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

FINAL REQUEST FOR PROPOSALS

DESIGN-BUILD PROJECT

TIP I-5719FC

July 17, 2025

VOID FOR BIDDING

DATE AND TIME OF TECHNICAL PROPOSAL SUBMISSION: AUGUST 13, 2025 at 3:00 PM EST

DATE AND TIME OF PRICE PROPOSAL SUBMISSION: AUGUST 20, 2025 at 3:00 PM EST

DATE AND TIME OF PREFERRED PROPOSER ANNOUCEMENT: SEPTEMBER 16, 2025 at 2:00 PM EST

CONTRACT ID: C205112

WBS ELEMENT NO.: 50135.3.9

FEDERAL-AID NO.: FUTR085

COUNTIES: CLEVELAND AND GASTON

ROUTE NO. I-85

MILES: 10

LOCATION: I-85 FROM US 74 TO THE SOUTH CAROLINA LINE; I-85 FROM US 74 TO US 321

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS

NOTICE:

ALL PROPOSERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE PROPOSER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. PROPOSERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOT WITHSTANDING THESE LIMITATIONS ON BIDDING, THE PROPOSER WHO IS AWARDED ANY PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF PREFERRED PROCUREMENT TRACK AND PREFERRED PROPOSER ANNOUCEMENT, REGARDLESS OF FUNDING SOURCES.

_____

BID BOND OR BID DEPOSIT REQUIRED

_____

PROPOSAL FORM FOR THE CONSTRUCTION OF CONTRACT NO. C205112 IN CLEVELAND AND GASTON COUNTIES, NORTH CAROLINA

Date_____ 20_____

DEPARTMENT OF TRANSPORTATION,

RALEIGH, NORTH CAROLINA

The Design-Build Team herein acknowledges that it has carefully examined the location of the proposed work to be known as Contract No. **C205112**; has carefully examined the Final Request for Proposals (RFP) and all addendums thereto, specifications, special provisions, the form of contract, and the forms of contract payment bond and contract performance bonds, which are acknowledged to be part of the Contract; and thoroughly understands the stipulations, requirements and provisions. The undersigned Design-Build Team agrees to be bound upon their execution of the Contract and including any subsequent award to them by the Secretary of Transportation in accordance with this Contract to provide the necessary contract payment bond and contract performance bond within fourteen calendar days after the written notice of award is received by them.

The undersigned Design-Build Team further agrees to provide all necessary materials, machinery, implements, appliances, tools, labor, and other means of construction, except as otherwise noted, to perform all the work and required labor to design, construct and complete all the work necessary for State Highway Contract No. **C205112** in Cleveland and Gaston Counties by no later than the dates(s) specified in the Final RFP or Technical Proposal, whichever is earlier, and in accordance with the requirements of the Engineer, the Final RFP and Addenda thereto, the 2024 *Standard Specifications for Roads and Structures*, specifications prepared by the Department, the Technical Proposal prepared by the Design-Build Team, at the lump sum price(s) bid by the Design-Build Team in their Price Proposal.

The Design-Build Team shall provide signed and sealed documents prepared by the Design-Build Team, which specifications and plans show the details covering this project and adhere to the items noted above.

The Design-Build Team acknowledges that project documents furnished by the Department are preliminary and provided solely to assist the Design-Build Team in the development of the project design. Unless otherwise noted herein, the Department does not warrant or guarantee the sufficiency or accuracy of any information furnished by the Department.

The Department does not warrant or guarantee the sufficiency or accuracy of any investigations made, nor the interpretations made or opinions of the Department as to the type of materials and conditions to be encountered at the project site. The Design-Build Team is advised to make such independent investigations, as they deem necessary to satisfy their self as to conditions to be encountered on this project. The Design-Build Team shall have no claim for additional compensation or for an extension of contract time for any reason resulting from the actual conditions encountered at the site differing from those indicated in any of the information or documents furnished by the Department except as may be allowed under the provisions of the Standard Specifications.

Although the Department has furnished preliminary designs for this project, unless otherwise noted herein, the Design-Build Team shall assume full responsibility, including liability, for the project design, including the use of portions of the Department design, modification of such design, or other designs as may be submitted by the Design-Build Team.

The Design-Build Team shall be fully and totally responsible for the accuracy and completeness of all work performed under this contract, and shall indemnify and hold the Department harmless for any additional costs and all claims against the Department or the State which may arise due to errors or omissions of the Department in furnishing the preliminary project designs and information, and of the Design-Build Team in performing the work.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures*, January 2024, as well as, all design manuals, policy and procedures manuals, and AASHTO publications and guidelines referenced in the Request For Proposals, with all amendments and supplements thereto, are by reference, incorporated and made part of this contract; that, except as herein modified, all the design, construction and Construction Engineering Inspection included in this contract is to be done in accordance with the documents noted above and under the direction of the Engineer.

If the Design-Build Proposal is accepted and the award is made, the Technical Proposal submitted by the Design-Build Team is by reference, incorporated and made part of this contract. The contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except by written approval as allowed by the Request for Proposals.

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

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Signature Sheet

*** PROJECT SPECIAL PROVISIONS ***

BUILD AMERICA, BUY AMERICA (BABA)

(11-15-22)(Rev. 7-16-24) 106 DB1 G05

Revise the *Standard Specifications* as follows:

Page 1-48, Article 106-1 GENERAL REQUIREMENTS, add the following after line 49:

(C) Build America, Buy America (BABA)

All manufactured products and construction materials permanently incorporated into any project shall meet requirements of the Build America, Buy America (BABA) Act of the Infrastructure Investment and Jobs Act (IIJA). Before any material or product shown on the Department's Build America, Buy America (BABA) List is included for payment on a monthly estimate, the Design-Build Team shall furnish the Engineer with a notarized certification certifying that the items conform to the BABA Act. The Department's Build America Buy America (BABA) List can be found on the Department's website below:

https://connect.ncdot.gov/letting/LetCentral/NCDOT%20BABA%20Materials%20List.pdf

Each purchase order issued by the Design-Build Team or a subcontractor for items on the BABA List to be permanently incorporated into any project shall contain in bold print a statement advising the supplier that the manufactured products and construction materials shall be produced in the United States of America. The Design-Build Team and all affected subcontractors shall maintain a separate file for BABA List items so that verification of the Design-Build Team's efforts to purchase items produced in the United States can readily be verified by an authorized representative of the Department or the Federal Highway Administration (FHWA).

CONTRACT TIME AND LIQUIDATED DAMAGES

(7-12-07) DB1 G04A

The date of availability for this contract is **October 27, 2025**, except that the Design-Build Team shall only begin ground disturbing activities as allowed by this Request for Proposals (RFP). The Design-Build Team shall consider this factor in determining the proposed completion date for this project.

The completion date for this contract is defined as the date proposed in the Technical Proposal by the proposer who is awarded the project. The completion date thus proposed shall not be later than **November 15, 2027**.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and / or intermediate contract times. Should an observation period extend beyond the Final Completion Date proposed by the Design-Build Team in the Technical Proposal, the performance and payment bonds shall remain in full force and effect until the observation period has been completed and the work accepted by the Department.

The liquidated damages for this contract are **Two Thousand Dollars ($2,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES

The Contractor shall complete the work required of **installing the underground conduit system and fiber along I-85 from the South Carolina State Line to the US 74 West Interchange**, and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **October 27, 2025**.

The completion date for this intermediate contract time is **May 16, 2027**.

The liquidated damages are **Two Thousand Dollars ($ 2,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 2 THRU 7 AND LIQUIDATED DAMAGES

Reference the Transportation Management Scope of Work found elsewhere in the RFP for more information on the following time restrictions and liquidated damages:

Liquidated Damages for Intermediate Contract Time #2 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on I-85, including all ramps and loops, are $2,500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #3 for the above lane narrowing, lane closures, holiday and special event time restrictions for two lanes on I-85 are $2,500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #4 for the above lane narrowing, lane closures, holiday and special event time restrictions on US 74 (Andrew Jackson Highway) are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #5 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on NC 216 (Battleground Road), SR 2283 (Dixon School Road), Gage Road, Industrial Dr, Overpass at -L- STA. 325+00, Woodlake Parkway, and Canterbury Road are $500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #6 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on NC 161 (York Road), SR 1307 (Edgewood Road), and NC 274 (Bessemer City Road) are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #7 for the above lane narrowing, lane closure, holiday and special event time restrictions for a single lane on US 321 (N Chester Street) are $500.00 per 15-minute period or any portion thereof.

INTERMEDIATE CONTRACT TIME NUMBER 8 THRU 16 AND LIQUIDATED DAMAGES

Reference the ITS Scope of Work found elsewhere in the RFP for more information on the following time restrictions and liquidated damages:

Liquidated Damages for Intermediate Contract Time #8 for failure to report a damaged NCDOT fiber optic communications cable and / or a damaged OMC fiber optic communications cable within one hour are $1,000.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #9 for a Broadband Fiber Compensation Event (BFCE) are $5,600.00 per hour or any portion thereof up to a maximum of $135,000 per event.

Liquidated Damages for Intermediate Contract Time #10 for failure to reestablish NCDOT fiber optic communications within eight hours of a planned disruption are $1,000.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #11 for failure to provide a plan 30 calendar days prior to work that defines 1) an anticipated planned disruption timeframe, 2) a plan of action for reestablishing NCDOT communications within eight hours of the planned disruption and 3) the coordinated plan from the OMC contractor to perform their portion of the work are $10,000.00 per failure.

Liquidated Damages for Intermediate Contract Time #12 for failure to restore communication to ITS devices or provide a replacement device within 24 hours are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #13 for failure to reestablish DMS operation within 72 hours of a planned disruption are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #14 for failure to provide a plan that defines 1) an anticipated DMS planned disruption timeframe and 2) a plan of action for reestablishing DMS operation a minimum of 21 calendar days prior to a planned disruption are $10,000.00 per failure.

Liquidated Damages for Intermediate Contract Time #15 for failure to reestablish CCTV operation within 24 hours of a planned disruption are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #16 for failure to provide a plan that defines 1) an anticipated CCTV planned disruption timeframe and 2) a plan of action for reestablishing CCTV operation a minimum of 21 calendar days prior to a planned disruption are $10,000.00 per failure.

PAYOUT SCHEDULE

(02-9-23) DB1 G13

No later than 12:00 o'clock noon on the 14th day after the Price Proposal opening, the responsive proposer with the lowest adjusted price shall submit a proposed Anticipated Monthly Payout Schedule to the office of the State Contract Officer. The Anticipated Monthly Payout Schedule shall be submitted as a hard copy version and as an electronic version in Excel Spreadsheet. Both versions of the Anticipated Monthly Payout Schedule shall be submitted in a sealed package with the outer wrapping clearly marked "Anticipated Monthly Payout Schedule" along with the Design-Build Team name and the contract number. The Anticipated Monthly Payout Schedule will be used by the Department to establish the monthly funding levels for this project. The Anticipated Monthly Payout Schedule shall parallel, and agree with, the project schedule the Design-Build Team submits as a part of their Technical Proposal. The Anticipated Monthly Payout Schedule shall include a monthly percentage breakdown (in terms of the total contract amount percentages) of the work anticipated to be completed. The Anticipated Monthly Payout Schedule shall begin with the Date of Availability and end with the Actual Completion Date proposed by the Design-Build Team. If the Anticipated Monthly Payout Schedule is not submitted as stated herein, the Technical and Price Proposals will be considered irregular by the Department, and the bid may be rejected.

As detailed above, the Design-Build Team shall submit electronic and hard copy updates of the Anticipated Monthly Payout Schedule on March 15th, June 15th, September 15th, and December 15th of each calendar year until project acceptance. The Design-Build Team shall submit all updates to the Resident Engineer, with copies to the State Construction Engineer at 1 South Wilmington Street, 1543 Mail Service Center, Raleigh, NC 27699-1543.

MOBILIZATION

(1-16-24) DB1 G15A

Revise the *Standard Specifications* as follows:

Page 8-1, Subarticle 800-2, MEASUREMENT AND PAYMENT

Delete this subarticle in its entirety and replace with the following:

800-2 MEASUREMENT AND PAYMENT

Five percent of the "Total Amount of Bid for Entire Project" shall be considered the lump sum amount for Mobilization. Partial payments for Mobilization will be made beginning with the first partial pay estimate paid on the contract. Payment will be made at the rate of 50 percent of the lump sum amount calculated for Mobilization. The remaining 50 percent will be paid with the second partial pay estimate paid on the contract.

SUBMITTAL OF QUANTITIES, FUEL BASE INDEX PRICE AND OPT-OUT OPTION

(9-19-22) DB1 G43

(A) Submittal of Quantities

Submit quantities on the *Fuel Usage Factor Chart and Estimate of Quantities* sheet, located in the back of this RFP, following the Itemized Proposal Sheet.

The Design-Build Team shall prepare an Estimate of Quantities that will be incorporating into the completed project and upon which the Price Proposal was based. The quantity breakdown shall include all items of work that appear in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet. Only those items of work which are specifically noted in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be subject to fuel price adjustments. The quantity estimate submitted shall be the final total quantity limit for which fuel price adjustments will be made for each item, regardless of Supplemental Agreements.

Submittal - The submittal shall be signed and dated by an officer of the Design-Build Team. The information shall be copied and submitted in a separate sealed package with the outer wrapping clearly marked "Fuel Price Adjustment" and shall be delivered at the same time and location as the Technical Proposal. The original shall be submitted in the Price Proposal.

Trade Secret - Information submitted on the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be considered "Trade Secret" in accordance with the requirements of G.S. 66-152(3) until such time as the Price Proposal is opened.

(B) Base Index Price

The Design-Build Team's Estimate of Quantities will be used on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. The Design-Build Team shall certify that the quantities are reasonable for the specified period. The base index price for DIESEL #2 FUEL is **$ 2.4100** per gallon.

