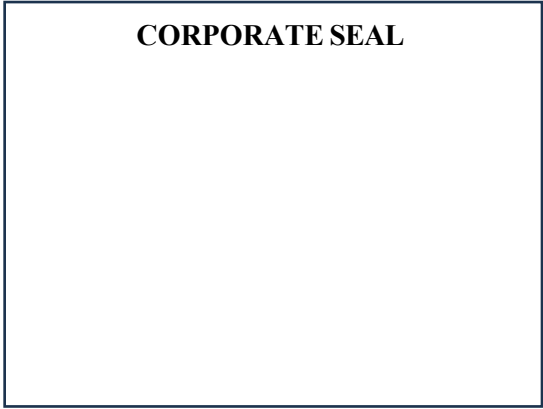
_____ Address as Prequalified

Attest _____
Secretary/Assistant Secretary
(Select appropriate title)

By _____
President/Vice President/Assistant Vice President
(Select appropriate title)

_____ Print or Type Signer's name

_____ Print or Type Signer's name



NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

PARTNERSHIP

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own 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

Address as Prequalified

Signature of Witness

Signature of Partner

Print or Type Signer's Name

Print or Type Signer's Name

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION
LIMITED LIABILITY COMPANY**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own 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 Firm

Address as Prequalified

Signature of Witness

Signature of Member/Manager/Authorized Agent
(Select appropriate Title)

Print or Type Signer's Name

Print or Type Signer's Name

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.

(1) _____
Name of Joint Venture

(2) _____
Name of Contractor

Address as Prequalified

Signature of Witness or Attest BY Signature of Contractor

Print or Type Signer's Name Print or Type Signer's Name

If Corporation, affix Corporate Seal AND

(3) _____
Name of Contractor

Address as Prequalified

Signature of Witness or Attest BY Signature of Contractor

Print or Type Signer's Name Print or Type Signer's Name

If Corporation, affix Corporate Seal AND

(4) _____
Name of Contractor

Address as Prequalified

Signature of Witness or Attest BY Signature of Contractor

Print or Type Signer's Name Print or Type Signer's Name

If Corporation, affix Corporate Seal

CORPORATE SEAL(S)

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION
INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own 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

Address as Prequalified

Signature of Witness

Signature of Prequalified Bidder, Individual

Print or Type Signer's Name

Print or Type Signer's Name

NON-COLLUSION, DEBARMENT 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

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.

North Carolina Department of Transportation Division Contract Bid Form

WBS ELEMENT No.: ON CALL
 COUNTY(S): PENDER
 PROJECT DESCRIPTION: D3POC0199 PIPE LINERS ON CALL ID/IQ

LINE	ITEM	SECTION	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT BID
1	0000910000-N	SP	VACUUM TRUCK	40	HR		
2	0000930000-E	SP	INVERT PLACEMENT	60	LF		
3	2472000000-N	SP	DE-WATERING 2" PUMP	10	EA		
4	2472000000-N	SP	DE-WATERING 4" PUMP	5	EA		
5	2472000000-N	SP	DE-WATERING 6" PUMP	5	EA		
6	2472000000-N	SP	POINT REPAIR	15	EA		
7	2476000000-E	SP	HOST PIPE GROUTING (LESS THAN 1 CYD)	250	GAL		
8	2476000000-E	SP	15" PIPE REHABILITATION CIPP	100	LF		
9	2476000000-E	SP	18" PIPE REHABILITATION CIPP	300	LF		
10	2476000000-E	SP	24" PIPE REHABILITATION CIPP	300	LF		
11	2476000000-E	SP	30" PIPE REHABILITATION CIPP	120	LF		
12	2476000000-E	SP	36" PIPE REHABILITATION CIPP	300	LF		
13	2476000000-E	SP	30" PIPE REHABILITATION SPRAY LINER	100	LF		
14	2476000000-E	SP	36" PIPE REHABILITATION SPRAY LINER	100	LF		
15	2476000000-E	SP	42" PIPE REHABILITATION SPRAY LINER	60	LF		
16	2476000000-E	SP	48" PIPE REHABILITATION SPRAY LINER	60	LF		
17	2476000000-E	SP	54" PIPE REHABILITATION SPRAY LINER	100	LF		
18	2476000000-E	SP	60" PIPE REHABILITATION SPRAY LINER	300	LF		
19	2476000000-E	SP	66" PIPE REHABILITATION SPRAY LINER	60	LF		
20	2476000000-E	SP	72" PIPE REHABILITATION SPRAY LINER	60	LF		
21	2476000000-E	SP	84" PIPE REHABILITATION SPRAY LINER	60	LF		
22	2476000000-E	SP	96" PIPE REHABILITATION SPRAY LINER	300	LF		
23	2476000000-E	SP	PIPE EXTENSION 15"	24	LF		
24	2476000000-E	SP	PIPE EXTENSION 18"	24	LF		
25	2476000000-E	SP	PIPE EXTENSION 24"	24	LF		

26	2476000000-E	SP	PIPE EXTENSION 30"	24	LF		
27	2476000000-E	SP	PIPE EXTENSION 36"	24	LF		
28	2476000000-E	SP	PIPE EXTENSION 42"	24	LF		
29	2476000000-E	SP	PIPE EXTENSION 48"	24	LF		
30	4600000000-N	SP	LANE CLOSURE (TWO LANE-TWO WAY)	10	EA		
31	4600000000-N	SP	LANE CLOSURE (MULTI-LANE UNDIVIDED)	3	EA		
32	4600000000-N	SP	LANE CLOSURE (MULTI-LANE DIVIDED)	3	EA		
33	2476000000-E	SP	HOST PIPE GROUTING (MORE THAN 1 CYD)	10	CYD		

**NOTE: CONTRACT QUANTITIES ARE APPROXIMATE AND USED FOR DETERMINING THE LOWEST RESPONSIBLE BIDDER ONLY.
NO MINIMUM OR MAXIMUM AMOUNT OF WORK IS GUARANTEED UNDER THIS CONTRACT.**

TOTAL BID FOR PROJECT: \$ _____

CONTRACTOR _____

ADDRESS _____

Federal Identification Number _____

Contractor's License Number _____

Authorized Agent _____ Title _____

Signature _____ Date _____

Witness _____ Title _____

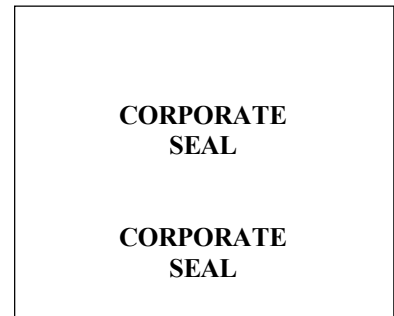
Signature _____ Date _____

Point of Contact for Post-Bid Inquires (e.g., Letters of Intent, Insurance, Bonds, and Contract Execution)

Name _____

Email _____

Phone _____



THIS SECTION TO BE COMPLETED BY NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

This bid has been reviewed in accordance with Article 103-1 of the Standard Specifications for Roads and Structures 2024.

Reviewed by NCDOT _____

Date _____

Accepted by NCDOT _____

Date _____