(C) Opt Out of Fuel Price Adjustment

If the Design-Build Team elects not to pursue reimbursement for Fuel Price Adjustments, a quantity of zero shall be entered for all quantities in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet and the declination box shall be checked. Failure to complete this form will mean that the Design-Build Team is declining the Fuel Price Adjustments for this project.

(D) Change Option

The proposer will not be permitted to change the option after the copy of the *Fuel Usage Factor Chart and Estimate of Quantities* sheet is submitted with the Technical Proposal.

(E) Fuel Usage Factor for Asphalt Line Items

If the Design-Build Team elects to pursue reimbursement for Fuel Price Adjustments, the Design-Build Team shall select either the 0.90 **or** 2.90 Fuel Usage Factor for each individual asphalt line item by marking the appropriate Factor on the *Fuel Usage Factor Chart*. If the Design-Build Team does not mark either Fuel Usage Factor or marks both Fuel Usage Factors for an asphalt line item, the 2.90 Fuel Usage Factor shall be used for that asphalt line item.

(F) Failure to Submit

Failure to submit the completed *Fuel Usage Factor Chart and Estimate of Quantities* sheet separately with the Technical Proposal and in the Price Proposal will result in the Technical and Price Proposal being considered irregular by the Department and the Technical and Price Proposal may be rejected.

SEQUENCE AND SCHEDULE RESTRICTIONS

The Design-Build Team shall begin conduit and fiber installation at the South Carolina line and work north on I-85 to US 74 (Segment 1).

Devices in Segment 1 and 2 (US 74 / US 321) can be installed at any time, but Segment 2 devices cannot be connected until Segment 1 conduit, fiber and devices are fully installed, connected and accepted.

EXECUTION OF BID, NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN CERTIFICATION

(1/24/13) DB1 G52

The Proposer's attention is directed to the various sheets in the Request for Proposals which are to be signed by the Proposer. A list of these sheets is shown below. The signature sheets are located behind the Itemized Proposal Sheet in this Request for Proposal. The NCDOT bid bond form is available on-line at:

https://connect.ncdot.gov/letting/Pages/Design-Build-Resources.aspx

or by contacting the Records and Documents office at 919-707-6900.

1. Applicable Signature Sheets: 1, 2, 3, 4, 5, or 6 (Bid)

2. Bid Bond dated the day of Price Proposal submission

The Proposer shall certify to the best of his knowledge all subcontractors, material suppliers and vendors utilized herein current status concerning suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency, in accordance with the "Debarment Certification" located behind the *Execution of Bid Non-Collusion Affidavit, Debarment Certification and Gift Ban Certification* signature sheets in this RFP. Execution of the bid signature sheets in conjunction with any applicable statements concerning exceptions, when such statements

have been made on the "Debarment Certification", constitutes the Proposer's certification of "status" under penalty of perjury under the laws of the United States.

SUBMISSION OF DESIGN-BUILD PROPOSAL

(9-1-11) (Rev. 1-16-24) DB1 G55A

The Proposer's attention is directed that each Proposer's Design-Build Proposal shall comply with the following requirements in order for that Design-Build Proposal to be responsive and considered for award.

1. The Proposer shall be prequalified with the Department prior to submitting a Design-Build Proposal.

2. The Proposer shall deliver the Design-Build Proposal to the place indicated, and prior to the time indicated in this Request for Proposals.

3. The Design-Build Proposal documents shall be signed by an authorized employee of the Proposer.

4. The Design-Build Proposal shall be accompanied by Bid surety in the form of a Bid Bond or Bid Deposit, dated the day of the Price Proposal submission.

5. If Disadvantaged Business Enterprises (DBE) goals are established for this contract, the Proposer shall complete the form Listing of DBE Subcontractors contained elsewhere in this RFP in accordance with the *Disadvantaged Business Enterprises* Project Special Provision found elsewhere in this RFP.

6. The Design-Build Proposal shall address all the requirements as specified in this Request for Proposals.

In addition to the above requirements, failure to comply with any of the requirements of Article 102-8 of the Standard Special Provisions, Division One (found elsewhere in this RFP), Article 102-9 of the *Standard Specifications,* or Article 102-10 of the *Standard Specifications* and as amended in the Standard Special Provisions, Division One (found elsewhere in this RFP) may result in a Design-Build Proposal being rejected.

CONFIDENTIAL QUESTIONS

(1-5-07) DB1 G56B

The Design-Build Team will be permitted to ask confidential questions of the Department, which neither the question nor answer will be shared with other proposing teams. For the purpose of this provision, "confidential question" is defined as a private inquiry containing information whose disclosure could alert others to certain details of doing business in a particular manner. The Department will determine if the question is considered a confidential question.

I. Confidential questions arising prior to issuance of the Final Request for Proposals will be allowed at the External RFP review with the individual teams.

The Department will answer the confidential question verbally at the meeting if possible. If not answered verbally during the meeting, the Department will answer the confidential question by subtle changes in the Final Request for Proposals, which will clarify the scope by either allowing or disallowing the request. The revision will be made in such a manner as to not disclose the confidential question.

II. After the issuance of the Final Request for Proposals, confidential questions may be asked by requesting a meeting with the Contract Officer. The request shall be in writing and provide sufficient detail to evaluate the magnitude of the request. Questions shall be of such magnitude as to warrant a special meeting. Minor questions will not be acknowledged or answered.

After evaluation, the Contract Officer will respond to the question in writing to the Design-Build Team only. Other teams will not be notified of the question or answer.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS

(7-15-08) (Rev. 7-16-24) 108-2 DB1 G58

The Design-Build Team's attention is directed to the *Availability of Funds - Termination of Contracts* Standard Special Provision found elsewhere in this RFP. The Department of Transportation's schedule of estimated completion progress for this project, as required by that Standard Special Provision, shall be as follows:

Fiscal Year	Progress (% of Dollar Value)
2026 (07/01/25 - 06/30/26)	47% of Total Amount Bid
2027 (07/01/26 - 06/30/27)	45% of Total Amount Bid
2028 (07/01/27 - 06/30/28)	8% of Total Amount Bid

In accordance with Article 108-2 of the *Standard Specifications,* the Design-Build Team shall also furnish its own progress schedule. Any acceleration of the progress as shown by the Design-Build Team's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE

(10-16-07) (Rev. 1-16-24) 102-15(J) SP1 G61 DB1 G061

Description

The purpose of this special provision is to carry out the U.S. Department of Transportation’s policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with Federal funds. This provision is guided by 49 CFR Part 26.

Definitions

Additional DBE Subcontractors - Any DBE submitted at the time the Price Proposal is submitted that will not be used to meet the DBE goal. No submittal of a Letter of Intent is required.

Committed DBE Subcontractor - Any DBE submitted at the time the Price Proposal is submitted that is being used to meet the DBE goal by submission of a Letter of Intent. Or any DBE used as a replacement for a previously committed DBE firm.

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

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

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

Goal Confirmation Letter - Written documentation from the Department to the Proposer confirming the Design-Build Team's approved, committed DBE participation along with a listing of the committed DBE firms.

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

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

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

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients of USDOT funds in the state and not limited to the Department of Transportation only. The Certification Program is in accordance with 49 CFR Part 26.

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

Forms and Websites Referenced in this Provision

DBE Payment Tracking System - On-line system in which the Design-Build Team enters the payments made to DBE subcontractors who have performed work on the project.

https://apps.dot.state.nc.us/Vendor/PaymentTracking/

DBE-IS *Subcontractor Payment Information* - Form for reporting the payments made to all DBE firms working on the project.

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

RF-1 *DBE Replacement Request Form* - Form for replacing a committed DBE.

https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Form%20and%20Instructions.pdf

SAF *Subcontract Approval Form* - Form required for approval to sublet the contract.

https://connect.ncdot.gov/projects/construction/Construction%20Forms/SAF%20Form%20-%20Subcontract%20Approval%20Form%20Revised%2004-19.xlsm

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.

http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf

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Letter of Intent - Form signed by the Contractor and the DBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed DBE for the estimated amount (based on quantities and unit prices) listed at the time the Price Proposal is submitted.

http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf

Listing of DBE Subcontractors Form - Form for entering DBE subcontractors on a project that will meet this DBE goal contained elsewhere in this RFP.

http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20(Federal).docx

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where DBEs quoted on the project. This sheet is submitted with good faith effort packages.

http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls

DBE Goal

The following DBE goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises **1.0%**

(A) *If the DBE goal is more than zero*, the Design-Build Team shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the contract as set forth above as the DBE goal.

(B) *If the DBE goal is zero*, the Design-Build Team shall make an effort to recruit and use DBEs during the performance of the contract. Any DBE participation obtained shall be reported to the Department.

This goal is to be met through utilization of highway construction contractors and / or right of way acquisition firms. Utilization of DBE firms performing design, other preconstruction services, or Construction Engineering and Inspection are not included in this goal.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as DBE certified shall be used to meet the DBE goal. The Directory can be found at the following link.

https://www.ebs.nc.gov/VendorDirectory/default.html

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

Listing of DBE Subcontractors

At the time the Price Proposal is submitted, Proposers shall submit all DBE participation that they anticipate to use during the life of the contract. Only those identified to meet the DBE goal will be considered committed, even though the listing shall include both committed DBE subcontractors and additional DBE subcontractors. Additional DBE subcontractor participation submitted at the time the Price Proposal is submitted will be used toward the Department's overall race-neutral goal. Only those firms with current DBE certification at the time of Price Proposal opening will

be acceptable for listing in the Proposer's submittal of DBE participation. The Design-Build Team shall indicate the following required information:

(1) *If the DBE goal is more than zero,*

(a) Proposers, at the time the Price Proposal is submitted, shall submit a listing of DBE participation, including the names and addresses on *Listing of DBE Subcontractors* contained elsewhere in the contract documents in order for the Price Proposal to be considered responsive. Proposers shall indicate the total dollar value of the DBE participation for the contract.

(b) If Proposers have no DBE participation, they shall indicate this on the *Listing of DBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation**. Price Proposals submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of the Price Proposals. The Department will not consider these Price Proposals for award and the proposal will be rejected.

(c) The Proposer shall be responsible for ensuring that the DBE is certified at the time the Price Proposal is submitted by checking the Directory of Transportation Firms. If the firm is not certified at the time of the opening of the Price Proposals, that DBE's participation will not count towards achieving the corresponding goal.

(2) *If the DBE goal is zero*, entries on the *Listing of DBE Subcontractors* are not required for the zero goal, however any DBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in this special provision.

DBE Prime Contractor

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

For example, if the DBE goal is 45.0% and the DBE proposer will only perform 40.0% of the contract work, the prime will list itself at 40.0%, and the additional 5.0% shall be obtained through additional DBE participation with DBE subcontractors or documented through a good faith effort.

DBE Prime Contractors shall also follow Sections A and B listed under *Listing of DBE Subcontractor* just as a non-DBE proposer would.

Written Documentation - Letter of Intent

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

The documentation shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. on the sixth calendar day following opening of Price Proposals, unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

If the Proposer fails to submit the Letter of Intent from each committed DBE to be used toward the DBE goal, or if the form is incomplete (e.g., both signatures are not present), the DBE participation will not count toward meeting the DBE goal. If the lack of this participation drops the commitment below the DBE goal, the Design-Build Team shall submit evidence of good faith efforts, completed in its entirety, to the State Contractor Utilization Engineer or DBE@ncdot.gov no later than 10:00 a.m. on the eighth calendar day following opening of the Price Proposals, unless the eighth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

Submission of Good Faith Effort

If the Proposer fails to meet or exceed the DBE goal the Proposer with the apparent adjusted low price shall submit to the Department documentation of adequate good faith efforts made to reach the DBE goal.

A hard copy and an electronic copy of this information shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. on the sixth calendar day following opening of the Price Proposals unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day. If the Design-Build Team cannot send the information electronically, then one complete set and five copies of this information shall be received under the same time constraints above.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of DBE 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 DBE Goals More Than Zero

Adequate good faith efforts mean that the Proposer took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be

expected to obtain sufficient DBE participation. Adequate good faith efforts also mean that the Proposer actively and aggressively sought DBE 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 Proposer has made. Listed below are examples of the types of actions a proposer will take in making a good faith effort to meet the goal 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 DBEs who have the capability to perform the work of the contract. The Proposer must solicit this interest within at least ten days prior to the opening of the Price Proposals to allow the DBEs to respond to the solicitation. Solicitation shall provide the opportunity to DBEs within the Division and surrounding Divisions where the project is located. The Proposer must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(B) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved.

(1) Where appropriate, break out contract work items into economically feasible units to facilitate DBE 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 contract DBE goal when the work to be sublet includes potential for DBE participation (2^{nd} and 3^{rd} tier subcontractors).

(C) Providing interested DBEs 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 DBEs. It is the Proposer's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs 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 DBEs to perform the work.

(2) A proposer using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.

However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a proposer's failure to meet the contract DBE 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 Proposer of the responsibility to make good faith efforts. Proposing Design-Build Teams are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(E) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Proposer'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 Proposer's efforts to meet the project goal.

(F) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or proposer.

(G) Making efforts to assist interested DBEs 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 DBEs. Contact within seven days from the Price Proposals opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the Proposer's inability to get DBE quotes.

(I) Any other evidence that the Proposer submits which shows that the Proposer has made reasonable good faith efforts to meet the DBE goal.

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

(1) Whether the Proposer's documentation reflects a clear and realistic plan for achieving the DBE goal.

(2) The Proposer's past performance in meeting the DBE goals.

(3) The performance of other proposers in meeting the DBE goal. For example, when the Proposer with the apparent adjusted low price fails to meet the DBE goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the Proposer with the apparent adjusted low price could have met the goal. If the Proposer with the apparent adjusted low price fails to meet the DBE goal, but meets or exceeds the average DBE participation obtained by other proposers, the Department may view this, in conjunction with other factors, as evidence of the Proposer with the apparent adjusted low price having made a good faith effort.

If the Department does not award the contract to the Proposer with the apparent adjusted low price, the Department reserves the right to award the contract to the Proposer with the next apparent adjusted low price that can satisfy the Department that the DBE goal can be met or that an adequate good faith effort has been made to meet the DBE goal.

Non-Good Faith Appeal

The State Prequalification Engineer will notify the Design-Build Team verbally and in writing of non-good faith. A Design-Build Team may appeal a determination of non-good faith made by the Goal Compliance Committee. If a Design-Build Team wishes to appeal the determination made by the Committee, they shall provide written notification to the State Prequalification Engineer or at DBE@ncdot.gov. The appeal shall be made within two business days of notification of the determination of non-good faith.

Counting DBE Participation Toward Meeting DBE Goal

(A) Participation

The total dollar value of the participation by a committed DBE will be counted toward the contract goal requirement. The total dollar value of participation by a committed DBE will be based upon the value of work actually performed by the DBE and the actual payments to DBE firms by the Design-Build Team.

(B) Joint Checks

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

(C) Subcontracts (Non-Trucking)

A DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the contract goal requirement. Work that a DBE subcontracts to a non-DBE firm does not count toward the contract goal requirement. If a DBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the DBE is not performing a commercially useful function. The DBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption is subject to review by the Federal Highway Administration but is not administratively appealable to USDOT.

(D) Joint Venture

When a DBE performs as a participant in a joint venture, the Design-Build Team may count toward its contract goal requirement a portion of the total value of participation with the DBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the DBE performs with its forces.

(E) Suppliers

A Design-Build Team may count toward its DBE requirement 60.0 percent of its expenditures for materials and supplies required to complete the contract and obtained from a DBE regular dealer and 100.0 percent of such expenditures from a DBE manufacturer.

(F) Manufacturers and Regular Dealers

A Design-Build Team may count toward its DBE requirement the following expenditures to DBE firms that are not manufacturers or regular dealers:

(1) The fees or commissions charged by a DBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.

(2) With respect to materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) DBE Utilization

The Design-Build Team may count toward its contract goal requirement only expenditures to DBEs that perform a commercially useful function in the work of a contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the

amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and any other relevant factors.

(B) DBE Utilization in Trucking

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

(1) The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may subcontract the work to another DBE firm, including an owner-operator who is certified as a DBE. The DBE who subcontracts work to another DBE receives credit for the total value of the transportation services the subcontracted DBE provides on the contract.

(5) The DBE may also subcontract the work to a non-DBE firm, including from an owner-operator. The DBE who subcontracts the work to a non-DBE is entitled to credit for the total value of transportation services provided by the non-DBE subcontractor not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE 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 DBE and the Design-Build Team will not count towards the DBE contract requirement.

(6) A DBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the DBE 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 DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. This type of lease may count toward the DBE's credit as long as the driver is under the DBE's payroll.

(7) Subcontracted / leased trucks shall clearly display on the dashboard the name of the DBE 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.

DBE Replacement

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

The Design-Build Team must give notice in writing both by certified mail and e-mail to the DBE subcontractor, with a copy to the Engineer of its intent to request to terminate and / or substitute, and the reason for the request. The Design-Build Team must give the DBE subcontractor five (5) business days to respond to the Design-Build Team's notice of intent to request termination and / or substitution. If the DBE subcontractor objects to the intended termination / substitution, the DBE, within five (5) business days, must advise the Design-Build Team 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 DBE subcontractor.

A committed DBE 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 DBE subcontractor fails or refuses to execute a written contract.

(b) The listed DBE 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 DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Prime Contractor.

(c) The listed DBE subcontractor fails or refuses to meet the Prime Contractor's reasonable, nondiscriminatory bond requirements.

(d) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness.

(e) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law.

(f) The listed DBE subcontractor is not a responsible contractor.

(g) The listed DBE voluntarily withdraws from the project and provides written notice of withdrawal.

(h) The listed DBE is ineligible to receive DBE credit for the type of work required.

(i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract.

(j) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the Prime Contractor can substitute another DBE or non-DBE contractor after contract award.

The Design-Build Team shall comply with the following for replacement of a committed DBE:

(A) Performance Related Replacement

When a committed DBE is terminated for good cause as stated above, an additional DBE that was submitted at the time the Price Proposal was submitted may be used to fulfill the DBE commitment. A good faith effort will only be required for removing a committed DBE if there were no additional DBEs submitted at the time the Price Proposal was submitted to cover the same amount of work as the DBE that was terminated.

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

(1) Copies of written notification to DBEs that their interest is solicited in contracting the work defaulted by the previous DBE or in subcontracting other items of work in the contract.

(2) Efforts to negotiate with DBEs for specific subbids including, at a minimum:

(a) The names, addresses, and telephone numbers of DBEs who were contacted.
(b) A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed.

(3) A list of reasons why DBE quotes were not accepted.

(4) Efforts made to assist the DBEs contacted, if needed, in obtaining bonding or insurance required by the Design-Build Team.

(B) Decertification Replacement

(1) When a committed DBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Design-Build Team to solicit replacement DBE participation equal to the remaining work to be performed by the decertified

firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.

(2) When a committed DBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named DBE firm, the Design-Build Team shall take all necessary and reasonable steps to replace the DBE subcontractor with another DBE subcontractor to perform at least the same amount of work to meet the DBE goal requirement. If a DBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (See A herein for required documentation).

(3) Exception: If the DBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, the Department will not require the Design-Build Team to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement and Department's overall race-neutral goals.

All requests for replacement of a committed DBE firm shall be submitted to the Engineer for approval on Form RF-1 (DBE Replacement Request). If the Prime Contractor or any affiliated companies within the Design-Build Team fails to follow this procedure they may be disqualified from further bidding for a period of up to six months.

Changes in the Work

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

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Design-Build Team shall seek additional participation by DBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed DBE, the Design-Build Team shall seek participation by DBEs unless otherwise approved by the Engineer.

When the Design-Build Team requests changes in the work that result in the reduction or elimination of work that the Design-Build Team committed to be performed by a DBE, the Design-Build Team shall seek additional participation by DBEs equal to the reduced DBE 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 DBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving DBE subcontractors.

When using transportation services to meet the contract commitment, the Design-Build Team 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 DBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Design-Build Team shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60.0% or 100.0%) of expenditures claimed for DBE credit.

Reporting Disadvantaged Business Enterprise Participation

The Design-Build Team shall provide the Engineer with an accounting of payments made to all DBE 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 Prime Contractor or other affiliated companies within the Design-Build Team 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 DBEs, 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 Design-Build Team to submit the required information in the time frame specified may result in the disqualification of that Prime Contractor and any affiliate companies within the Design-Build Team 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 Prime Contractor or any affiliate companies within the Design-Build Team from being approved for work on future NCDOT projects until the required information is submitted.

Design-Build Teams reporting transportation services provided by non-DBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

The Design-Build Team shall report the accounting of payments through the Department's DBE Payment Tracking System.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *Standard Specifications* may be cause to disqualify the Prime Contractor or any affiliated companies within the Design-Build Team from further bidding for a specified length of time.

CERTIFICATION FOR FEDERAL-AID CONTRACTS

(3-21-90) DB1 G85

The Proposer certifies, by signing and submitting a Design-Build Proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, *Disclosure Form to Report Lobbying*, in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *Section 1352, Title 31, U.S. Code*. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Proposer also agrees by submitting a Design-Build Proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such sub-recipients shall certify and disclose accordingly.

CONTRACTOR'S LICENSE REQUIREMENTS

(7-1-95) DB1 G88

If the Design-Build Team does not hold the proper license to perform any plumbing, heating, air conditioning, or electrical work in this contract, he will be required to sublet such work to a contractor properly licensed in accordance with *Article 2 of Chapter 87 of the General Statutes* (licensing of heating, plumbing, and air conditioning contractors) and *Article 4 of Chapter 87* of the *General Statutes* (licensing of electrical contractors).

USE OF UNMANNED AIRCRAFT SYSTEM (UAS)

(1-16-24) DB1 G092

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

Prior to beginning operations, the Design-Build Team shall complete the NCDOT UAS - Flight Operation Approval Form and submit it to the Engineer for approval. All UAS operations shall be approved by the Engineer, in writing, prior to beginning the operations.

All Design-Build team members operating UAS shall have UAS specific general liability insurance to cover all operations under this contract.

The use of UAS shall be at the Design-Build Team's discretion. Except as allowed otherwise below, no measurement or payment will be made for the use of UAS. In the event that the Department directs the Design-Build Team to utilize UAS, all costs associated with using UAS will be paid for as extra work, in accordance with Subarticle 104-8(A) of the *Standard Specifications*.

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE

(8-18-22) 108-5 DB1 G100

To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities.

The hotline is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse, and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SUBSURFACE INFORMATION

(7-1-95) (4-3-07) DB1 G112D

There is no subsurface information available on this project. The Design-Build Team shall make his own investigation of subsurface conditions.

COOPERATION BETWEEN CONTRACTORS

(7-1-95) (Rev. 1-16-24) DB1 G133

The Design-Build Team's attention is directed to Article 105-7 of the 2024 *Standard Specifications*.

- Project I-5921 is located within the project area and has an anticipated March 2027 Let date.

- Project HO-0002 is located within the project area and has an anticipated 2027 completion date.

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

TWELVE MONTH GUARANTEE

(7-15-03) DB1 G145

(A) The Design-Build Team shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Design-Build Team will not be responsible for damage due to normal wear and tear, for negligence on the part of the Department, and / or for use in excess of the design.

(B) Where items of equipment or material carry a manufacturer’s guarantee for any period in excess of twelve months, then the manufacturer’s guarantee shall apply for that particular piece of equipment or material. The Department’s first remedy shall be through the manufacturer although the Design-Build Team shall be responsible for invoking the warranted repair work with the manufacturer. The Design-Build Team’s responsibility shall be limited to the term of the manufacturer’s guarantee. NCDOT would be afforded the same warranty as provided by the manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Design-Build Team would be wholly responsible for under the terms of the contract. Examples include pavement structures, bridge components and sign structures. This provision will not be used as a mechanism to force the Design-Build Team to return to the project to make repairs or perform additional work that the Department would normally compensate the Design-Build Team for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders, etc.) are not parts of this guarantee.

Appropriate provisions of the payment and / or performance bonds shall cover this guarantee for the project. In addition, failure on the part of the responsible entity(ies) of the Design-Build Team to perform guarantee work within the terms of this provision shall be just cause to remove the responsible entity(ies) from the Department's corresponding prequalified list. The Design-Build Team shall be removed for a minimum of six months and will be reinstated only after all work has been corrected and the Design-Build Team requests reinstatement in writing.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

PERMANENT VEGETATION ESTABLISHMENT

(6-11-15) (Rev. 1-16-24) 104 DB01 G160

Establish permanent vegetation stands of the Long Term Stabilization mixtures identified in the Erosion and Sedimentation Control Scope of Work found elsewhere in this RFP. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish 80% coverage of permanent vegetation within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the Erosion and Sedimentation Control Scope of Work found elsewhere in this RFP and the applicable sections of the *Standard Specifications*.

Once the Engineer has determined that the permanent vegetation establishment requirement has been achieved at an 80% vegetation density (the amount of established vegetation per given area to stabilize the soil) and no erodible areas exist within the project limits, the Design-Build Team will be notified to remove the remaining erosion control devices that are no longer needed. The Design-Build Team shall be responsible for, and shall correct, any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

EROSION & SEDIMENT CONTROL / STORMWATER CERTIFICATION

(1-16-07) (Rev. 10-26-20) 105-16, 225-2, 16 DB1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollutant Discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control / Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

(A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control / Stormwater (E & SC / SW) Supervisor to manage the Design-Build Team and subcontractor(s) operations, ensure compliance with Federal, State and Local ordinances and regulations, and manage the Quality Control Program.

(B) *Certified Foreman* - Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.

(C) *Certified Installer* - Provide a certified installer to install or direct the installation for erosion or sediment / stormwater control practices.

(D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control / stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control / stormwater plan.

Roles and Responsibilities

(A) *Certified Erosion and Sediment Control / Stormwater Supervisor* - The Certified Supervisor shall be Level II and shall be responsible for ensuring the erosion and sediment control / stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. The Certified Supervisor shall perform the following duties:

(1) Manage Operations - Coordinate and schedule the work of subcontractors so that erosion and sediment control / stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.

(a) Oversee the work of subcontractors so that appropriate erosion and sediment control / stormwater preventive measures are conformed to at each stage of the work.

(b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.

(c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.

(d) Implement the erosion and sediment control / stormwater site plans requested.

(e) Provide any needed erosion and sediment control / stormwater practices for the Design-Build Team's temporary work not shown on the plans developed by the Design-Build Team, such as, but not limited to, work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.

(f) Acquire applicable permits and comply with requirements for borrow pits, dewatering and any temporary work conducted by the Design-Build Team in jurisdictional areas.

(g) Conduct all erosion and sediment control / stormwater work in a timely and workmanlike manner.
(h) Fully perform and install erosion and sediment control / stormwater work prior to any suspension of the work.
(i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control / stormwater issues due to the Design-Build Team's operations.
(j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces and / or any location where sediment leaves the right of way.
(k) Have available a set of erosion and sediment control / stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel, as well as regulatory agencies.

(2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater Permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements shall be, but are not limited to:

(a) Control project site waste to prevent contamination of surface or ground waters of the state, e.g. from equipment operations / maintenance construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.
(b) Inspect erosion and sediment control / stormwater devices and stormwater discharge outfalls at least once every seven calendar days, and within 24 hours after a rainfall event equal to or greater than 1.0 inch that occurs within a 24-hour period. At the discretion of Division of Water Resources personnel, additional monitoring may be required if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity.
(c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.
(d) Maintain erosion and sediment control / stormwater inspection records for review by Department and Regulatory personnel upon request.
(e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.
(f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.
(g) Provide secondary containment for bulk storage of liquid materials.

(h) Provide training for employees concerning general erosion and sediment control / stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the General Permit, NCG010000.

(i) Report violations of the NPDES Permit to the Engineer immediately who will notify the NC Department of Environmental Quality Regional Office within 24 hours of becoming aware of the violation.

(3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions / conditions of permits. The quality control program shall:

(a) Follow permit requirements related to the Design-Build Team and subcontractors' construction activities.

(b) Ensure that all operators and / or subcontractor(s) on site have the proper erosion and sediment control / stormwater certification.

(c) Notify the Engineer when the required certified erosion and sediment control / stormwater personnel are not available on the job site when needed.

(d) Conduct the inspections required by the NPDES Permit.

(e) Take corrective actions in the proper timeframe as required by the NPDES Permit for problem areas identified during the NPDES inspections.

(f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch / seed or vegetative cover on a section-by-section basis.

(g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.

(h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.

(i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.

(j) The Design-Build Team's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.

(B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:

(1) Foreman in charge of grading activities
(2) Foreman in charge of bridge or culvert construction over jurisdictional areas
(3) Foreman in charge of utility activities

The Design-Build Team may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be onsite whenever construction activities, as described above, are taking place. This request shall be approved by the Engineer prior to work beginning.

The Design-Build Team may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

(C) *Certified Installers* - Provide at least one onsite, Level I Certified Installer for each of the following erosion and sediment control / stormwater crew:

(1) Seeding and Mulching
(2) Temporary Seeding
(3) Temporary Mulching
(4) Sodding
(5) Silt fence or other perimeter erosion / sediment control device installations
(6) Erosion control blanket installation
(7) Hydraulic tackifier installation
(8) Turbidity curtain installation
(9) Rock ditch check / sediment dam installation
(10) Ditch liner / matting installation
(11) Inlet protection
(12) Riprap placement
(13) Stormwater BMP installations (such as, but not limited to, level spreaders, retention / detention devices)
(14) Pipe installations within jurisdictional areas

If a Level I *Certified Installer* is not onsite, the Design-Build Team may substitute a Level II Foreman for a Level I Installer, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

(D) *Certified Designer* - Include the certification number of the Level III Certified Designer on the erosion and sediment control / stormwater component of all reclamation plans and if applicable, the certification number of the Level III Certified Designer on the design of the project erosion and sediment control / stormwater plan.

Preconstruction Meeting

Furnish the names of the Certified Erosion and Sediment Control / Stormwater Supervisor, Certified Foremen, Certified Installers and Certified Designers and notify the Engineer, in writing, of changes in certified personnel over the life of the contract within two days of change.

Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer to the certification entity, certification for Supervisor, Certified Foremen, Certified Installer and Certified Designer may be revoked or suspended with the issuance of an Immediate Corrective Action (ICA), Notice of Violation (NOV), or Cease and Desist Order for erosion and sediment control / stormwater related issues.

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

(A) Failure to adequately perform the duties as defined within this certification provision
(B) Issuance of an ICA, NOV, or Cease and Desist Order
(C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications
(D) Demonstration of erroneous documentation or reporting techniques
(E) Cheating or copying another candidate's work on an examination
(F) Intentional falsification of records
(G) Directing a subordinate under direct or indirect supervision to perform any of the above actions
(H) Dismissal from a company for any of the above reasons
(I) Suspension or revocation of one's certification by another entity

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within ten calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within ten calendar days shall result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified shall result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process. The Chief Engineer will hear the appeal and make a decision within seven days of hearing the appeal. The decision of the Chief Engineer shall be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control / Stormwater Supervisor, Certified Foremen, Certified Installers and Certified Designers will be incidental to the project for which no direct compensation will be made.

CLEARING AND GRUBBING

(9-1-11) (Rev. 8-18-15) DB2 R01

With the exception of areas with Permanent Utility Easements, perform clearing on this project to the limits established by Method "II" shown on Roadway Standard Drawing No. 200.02. In areas with Permanent Utility Easements, clearing shall extend to the right of way limits.

BURNING RESTRICTIONS

(7-1-95) DB2 R05

Open burning shall not be permitted on any portion of the right of way limits established for this project. The Design-Build Team shall not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in Gaston County. The Design-Build Team shall dispose of the clearing, grubbing and demolition debris by means other than burning and in accordance with state and local rules and regulations.

FOUNDATIONS AND ANCHOR ROD ASSEMBLIES FOR METAL POLES

(1-17-12)(Rev. 07-10-23) 9, 14, 17 DB9 R05

Description

Foundations for metal poles include foundations for signals, cameras, overhead and dynamic message signs (DMS) and high mount and light standards supported by metal poles or upright trusses. Foundations consist of footings with pedestals and drilled piers with or without grade beams or wings. Anchor rod assemblies consist of anchor rods (also called anchor bolts) with nuts and washers on the exposed ends of rods and nuts and a plate or washers on the other ends of rods embedded in the foundation.

Construct concrete foundations with the required resistances and dimensions and install anchor rod assemblies in accordance with the contract and accepted submittals. Construct drilled piers consisting of cast-in-place reinforced concrete cylindrical sections in excavated holes. Provide temporary casings or polymer slurry as needed to stabilize drilled pier excavations. Use a prequalified Drilled Pier Contractor to construct drilled piers for metal poles. Define "excavation" and "hole" as a drilled pier excavation and "pier" as a drilled pier.

This provision does not apply to foundations for signal pedestals; see Section 1743 of the *Standard Specifications* and Roadway Standard Drawing No. 1743.01.

Materials

Refer to the Standard Specifications.

Item	Section / Article
Conduit	1091-3
Grout, Type 2	1003
Polymer Slurry	411-2(B)(2)
Portland Cement Concrete	1000
Reinforcing Steel	1070
Rollers and Chairs	411-2(C)
Temporary Casings	411-2(A)

Provide Type 3 material certifications in accordance with Article 106-3 of the Standard Specifications for conduit, rollers, chairs and anchor rod assemblies. Store steel materials on blocking at least 12" above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store foundation and anchor rod assembly materials so materials are kept clean and free of damage. Bent, damaged and / or defective materials shall be rejected.

Use conduit type in accordance with the contract. Use Class A concrete for footings and pedestals, Class Drilled Pier concrete for drilled piers and Class AA concrete for grade beams and wings including portions of drilled piers above bottom of wings elevations. Corrugated temporary casings may be accepted at the discretion of the Engineer. A list of approved polymer slurry products is available from:

connect.ncdot.gov/resources/Geological/Pages/Products.aspx

Provide anchor rod assemblies in accordance with the contract consisting of the following:

(A) Straight anchor rods,

(B) Heavy hex top and leveling nuts and flat washers on exposed ends of rods, and

(C) Nuts and either flat plates or washers on the other ends of anchor rods embedded in foundations.

Do not use lock washers. Use steel anchor rods, nuts and washers that meet ASTM F1554 for Grade 55 rods and Grade A nuts. Use steel plates and washers embedded in concrete with a thickness of at least 1/4". Galvanize anchor rods and exposed nuts and washers in accordance with Article 1076-4 of the *Standard Specifications* It is not necessary to galvanize nuts, plates and washers embedded in concrete.

Construction Methods

Install the required size and number of conduits in foundations in accordance with the plans developed by the Design-Build Team and accepted submittals. Construct top of piers, footings, pedestals, grade beams and wings flat, level and within 1" of elevations shown in the plans developed by the Design-Build Team or approved by the Engineer. Provide an Ordinary Surface finish in accordance with Subarticle 825-6(B) of the *Standard Specifications* for portions of foundations exposed above finished grade. Do not remove anchor bolt templates or pedestal or grade beam forms or erect metal poles or upright trusses onto foundations until concrete attains a compressive strength of at least 3,000 psi.

(A) Drilled Piers

Before starting drilled pier construction, hold a predrill meeting to discuss the installation, monitoring and inspection of the drilled piers. Schedule this meeting after the Drilled Pier Contractor has mobilized to the site. The Resident or Division Traffic Engineer, Design-Build Team and Drilled Pier Contractor Superintendent will attend this predrill meeting.

Do not excavate holes, install piles or allow equipment wheel loads or vibrations within 20 ft of completed piers until 16 hours after Drilled Pier concrete reaches initial set.

Check for correct drilled pier alignment and location before beginning drilling. Check plumbness of holes frequently during drilling.

Construct drilled piers with the minimum required diameters shown in the plans developed by the Design-Build Team. Install piers with tip elevations no higher than shown in the plans developed by the Design-Build Team or approved by the Engineer.

Excavate holes with equipment of the sizes required to construct drilled piers. Depending on the subsurface conditions encountered, drilling through rock and boulders may be required. Do not use blasting for drilled pier excavations.

Contain and dispose of drilling spoils and waste concrete as directed and in accordance with Section 802 of the Standard Specifications. Drilling spoils consist of all materials and fluids removed from excavations.

If unstable, caving or sloughing materials are anticipated or encountered, stabilize holes with temporary casings and/or polymer slurry. Do not use telescoping temporary casings. If it becomes necessary to replace a temporary casing during drilling, backfill the excavation, insert a larger casing around the casing to be replaced or stabilize the excavation with polymer slurry before removing the temporary casing.

If temporary casings become stuck or the Design-Build Team proposes leaving casings in place, temporary casings should be installed against undisturbed material. Unless otherwise approved, do not leave temporary casings in place for mast arm poles and cantilever signs. The Engineer will determine if casings may remain in place. If the Design-Build Team

proposes leaving temporary casings in place, do not begin drilling until a casing installation method is approved.

Use polymer slurry and additives to stabilize holes in accordance with the slurry manufacturer's recommendations. Provide mixing water and equipment suitable for polymer slurry. Maintain the required slurry properties at all times except for sand content.

Define a "sample set" as slurry samples collected from mid-height and within 2 ft of the bottom of holes. Take sample sets from excavations to test polymer slurry immediately after filling holes with slurry, at least every 4 hours thereafter and immediately before placing concrete. Do not place Drilled Pier concrete until both slurry samples from an excavation meet the required polymer slurry properties. If any slurry test results do not meet the requirements, the Engineer may suspend drilling until both samples from a sample set meet the required polymer slurry properties.

Remove soft and loose material from bottom of holes using augers to the satisfaction of the Engineer. Assemble rebar cages and place cages and Drilled Pier concrete in accordance with Subarticle 411-4(E) of the *Standard Specifications*, except for the following:

(1) Inspections for tip resistance and bottom cleanliness are not required,
(2) Temporary casings may remain in place if approved, and
(3) Concrete placement may be paused near the top of pier elevations for anchor rod assembly installation and conduit placement or

(4) If applicable, concrete placement may be stopped at bottom of grade beam or wings elevations for grade beam or wing construction.

If wet placement of concrete is anticipated or encountered, do not place drilled pier concrete until a concrete placement procedure is approved. If applicable, temporary casings and fluids may be removed when concrete placement is paused or stopped in accordance with the exceptions above provided holes are stable. Remove contaminated concrete from exposed Drilled Pier concrete after removing casings and fluids. If holes are unstable, do not remove temporary casings until a procedure for placing anchor rod assemblies and conduit or constructing grade beams or wings is approved.

Use collars to extend drilled piers above finished grade. Remove collars after Drilled Pier concrete sets and round top edges of piers.

If drilled piers are questionable, pile integrity testing (PIT) and further investigation may be required in accordance with Article 411-5 of the *Standard Specifications*. A drilled pier will be considered defective in accordance with Subarticle 411-5(D) of the *Standard Specifications* and drilled pier acceptance is based in part on the criteria in Article 411-6 of the *Standard Specifications* except for the top of pier tolerances in Subarticle 411-6(C) of the *Standard Specifications*.

If a drilled pier is under further investigation, do not grout core holes, backfill around the pier or perform any work on the drilled pier until the Engineer accepts the pier. If the drilled pier is accepted, dewater and grout core holes and backfill around the pier with approved material to finished grade. If the Engineer determines a pier is unacceptable, remediation is required in accordance with Article 411-6 of the *Standard Specifications*. No extension of completion date or time will be allowed for remediation of unacceptable drilled piers or post repair testing.

Permanently embed a plate in or mark top of piers with the pier diameter and depth, size and number of vertical reinforcing bars and the minimum compressive strength of the concrete mix at 28 days.

(B) Footings, Pedestals, Grade Beams and Wings

Excavate as necessary for footings, grade beams and wings in accordance with the plans developed by the Design-Build Team, accepted submittals and Section 410 of the *Standard Specifications*. If unstable, caving or sloughing materials are anticipated or encountered, shore foundation excavations as needed with an approved method. Notify the Engineer when foundation excavation is complete. Do not place concrete or reinforcing steel until excavation dimensions and foundation material are approved by the Engineer.

Construct cast-in-place reinforced concrete footings, pedestals, grade beams and wings with the dimensions shown in the plans developed by the Design-Build Team and in accordance with Section 825 of the *Standard Specifications*. Use forms to construct portions of pedestals and grade beams protruding above finished grade. Provide a chamfer with a 3/4" horizontal width for pedestal and grade beam edges exposed above finished grade. Place concrete against undisturbed soil or backfill and fill in accordance with Article 410-8 of the Standard Specifications. Proper compaction around footings and wings is critical for foundations to resist uplift and torsion forces.

(C) Anchor Rod Assemblies

Size anchor rods for design and the required projection above top of foundations. Determine required anchor rod projections from nut, washer and base plate thicknesses, the protrusion of 3 to 5 anchor rod threads above top nuts after tightening and the distance of one nut thickness between top of foundations and bottom of leveling nuts.

Protect anchor rod threads from damage during storage and installation of anchor rod assemblies. Before placing anchor rods in foundations, turn nuts onto and off rods past leveling nut locations. Turn nuts with the effort of one workman using an ordinary wrench without a cheater bar. Report any thread damage to the Engineer that requires extra effort to turn nuts.

Arrange anchor rods symmetrically about center of base plate locations as shown in the plans developed by the Design-Build Team. Set anchor rod elevations based on required projections above top of foundations. Securely brace and hold rods in the correct position,

orientation and alignment with a steel template. Do not weld to reinforcing steel, temporary casings or anchor rods.

Install top and leveling (bottom) nuts, washers and the base plate for each anchor rod assembly in accordance with the following procedure:

(1) Turn leveling nuts onto anchor rods to a distance of one nut thickness between the top of foundation and bottom of leveling nuts. Place washers over anchor rods on top of leveling nuts.

(2) Determine if nuts are level using a flat rigid template on top of washers. If necessary, lower leveling nuts to level the template in all directions or if applicable, lower nuts to tilt the template so the metal pole or upright truss will lean as shown in the plans developed by the Design-Build Team. If leveling nuts and washers are not in full contact with the template, replace washers with galvanized beveled washers.

(3) Verify the distance between the foundation and leveling nuts is no more than one nut thickness.

(4) Place base plate with metal pole or upright truss over anchor rods on top of washers. High mount luminaires may be attached before erecting metal poles but do not attach cables, mast arms or trusses to metal poles or upright trusses at this time.

(5) Place washers over anchor rods on top of base plate. Lubricate top nut bearing surfaces and exposed anchor rod threads above washers with beeswax, paraffin or other approved lubricant.

(6) Turn top nuts onto anchor rods. If nuts are not in full contact with washers or washers are not in full contact with the base plate, replace washers with galvanized beveled washers.

(7) Tighten top nuts to snug-tight with the full effort of one workman using a 12" wrench. Do not tighten any nut all at once. Turn top nuts in increments. Follow a star pattern cycling through each nut at least twice.

(8) Repeat (7) for leveling nuts.

(9) Replace washers above and below the base plate with galvanized beveled washers if the slope of any base plate face exceeds 1:20 (5%), any washer is not in firm contact with the base plate or any nut is not in firm contact with a washer. If any washers are replaced, repeat (7) and (8).

(10) With top and leveling nuts snug-tight, mark each top nut on a corner at the intersection of 2 flats and a corresponding reference mark on the base plate. Mark top nuts and base plate with ink or paint that is not water-soluble. Use the turn-of-nut method for pretensioning. Do not pretension any nut all at once. Turn top nuts in increments for a total turn that meets the following nut rotation requirements:

NUT ROTATION REQUIREMENTS (Turn-of-Nut Pretensioning Method)	
Anchor Rod Diameter, inch	**Requirement**
≤ 1 1/2	1/3 turn (2 flats)
> 1 1/2	1/6 turn (1 flat)

Follow a star pattern cycling through each top nut at least twice.

(11) Ensure nuts, washers and base plate are in firm contact with each other for each anchor rod. Cables, mast arms and trusses may now be attached to metal poles and upright trusses.

(12) Between 4 and 14 days after pretensioning top nuts, use a torque wrench calibrated within the last 12 months to check nuts in the presence of the Engineer. Completely erect mast arm poles and cantilever signs and attach any hardware before checking top nuts for these structures. Check that top nuts meet the following torque requirements:

TORQUE REQUIREMENTS	
Anchor Rod Diameter, inch	**Requirement, ft-lb**
7/8	180
1	270
1 1/8	380
1 1/4	420
≥ 1 1/2	600

If necessary, retighten top nuts in the presence of the Engineer with a calibrated torque wrench to within ± 10 ft-lb of the required torque. Do not overtighten top nuts.

(13) Do not grout under base plate.

HIGH VISIBILITY TRAFFIC CONTROL DEVICES

(4/17/19) (Rev. 11/15/2022)

Description

Furnish and install High Visibility Devices for projects on interstates and freeways. High Visibility Devices include drums, skinny drums, stationary work zone signs and rigid portable work zone signs. All of these devices shall be new. Used devices are not acceptable.

Materials

A) General

Use materials in accordance with the Manufacturer's recommendations that will retain both durability and retroreflectivity as described elsewhere in this specification for a period of at least 36 months.

The following are required High Visibility Devices to be used for work zone performance applications.

- Drums
- Skinny Drums (Daytime use only)
- Stationary Work Zone Signs
- Rigid Portable Work Zone Signs

All drums and skinny drums shall be new and meet the existing requirements of Section 1089-5 of the NCDOT *Standard Specifications for Roads and Structures* and shall have Grade B flexible, fluorescent orange sheeting that meets the retroreflective requirements of Section 1092-2 of the NCDOT *Standard Specifications for Roads and Structures*.

All stationary work zone signs shall be new and meet the existing requirements of Section 1089-1 of the NCDOT Standard Specifications for Roads and Structures. Legend overlays are prohibited and shall not be accepted on the interstate/freeway or associated intersecting roadways. Vertical sign post reflector strips shall be added to all stationary sign supports. Use Grade B fluorescent orange for work zone sign supports and Grade B fluorescent yellow for exit sign supports. Install strips a minimum of 2" wide, a minimum of 6' in length on sign supports with one sign mounted and a minimum of 4.5' in length for sign supports with two or more signs mounted vertically.

All portable work zone signs shall be new and have composite substrates as described in Section 1089-1 of the NCDOT *Standard Specifications for Roads and Structures*. Roll-up signs do not meet the requirements of this provision. The remainder of the existing requirements of Section 1089-1 of the NCDOT *Standard Specifications for Roads and Structures* remain. Used sign stands are acceptable.

B) Material Qualifications/Certifications

Only use materials as listed above that are on the NCDOT Approved Products List. In addition, provide a Type 3 Material Certification for all materials in accordance with Section 106-3 and Section 1087-4.

(C) Performance

Poor performance of any device or sign at any site, whether or not related to a specific contract may be grounds for removing the material from the NCDOT Approved Products List and/or removing from any project under contract.

Construction Methods

All requirements of Section 1110-3 and Section 1130-3 of the NCDOT *Standard Specifications for Roads and Structures* shall apply except roll up signs are not permitted for use.

The use of skinny drums is prohibited for any nighttime lane closures on interstates/freeways.

Maintenance

Replace any sign or drum that prematurely fails due to any damage or defect that causes it to perform unsatisfactorily with an "in kind" device of similar quality and age according to the guidelines set forth in the American Traffic Safety Service Association's (ATSSA) *Quality Guidelines for Work Zone Traffic Control Devices*. An "in kind" replacement sign or drum is not required to be new, however, it shall be less than 1 year old and have 100% of its original sheeting area and at least 85% of the retroreflective qualities of a new device, so that it is undetectable adjacent to the original devices and signs placed on the project.

CONNECTED LANE CLOSURE SYSTEM

(10/29/2018) (Rev. 2/7/2023)

Description

Furnish, install, operate, maintain, relocate, and remove connected lane closure devices for use on Interstate and Freeway lane closures. The purpose of a Connected Lane Closure System (CLCS) is to transmit real-time information of active lane closures on Interstate and Freeways for use by the State Transportation Operations Center (STOC), Regional Transportation Management Centers (TMCs), and 511 systems; and for third party vendors (Mapping, Navigation, Connected Vehicles, etc.) to identify and provide advanced notification of active lane closures to approaching motorists.

Materials

The CLCS shall be designed and built to transmit the location of the real-time lane closure from the START to the END such that the full length of the lane closure is known. The information transmitted shall be approved by each entity, conform to the current version of the USDOT's Work Zone Data Exchange (WZDx) specification and be publicly available to NCDOT approved

consumers of this data. More information about the WZDx specification can be found at (https://www.transportation.gov/av/data/wzdx).

The connected lane closure devices shall be capable of wireless communication.

The initial connected device representing the START location shall be designed and attached to the flashing arrow board in such a manner that it is only activated when either the left or right arrows are displayed, not when the flashing arrow board is operated in caution mode. When the lane closure is removed, and the flashing arrow board is turned off or changed to caution mode, the connected device shall automatically turn off simultaneously and its location shall no longer be transmitted. The device shall also have a visual indicator (e.g. an illuminated light either steady burn or flash) to allow clear, visual proof the device is powered on, has established communication and is transmitting. The visual indicator shall not be located such that it potentially creates confusion to the motorists.

A second connected device representing the END location shall be installed on a crashworthy (e.g. NCHRP 350 or MASH-16) traffic control device. It shall have an easily accessible power switch and a small status indicator light mounted such that it is visible when passing by in a vehicle at operating speed. When switched to the ON position, the light shall indicate the device has established communication and is transmitting. The light may be either steady burn or flashing and shall not exceed one (1) inch in diameter. This second connected device representing the END location may be created virtually by a connected flashing arrow board.

The devices shall have battery life sufficient to maintain operation for the duration of the lane closure or have the ability to be recharged without deactivating the device or impacting the location of the lane closure information transmitted to the external parties. All costs associated with charging are incidental and shall be included in the cost of the system.

Construction Methods

Connected lane closure devices shall be used on all lane closures on freeways and interstates throughout the project.

A START and END location shall be established by the installed system per grouping of lane closures (single, double, or triple); one attached and wired into the flashing arrow board at the beginning of the first taper. The other at the last traffic control device at the end of the lane closure(s) if the END location cannot be created virtually. Supplemental flashing arrow boards in advance of the first lane closure taper or flashing arrow boards in subsequent lane closures (for double and triple lane closures) shall not be transmitting if equipped with connected devices. Subsequent lane closures occurring downstream of where all lanes have been reopened and lane closures in the opposite direction of travel will require additional connected devices.

The second connected lane closure device shall be manually turned ON and OFF by crews installing and removing the lane closure unless the device can be controlled or virtually created by the initial connected device. The unit shall be turned on immediately upon installation of the lane closure and turned off immediately upon removal of the lane closure.

Once installed, the Contractor shall verify that the connected lane closure devices are transmitting information prior to leaving the device unattended and re-verify transmission every 72 hours for long-term installations.

Technical Requirements

The connected devices shall run continuously during any active lane closures for the length of the contract.

The GPS within the connected devices shall have a horizontal accuracy of 10 feet, 95% of the time.

The system shall send real-time alerts to designated NCDOT personnel when the flashing arrow mode or direction is changed. The alert shall be within 5 minutes of the actual change.

The connected device information, including the location, transmission status, and battery status shall be transmitted within five (5) minutes of initiation and updated every thirty (30) minutes to the central server.

The contractor shall provide multiple logins to a secured server (e.g. vendor dashboard) that provides real-time and historic status. The status must be exportable, within 24 hours, in .csv or .xls format and include data for date, display direction, time on, time off, and GPS coordinates. The historic logged information shall be available to CLCS users 24/7/365 during the length of the entire construction phase. All logged information from the project shall be retained by the Contractor and be available to the NCDOT for at least one (1) year after the contract ends. Information shall include timestamps, device name, flashing arrow mode, communication status, battery voltage and GPS location.

The battery voltage shall be collected at least once an hour. The information shall be stored and available for troubleshooting. To prevent communication loss, the system shall transmit an alert via E-mail or SMS to designated personnel if the battery voltage of a device is under a specified threshold.

The CLCS shall provide an immediate electronic alert (e.g. via E-mail or SMS) to the Traffic Control Supervisor or other designated individual if a device is not transmitting its position for a period of 30 minutes or more.

The outputs from the connected device on the arrow board and the downstream connected (or virtual) device at the end of the lane closure shall be easily identifiable as a single system, either by sequential device IDs, identical project names, or other method as approved by the Engineer. Additional pairs on the project shall have unique identifiable information such that it is not confused with another project system.

JUNCTION BOXES (LIMITED ACCESS FACILITIES)

1.1 DESCRIPTION

Furnish and install junction boxes with covers, graded stone, concrete collar, and all necessary hardware in accordance with the plans and specifications. Comply with the provisions in the "Limited Access Facilities" junction box typical detail drawing.

Provide Electronic Marking Balls to aid in locating buried junction boxes.

1.2 MATERIALS

A. General

Refer to Division 8 and 10 of the 2024 *Standard Specifications for Roads and Structures*.

Item	Section
Incidental Concrete Construction	825
#57 or #67 Washed Stone	1005
Portland Cement Concrete Production and Delivery	1000
Reinforcing Steel	1070

Furnish material, equipment, and hardware under this section that is pre-approved on the ITS and Signals QPL.

B. Junction Box

Provide junction boxes with at least two size 3/8-inch diameter stainless steel hex head cover bolts to match inserts in the box. Ensure junction boxes are provided with open bottoms. Provide vertical extensions of 6 inches to 12 inches as required by project provisions.

Provide the required logo on the cover. Provide pull slot(s) with stainless steel pin(s).

Provide third party certification that the junction boxes and covers meet ANSI/SCTE 77 2013 and Tier 22 loading. Provide certification that testing methods are compliant with ANSI/SCTE 77 2013.

Provide standard size junction boxes and covers with minimum outside dimensions of 18" (l) x 11" (w) x 12" (d) for electrical cable. Provide a cover embossed with the following wording "NCDOT Electrical".

Provide oversized junction boxes and covers with minimum outside dimensions of 30" (l) x 17" (w) x 24" (d) for fiber-optic cable. Provide a cover embossed with the following wording "NCDOT Fiber-Optic".

Provide special oversized junction boxes and covers with minimum outside dimensions of 48" (l) x 30" (w) x 36" (d) where underground fiber-optic splice enclosures are to be installed or as directed by the plans. Provide a cover embossed with the following wording "NCDOT Fiber-Optic".

Provide additional oversized junction boxes and covers as identified in the plans where underground fiber-optic splice enclosures and conduit requirements may require a junction box that is larger than what is listed above. Boxes of this nature can be supplied with a cover that is of a single or split cover design, but boxes with a split cover may be supplied with a center brace to support the cover/lid.

For oversized and special oversized junction boxes, provide a cover embossed with the following wording "NCDOT Fiber Optic". Additionally, for junction boxes designated for fiber optic cable, furnish an access point/hatch on the lid to allow access to the tracer wire boding/isolation test switch that is located inside the junction box (See "Tracer Wire Bonding/Isolation Test Switch" requirements below).

For oversized and any special oversized junction boxes, provide junction boxes with mouse holes or knock-outs fabricated in the sides to accommodate conduit entrances. Boxes fabricated without mouse holes or knock-outs shall be approved by the manufacturer for field drilling conduit entrance holes. Consult the manufacturer to identify the amount of surface area that can be removed for field drilling conduit entrance holes without violating the boxes structural integrity. Upon request, provide written approval from the manufacturer stating their recommendations.

C. Electronic Marker Ball

Furnish an electronic marking ball, with a minimum life expectance of 15 years and that are locatable when buried up to 5 feet deep to aid in locating buried Junction Boxes. Ensure the marking ball is designed to be self-leveling to provide precise horizontal positioning of the marker ball electronics (internal passive antenna) once installed in a junction box. Ensure the marker balls are compatible with a Metro Mark - Passive Marker Locator Model #760DX or approved equivalent and are tuned to the following frequencies:

Orange Ball – 101.4 KHz - Fiber Installations
Red Ball – 169.8 KHz – Power Cable Installations

D. Tracer Wire Bonding/Isolation Test Switch

For all junction boxes designated for "communications cable", furnish as an integral part of the junction box assembly, a tracer wire access testing port via a retractable mechanism that allows easy access to the tracer wire system through a Bonding/Isolation switch. Ensure the Bonding/Isolation switch can be accessed through a small hatch located in the lid of the junction box. The hatch should be designed into the lid and secured via a security bolt. The Bonding/Isolation switch must be retractable so it can be accessed without removing the lid of the junction box. The Bonding/Isolation switch shall include a minimum of (5) termination lugs for trace wires and (1) lug for grounding. Once the Bonding/Isolation switch is moved via the retractable mechanism, ensure the switch can be disengage effectively breaking the

bond and allowing individual isolation of tracer wire circuits for locating. Ensure the Bonding/Isolation switch on the retractable mechanism is mounted in a location on the interior wall of the junction box which will not interfere with the installation or removal of the lid. When the Bonding/Isolation switch is pushed back down via the retractable mechanism, the Bonding/Isolation switch shall automatically return to a closed or bonded position.

Furnish a 5/8" * 10', copper clad, ground rod to be driven inside the junction box.

1.3 CONSTRUCTION METHODS

(A) Junction Boxes

Install standard size junction boxes as shown in the plans. When lateral runs for electrical cables are greater than 300 feet, install additional junction boxes to ensure distances between junction boxes does not exceed 300 feet.

Install oversized junction boxes and any special oversized junction boxes at maximum intervals of 1500 feet unless otherwise stated in the plans.

Backfill beneath and around the boxes using #57 or #67 washed stone in conformance with Section 1005 of the 2024 *Standard Specifications for Roads and Structures.* Backfill beneath the box a minimum of 12-inches and around the exterior of the box a minimum of 3 inches.

Avoid placing junction boxes on slopes of 3:1 or greater.

(B) Concrete Collar

Install a reinforced concrete collar that complies with Section 825 "Incidental Concrete Construction" and extends 12 inches for the edge of the junction box and 8 inches deep. Ensure the reinforcing of the concrete collar consist of two rectangular hoops of #4 rebar tied in the corners. Provide minimum Class B concrete. Fill construction joints between the junction box and the concrete with an expansion joint filler. Ensure concrete collar is installed flush with grade.

(C) Junction Box Installation Requirements

For all junction boxes designated to carry fiber optic communications cable or electrical services, install the junction box based on its location as listed below:

Communications

1) For all communications junction boxes, install the junction box flush with the surrounding grade with the required concrete collar.

Electrical Service

1) Junction box located at the bottom of a service pole or within 6 feet of an equipment cabinet or service disconnect:

Install the junction box flush with the surrounding grade with the required concrete collar.

2) Junction box located other than at the bottom of a service pole or within 6 feet of an equipment cabinet or service disconnect:
Install the junction box flush with the surrounding grade. These junction boxes do not require a concrete collar

(D) Electronic Marker Ball

Install the appropriate colored Marker Ball in each junction box upon completion of the junction box installation. Test to ensure that the Marker Ball is functioning properly with the approved electronic locater device. Record precise latitudinal and longitudinal coordinates for the location of each locate ball/junction box. See "GPS Coordinates" requirements below.

(E) Tracer Wire Bonding/Isolation Switch

For all junction boxes designated for communications cable, install a ground rod (5/8" * 10', copper clad) in the junction box and secure a minimum of five feet of #14 AWG THWN, green insulated, 19-strand copper tracer wire to the ground rod using an approved bonding clamp. Secure the opposing end of the tracer wire to the main bonding lug located on the Bonding/Isolation switch. Test ground rod resistance to obtain 20 ohms or less reading, install one (1) additional ground rod if the 20 ohms or less reading is not achieved.

Secure all tracer wires that originate from the same side of the junction box together using a gel-filled wire nut along with a minimum of five feet slack Green, #14 AWG, THWN tracer wire to form a connection to one of the termination ports on the Bonding/Isolation switch. Provide a permanent nylon tag to the tracer wire jumper close to the tracer wire terminal port that identifies the direction of the tracer wire system as it leaves the junction box. Use a black indelible ink pen or other approved method, to label the nylon tag.

No splices of tracer wires are allowed outside of the interior portion of the junction box, unless approved by the Engineer. If external splices are necessary, use lockable connectors specifically manufactured for use in underground tracer wire systems. Connectors shall use a dielectric silicon filled compartment to seal out moisture and corrosion and shall be installed in a manner to prevent any uninsulated wire exposure. Gel-filled wire nuts are not acceptable for making splices outside of the junction box.

Upon completion and in the presence of the Engineer or the Engineer's representative, test all legs of the tracer wire system using a tuned frequency transmitter and locater to ensure the tracer wire system forms a complete and operational system.

(F) GPS Coordinates

Provide real world coordinates for all junction boxes and equipment cabinets installed or used under this project. Provide the coordinates in feet units using the North Carolina State Plane coordinate system (1983 North American Datum also known as NAD '83). Furnish

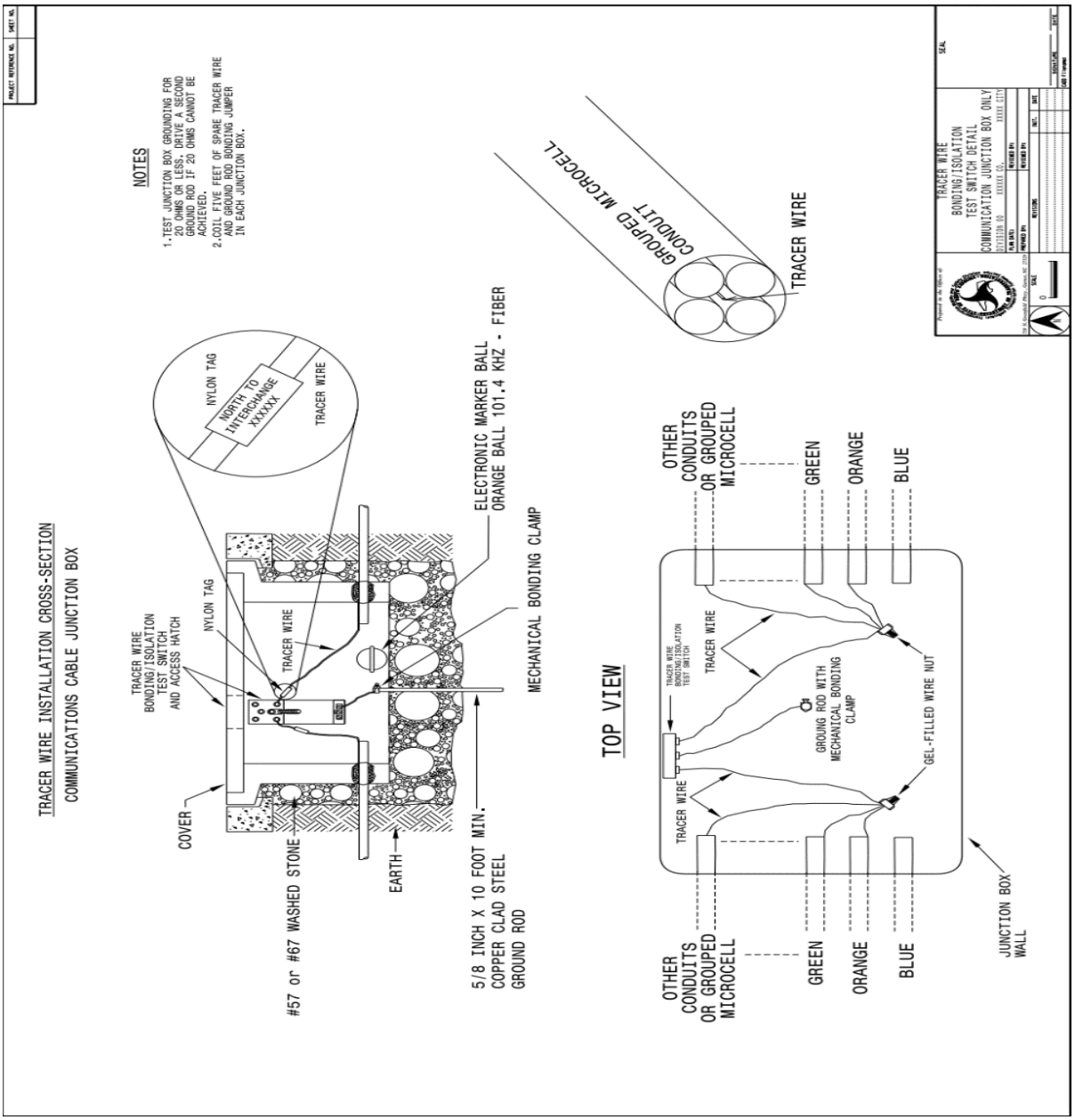
coordinates that do not deviate more than 1.7 feet in the horizontal plane and 3.3 feet in the vertical plane. Global positioning system (GPS) equipment able to obtain the coordinate data within these tolerances may be used. Submit cut sheets on the GPS unit proposed to collect the data for approval by the Engineer.

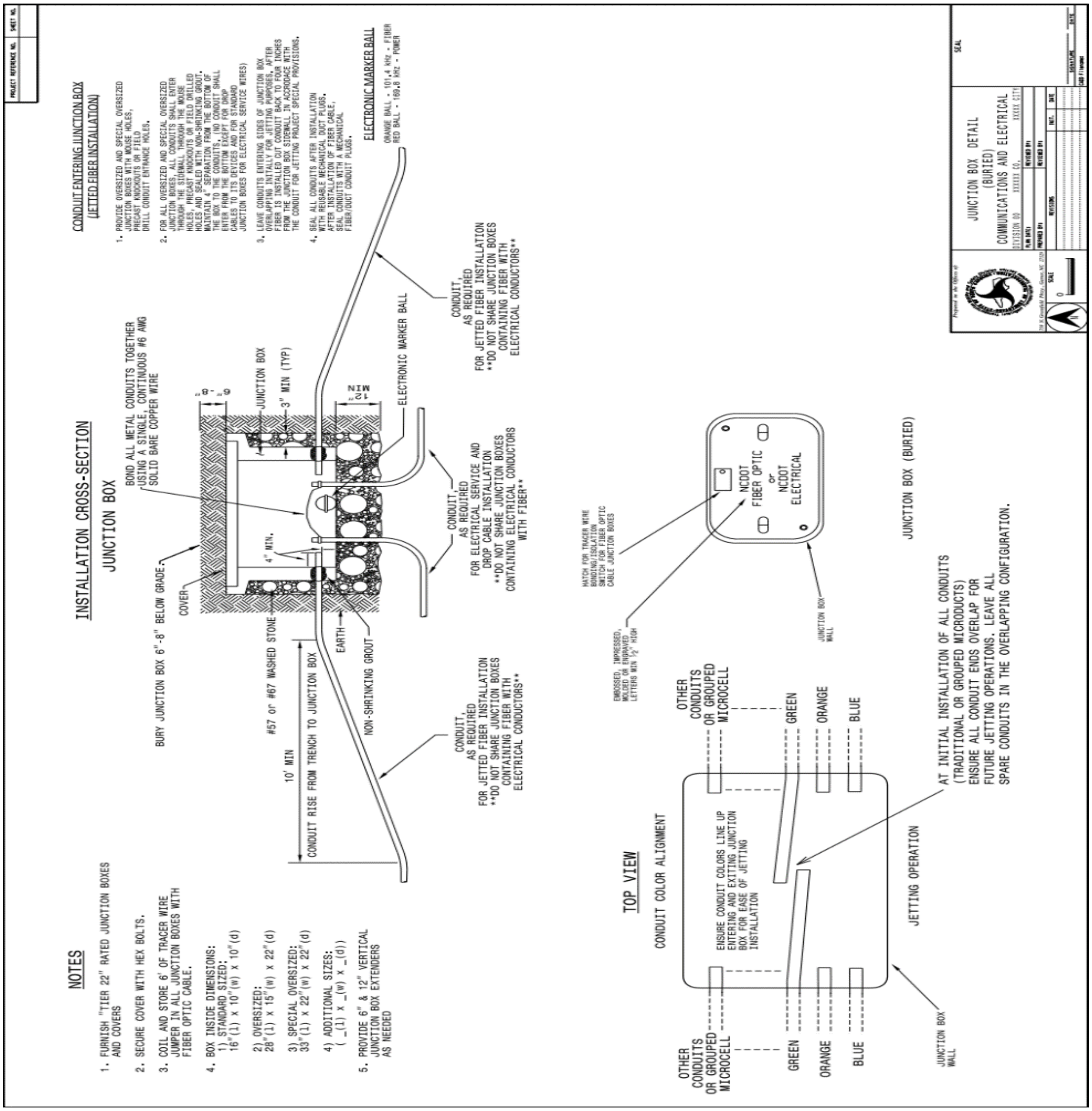
Provide a digital copy of all information regarding the location (including, but not limited to, manufacturer, model number, and NCDOT inventory number) in the Microsoft® spreadsheet shown by example below. Provide this information to the Engineer and the NCDOT ITS (TSMO) Unit.

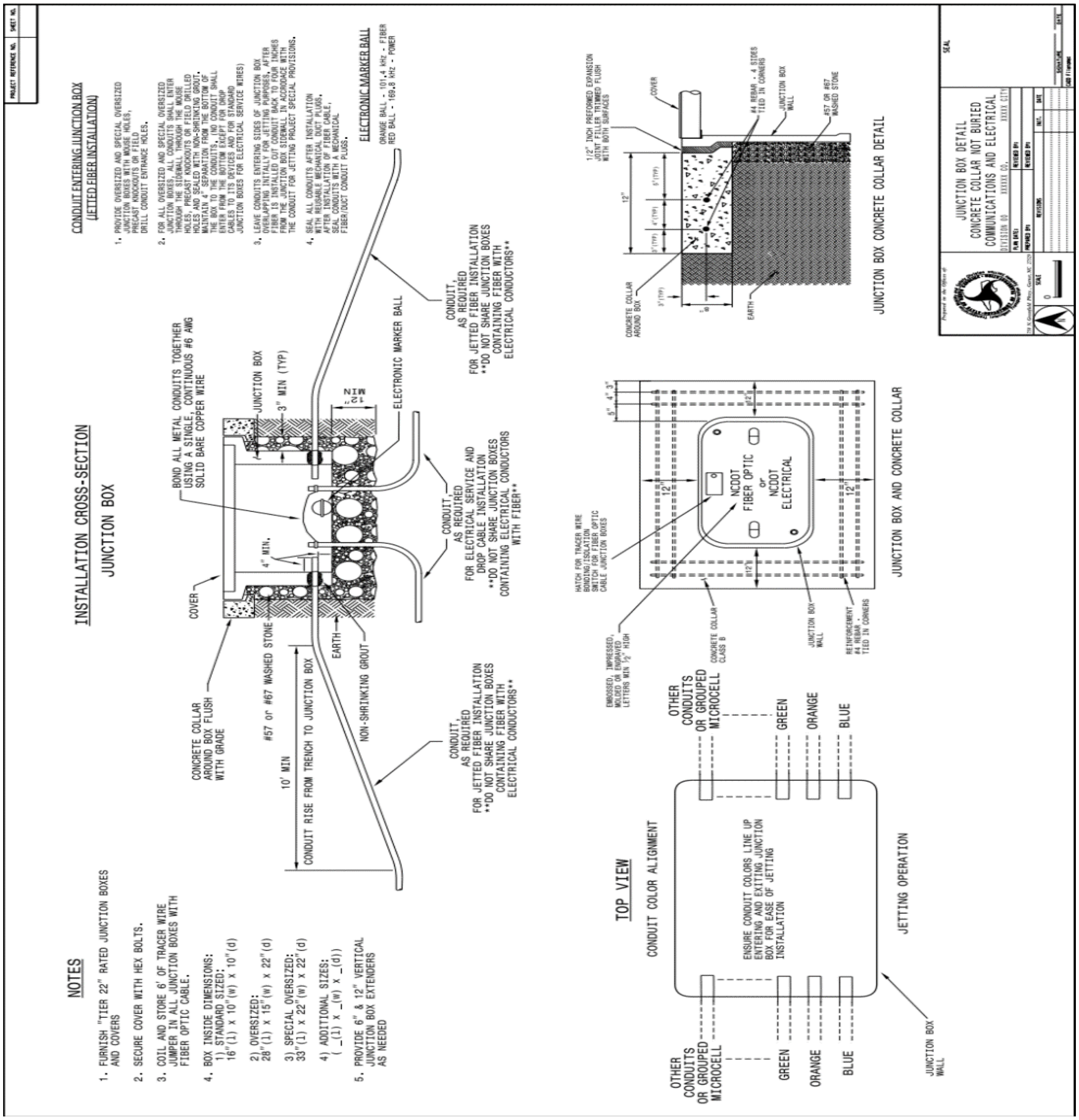
NCDOT Inv #	Name	Location	Latitude	Longitude	Manufacturer	Model #
05-0134	Equipment Cabinet	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5500	35.6873	McCain	Type-332
05-0134	Junction Box # 1 (Phase 2 Side)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5516	35.6879	Quazite	PG1118BA12(Box) PG118HA00(Cover)
05-0134	Junction Box # 2 (Phase 2 Side)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5506	35.6876	Quazite	PG1118BA12(Box) PG118HA00(Cover)
05-0134	Junction Box # 3 (Near Cabinet)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5501	35.6873	Quazite	PG1118BA12(Box) PG118HA00(Cover)
05-0134	Junction Box # 4 (Phase 6 Side)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5486	35.6873	Quazite	PG1118BA12(Box) PG118HA00(Cover)
05-0134	Junction Box # 5 (Phase 6 Side)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5493	35.6876	Quazite	PG1118BA12(Box) PG118HA00(Cover)
05-0134	Junction Box # 6 (Phase 4 Side)	US 70 at Raynor Rd./ Auburn-Knightdale	-78.5503	35.6879	Quazite	PG1118BA12(Box) PG118HA00(Cover)

1.4 MEASUREMENT AND PAYMENT

No measurement will be made of covers, graded stone, ground rods, tracer wire bonding/isolation switch, tracer wire jumpers, or tracer wire testing as these will be incidental to furnishing and installing junction boxes.


TRACER WIRE INSTALLATION CROSS-SECTION
COMMUNICATIONS CABLE JUNCTION BOX
NOTES
1. TEST JUNCTION BOX GROUNDING FOR 20 OHMS OR LESS. DRIVE A SECOND GROUND ROD IF 20 OHMS CANNOT BE ACHIEVED.
2. COIL FIVE FEET OF SPARE TRACER WIRE AND GROUND ROD BONDING JUMPER IN EACH JUNCTION BOX.
NYLON TAG
NORTH TO INTERCHANGE XXXXXX
TRACER WIRE
TRACER WIRE BONDING/ISOLATION TEST SWITCH AND ACCESS HATCH
NYLON TAG
TRACER WIRE
COVER
#57 or #67 WASHED STONE
EARTH
5/8 INCH X 10 FOOT MIN. COPPER CLAD STEEL GROUND ROD
MECHANICAL BONDING CLAMP
ELECTRONIC MARKER BALL ORANGE BALL 101.4 KHZ - FIBER
GROUPED MICROCELL CONDUIT
TRACER WIRE
TOP VIEW
OTHER CONDUITS OR GROUPED MICROCELL
GREEN
ORANGE
BLUE
TRACER WIRE BONDING/ISOLATION TEST SWITCH
TRACER WIRE
GROUND ROD WITH MECHANICAL BONDING CLAMP
GEL-FILLED WIRE NUT
JUNCTION BOX WALL
TRACER WIRE BONDING/ISOLATION TEST SWITCH DETAIL
COMMUNICATION JUNCTION BOX ONLY


PROJECT REFERENCE NO.
SHEET NO.
NOTES
1. FURNISH "TIER 22" RATED JUNCTION BOXES AND COVERS
2. SECURE COVER WITH HEX BOLTS.
3. COIL AND STORE 6' OF TRACER WIRE JUMPER IN ALL JUNCTION BOXES WITH FIBER OPTIC CABLE.
4. BOX INSIDE DIMENSIONS:
1) STANDARD SIZED: 16"(l) x 10"(w) x 10"(d)
2) OVERSIZED: 28"(l) x 15"(w) x 22"(d)
3) SPECIAL OVERSIZED: 33"(l) x 22"(w) x 22"(d)
4) ADDITIONAL SIZES: (_(l) x _(w) x _(d))
5. PROVIDE 6" & 12" VERTICAL JUNCTION BOX EXTENDERS AS NEEDED
INSTALLATION CROSS-SECTION
JUNCTION BOX
BOND ALL METAL CONDUITS TOGETHER USING A SINGLE, CONTINUOUS #6 AWG SOLID BARE COPPER WIRE
BURY JUNCTION BOX 6"-8" BELOW GRADE
COVER
6"-8"
#57 or #67 WASHED STONE
4" MIN.
JUNCTION BOX
3" MIN (TYP)
10' MIN
CONDUIT RISE FROM TRENCH TO JUNCTION BOX
EARTH
NON-SHRINKING GROUT
12" MIN
ELECTRONIC MARKER BALL
CONDUIT, AS REQUIRED FOR JETTED FIBER INSTALLATION **DO NOT SHARE JUNCTION BOXES CONTAINING FIBER WITH ELECTRICAL CONDUCTORS**
CONDUIT, AS REQUIRED FOR ELECTRICAL SERVICE AND DROP CABLE INSTALLATION **DO NOT SHARE JUNCTION BOXES CONTAINING ELECTRICAL CONDUCTORS WITH FIBER**
CONDUIT, AS REQUIRED FOR JETTED FIBER INSTALLATION **DO NOT SHARE JUNCTION BOXES CONTAINING FIBER WITH ELECTRICAL CONDUCTORS**
CONDUIT ENTERING JUNCTION BOX (JETTED FIBER INSTALLATION)
1. PROVIDE OVERSIZED AND SPECIAL OVERSIZED JUNCTION BOXES WITH MOUSE HOLES, PRECAST KNOCKOUTS OR FIELD DRILL CONDUIT ENTRANCE HOLES.
2. FOR ALL OVERSIZED AND SPECIAL OVERSIZED JUNCTION BOXES, ALL CONDUITS SHALL ENTER THROUGH THE SIDEWALL THROUGH THE MOUSE HOLES, PRECAST KNOCKOUTS OR FIELD DRILLED HOLES AND SEALED WITH NON-SHRINKING GROUT. MAINTAIN 4" SEPARATION FROM THE BOTTOM OF THE BOX TO THE CONDUITS. (NO CONDUIT SHALL ENTER FROM THE BOTTOM EXCEPT FOR DROP CABLES TO ITS DEVICES AND FOR STANDARD JUNCTION BOXES FOR ELECTRICAL SERVICE WIRES)
3. LEAVE CONDUITS ENTERING SIDES OF JUNCTION BOX OVERLAPPING INITALLY FOR JETTING PURPOSES. AFTER FIBER IS INSTALLED CUT CONDUIT BACK TO FOUR INCHES FROM THE JUNCTION BOX SIDEWALL IN ACCRODACE WITH THE CONDUIT FOR JETTING PROJECT SPECIAL PROVISIONS.
4. SEAL ALL CONDUITS AFTER INSTALLATION WITH REUSABLE MECHANICAL DUCT PLUGS. AFTER INSTALLATION OF FIBER CABLE, SEAL CONDUITS WITH A MECHANICAL FIBER/DUCT CONDUIT PLUGS.
ELECTRONIC MARKER BALL
ORANGE BALL - 101.4 kHz - FIBER
RED BALL - 169.8 kHz - POWER
TOP VIEW
CONDUIT COLOR ALIGNMENT
OTHER CONDUITS OR GROUPED MICROCELL
ENSURE CONDUIT COLORS LINE UP ENTERING AND EXITING JUNCTION BOX FOR EASE OF JETTING INSTALLATION
GREEN
ORANGE
BLUE
OTHER CONDUITS OR GROUPED MICROCELL
GREEN
ORANGE
BLUE
JETTING OPERATION
JUNCTION BOX WALL
AT INITIAL INSTALLATION OF ALL CONDUITS (TRADITIONAL OR GROUPED MICRODUCTS) ENSURE ALL CONDUIT ENDS OVERLAP FOR FUTURE JETTING OPERATIONS. LEAVE ALL SPARE CONDUITS IN THE OVERLAPPING CONFIGURATION.
HATCH FOR TRACER WIRE BONDING/ISOLATION SWITCH FOR FIBER OPTIC CABLE JUNCTION BOXES
EMBOSSED, IMPRESSED, MOLDED OR ENGRAVED LETTERS MIN 1/2" HIGH
NCDOT FIBER OPTIC or NCDOT ELECTRICAL
JUNCTION BOX WALL
JUNCTION BOX (BURIED)
JUNCTION BOX DETAIL (BURIED) COMMUNICATIONS AND ELECTRICAL
DIVISION 00 XXXXXX CO. XXXXX CITY
PLAN DATE:
PREPARED BY:
REVIEWED BY:
REVIEWED BY:
SCALE
REVISIONS
INIT.
DATE
SEAL
SIGNATURE
DATE


NOTES
1. FURNISH "TIER 22" RATED JUNCTION BOXES AND COVERS
2. SECURE COVER WITH HEX BOLTS.
3. COIL AND STORE 6' OF TRACER WIRE JUMPER IN ALL JUNCTION BOXES WITH FIBER OPTIC CABLE.
4. BOX INSIDE DIMENSIONS:
1) STANDARD SIZED: 16"(l) x 10"(w) x 10"(d)
2) OVERSIZED: 28"(l) x 15"(w) x 22"(d)
3) SPECIAL OVERSIZED: 33"(l) x 22"(w) x 22"(d)
4) ADDITIONAL SIZES: (_(l) x _(w) x _(d))
5. PROVIDE 6" & 12" VERTICAL JUNCTION BOX EXTENDERS AS NEEDED
INSTALLATION CROSS-SECTION
JUNCTION BOX
COVER
CONCRETE COLLAR AROUND BOX FLUSH WITH GRADE
#57 or #67 WASHED STONE
10' MIN
CONDUIT RISE FROM TRENCH TO JUNCTION BOX
EARTH
NON-SHRINKING GROUT
4" MIN.
BOND ALL METAL CONDUITS TOGETHER USING A SINGLE, CONTINUOUS #6 AWG SOLID BARE COPPER WIRE
JUNCTION BOX
3" MIN (TYP)
12" MIN
ELECTRONIC MARKER BALL
CONDUIT, AS REQUIRED FOR JETTED FIBER INSTALLATION **DO NOT SHARE JUNCTION BOXES CONTAINING FIBER WITH ELECTRICAL CONDUCTORS**
CONDUIT, AS REQUIRED FOR ELECTRICAL SERVICE AND DROP CABLE INSTALLATION **DO NOT SHARE JUNCTION BOXES CONTAINING ELECTRICAL CONDUCTORS WITH FIBER**
CONDUIT ENTERING JUNCTION BOX (JETTED FIBER INSTALLATION)
ELECTRONIC MARKER BALL
ORANGE BALL - 101.4 kHz - FIBER
RED BALL - 169.8 kHz - POWER
TOP VIEW
CONDUIT COLOR ALIGNMENT
OTHER CONDUITS OR GROUPED MICROCELL
GREEN
ORANGE
BLUE
ENSURE CONDUIT COLORS LINE UP ENTERING AND EXITING JUNCTION BOX FOR EASE OF JETTING INSTALLATION
JUNCTION BOX WALL
JETTING OPERATION
NCDOT FIBER OPTIC or NCDOT ELECTRICAL
JUNCTION BOX AND CONCRETE COLLAR
JUNCTION BOX CONCRETE COLLAR DETAIL
JUNCTION BOX DETAIL CONCRETE COLLAR NOT BURIED COMMUNICATIONS AND ELECTRICAL

ETHERNET CABLE
(2018)

1.1 DESCRIPTION

Furnish and install Ethernet cable to serve as interconnect between Ethernet switches, PoE injectors, Signal Controllers and ITS devices.

1.2 MATERIALS

Furnish CAT6 Ethernet cable or better that complies with ANSI/TIA Standards for Balanced Twisted-Pair Telecommunications Cabling and Components Standards. Furnish cable that is suitable for outdoor installation with UV stabilization and meets or exceeds the following:

- Meets ANSI/TIA 568C.2 Networking Standard
- Supports 10/100/1,000/10,000Mbps
- 1,000Mbps @ 300 Meter Cable Length
- 10,000Mpbs @ 50 Meter Cable Length
- 4 twisted pair cables
- 23 AWG (minimum) solid bare copper conductors (Copper clad aluminum is not allowed)
- 2+ twists per centimeter
- Nylon Spline to reduce cross talk
- Gel Filled High-density polyethylene insulation, PVC jacket
- Ascending / Descending Sequential Foot Markings
- Compliant with EIA/TIA standards
- UL/CSA listed
- UV Stabilized PE Jacket
- Meets the following Minimum Electrical Operating Characteristics:
- Frequency Bandwidth: 1 – 250 MHz
- Attenuation (Insertion Loss): 19.8 dB
- Characteristic Impedance: 100 Ohms +/- 15
- Near-End Cross Talk - NEXT (Min.): 44.3 dB
- Power Sum Near-End Cross Talk PS-NEXT (Min.): 42.3 dB
- Equal-Level Far End Crosstalk (ELFEXT): 27.8 dB
- Power Sum Equal-Level Far End Crosstalk (PS-ELFEX): 24.8 dB
- Return Loss: 20.1 dB
- Delay Skew: 45 ns
- Connector Type: RJ45

The Ethernet cable must be factory tested on reels for each pair's mutual capacitance, crosstalk loss, insulation resistance, and conductor resistance. Furnish the Engineer with a certified factory report for each reel showing compliance with these Project Special Provisions, the factory test results, and the manufactured date of the cable. The contractor shall not use Ethernet cable manufactured more than one year before the date of installation.

Provide RJ-45 connectors with gold conductors that are terminated according to EIA/TIA 568 standards. Provide connectors with eight contacts. Furnish connectors appropriately rated for the cable being installed.

Ethernet patch cables used to interconnect equipment inside of a cabinet or equipment rack shall be factory terminated. Ethernet cables which run outside of the cabinet may be field terminated. Ethernet cables installed inside of buildings to interconnect switching rack equipment shall bare the Low Smoke/Zero Halogen (LSZH) designation. Ethernet cables installed inside of buildings and passes from one equipment room to another may be field terminated. For Ethernet patch cables used to connect equipment inside an equipment rack cabinet provide factory preterminated jumpers that minimize excessive slack that must be dressed inside the cabinet but provides sufficient slack to make neat runs.

1.3 CONSTRUCTION METHODS

Install Ethernet cable in conduits, cabinets, junction boxes, risers, and on aerial messenger cable at locations shown in the Plans. Allow a minimum of 10 feet of cable slack in the cabinet.

Ethernet cables shall not be spliced. Ethernet cables should not exceed lengths of 100 meters or 328 feet. In cases where the Ethernet cables exceed lengths of 100 meters or 328 feet a signal regenerator or Ethernet extender shall be used. All Ethernet cables shall be labeled with waterproof, smear resistant labels. The labels shall denote the equipment cabinets or housing they are routed from and the device and device identifier they are connected to.

The contractor shall not exceed 80 percent of the manufacturer's maximum pulling tension when installing underground Ethernet cable. Use a clutch device (dynamometer) so as not to exceed the allowable pulling tension if the cable is pulled by mechanical means. Do not use a motorized vehicle to generate cable-pulling forces.

Keep tension on the cable reel and the pulling line at the start of each pull. Do not release the tension in the cable if the pulling operation is halted. Restart the pulling operation by gradually increasing the tension until the cable is in motion.

1.4 MEASUREMENT AND PAYMENT

No measurement will be made for Ethernet Cable, Patch Cables, extenders, terminating and testing of the cable, connectors or cable identification markers as these will be considered incidental to the installation of the devices installed under this project.

HUB CABINET

1.1 DESCRIPTION

Furnish and install air-conditioned hub cabinets, hub cabinet base extenders, hub cabinet foundations and all necessary hardware as described herein. Size the cabinet appropriately to fit all the equipment and to allow for 25% free space available after all equipment is installed. Size the cabinet to ensure ease of access to equipment and provide proper

ventilation in order to maintain an internal operating environment that does not exceed the environmental operating ranges for devices placed within the cabinet.

1.2 MATERIALS

A. Hub Cabinet

1. Standards

Ensure that the hub cabinets comply with the following standards:

- ANSI;
- ASTM;
- IMSA ;
- ISO 9001;
- NEC;
- NEMA TS-2; and
- UL listed.

2. Functional

Furnish Caltrans Type 340 base-mounted hub cabinets meeting the following minimum requirements:

- Side-by-side, double doors on both front and rear of cabinet.
- Fiber-optic interconnect centers (paid separately).
- Grounding bus bar.
- 19-inch rack system for mounting of all devices in the cabinet.
- Pull-out shelf for laptop and maintenance use.
- Maintenance access connections.
- LED lighting.
- Ventilation fans.
- 120VAC power supply.
- 120VAC ground fault circuit interrupter (GFCI)-protected duplex outlets for tools.
- 120VAC surge-protected duplex outlets for equipment.
- Sunshields constructed of light gauge aluminum that sit approximately one inch above the surface of the cabinet on all sides, including doors.
- Lightning and surge protection on incoming and outgoing electrical lines (power and data).
- Managed Ethernet switch (provided by DIT).
- Door status sensors compatible with provided Managed Ethernet switches
- Power strip along vertical rail.
- HVAC system to maintain optimal temperature and humidity for the Ethernet hub switches and other powered electronics in the cabinet.
- UPS with sufficient capacity to hold hub’s electrical load (minus the HVAC) for 4 hours. Cabinet AC system will not be connected to the UPS.

3. Physical Features

Provide cabinets that are completely weatherproof to prevent the entry of water. Provide cabinet and door exterior seams that are continuously welded, and all exterior welds are smooth. Provide cabinets with four full-size doors with full-length stainless-steel piano hinges, with stainless steel pins spot-welded at the top. Provide hinges that utilize stainless steel hinge pins. Provide hinges that are mounted so that they cannot be removed from the door or cabinet without first opening the door. Provide door and hinges braced to withstand a 100-pound per vertical foot of door height load applied vertically to the outer edge of the door when standing open. Ensure that there is no permanent deformation or impairment of any part of the door or cabinet body when the load is removed. Provide cabinet door fitted with a #2 Corbin lock. Provide two keys for each cabinet. Provide cabinet doors that are also pad lockable. Provide door openings that are double flanged on all four sides.

Provide cabinets constructed of unpainted sheet aluminum alloy H5052-H32 with a minimum thickness of 0.125 inch.

Provide the hub cabinet with sunshields outside to deflect solar heat away from the cabinet. The sunshields must be offset a minimum of one inch from the exterior cabinet walls. Ensure that the sunshields are fabricated from 5052-H32 aluminum sheet that is 0.125-inch-thick, and that sunshield corners are rounded and smoothed for safety. Mount the sunshields on standoffs on the top and on each side of the cabinet including the doors.

Provide doorstops at 90 and 180-degree positions. Ensure that both the door and the doorstop mechanism are of sufficient strength to withstand a simulated wind load of five pounds per square foot of door area applied to the both inside and outside surfaces without failure, permanent deformation, or compromising of door position and normal operation. Do not provide auxiliary police doors.

Ensure that cabinet doors include a gasket to provide a dust and weather-resistant seal when closed. Ensure that the gasket material is closed-cell neoprene and maintains its resiliency after exposure to the outdoor environment. Ensure that the gasket shows no sign of rolling or sagging and provide a uniform dust and weather-resistant seal around the entire door facing.

Provide door alarms for all 4 doors that are compatible with the hub switches to be provided and installed by DIT. Door alarms should send a network alert to the switch when a hub cabinet door is opened or if the door alarm fails or is tampered with. Coordinate with the Engineer and DIT for hub switch model information.

Provide cabinets that include predrilled holes of standard diameter and bolt pattern with four (4) anchor bolts with each cabinet unit as part of the unit price bid. Provide a panel with each cabinet that matches the rest of the cabinet; and is held in place by four bolts provided with the panel. Drill or punch the panel to accommodate the bolts; the drill holes shall match the bolt pattern of the base cabinet of the cabinet. Provide a panel designed to be fitted in the interior of the cabinet and fabricated of the same material and thickness as the cabinet bottom.

Provide rails to create a cage to mount hardware, wiring panels and miscellaneous mounting brackets. Provide rails constructed of .1345-inch steel or .105-inch stainless

steel. Provide rails with a keyhole design with slots 2 inches on center with a top opening of 5/8 inch in diameter to allow the insertion of a .625-inch by 1-inch carriage bolt. Ensure that the rails are 1.5 to 2 inches wide by .5 inches deep. Drill and tap the rails for 10-32 screws or rack screws with EIA universal spacing.

Provide rack assemblies that have a removable, standard 19-inch EIA compliant rack. The rack shall have a clearance between the rails of 17.5 inches.

Equip each cabinet with an aluminum storage compartment mounted in the rack assembly with the following dimensions (±0.5 inch): 16 inches wide, 14 inches long, and 1.75 inches deep. Provide compartment with ball-bearing telescoping drawer guides to allow full extension from the rack assembly. Ensure that when extended, the storage compartment opens to provide storage space for cabinet documentation and other miscellaneous items. Ensure that the storage compartment is of adequate construction to support a weight of 20 pounds when extended without sagging. Provide a top to the storage compartment that is hinged aluminum. Provide two (2) removable metal shelves with each cabinet.

Furnish a cabinet base extender with each hub cabinet that complies with the requirements of the "Cabinet Base Adapter and Base Extender" section of these Project Special Provisions.

Install an external generator connection port on the side of the cabinet opposite the air conditioning unit. Port should be designed and sized for the appropriate electrical requirements of the cabinet.

4. Lighting

Provide the field cabinet with four LED lamps (one above each door) and clear shatterproof shield assemblies which are mounted on the inside front and rear top of the cabinet. Ensure that these lamps are unobstructed and able to cast light on the equipment. Equip the field cabinet with door-actuated switches so that the lamps automatically turn on when any cabinet door is opened and go off when all the doors are closed.

5. Electrical

Provide a service panel assembly to function as the entry point for AC power to the cabinet and the location for power filtering, transient suppression, and equipment grounding. Provide AC isolation within the cabinet. Configure cabinet to accept 120 VAC from the utility company.

Provide circuit breakers that meet the NEC requirements, are UL listed and have an interrupt capacity of 5,000 amperes and insulation resistance of 100 MΩ at 500 VDC. Provide the hub cabinet with a main circuit breaker sized according to the NEC. Use appropriately sized branch circuit breakers to protect the electronics in the hub cabinet. Provide a dedicated branch circuit for each of the following items:

- HVAC
- Lighting
- Receptacles
- Ventilation fan

- One circuit per rack
- Others as needed.

Provide UL listed surge protection devices according to the UL 1449, 2nd edition standard that comply with the NEMA requirements as detailed in the NEMA LS 1 (1992) standard.

Provide branch circuits, surge protection devices, and grounding for the connected load served by the cabinet, including ventilation fans, internal lights, electrical receptacles, etc., as shown on the Plans.

Furnish a power distribution assembly that fits in the EIA 19-inch rack and provides for protection and distribution of 120VAC power.

Ensure that ground bus bars are fabricated from a copper alloy material compatible with copper wire. Use ground bus bars that have at least two positions where a #6 AWG stranded copper wire can be attached.

Mount the ground bus bar on the side of the cabinet wall adjacent to the service panel assembly for the connection of AC neutral wires and chassis ground wires. If more than one ground bus bar is used in a cabinet, use a minimum of a #10 AWG copper wire to interconnect them.

Provide a detailed plan for power distribution within the cabinet. Label all breakers and conductors with size and loads. Have the plans signed and sealed by a registered PE and submit the plans for review and approval.

6. Ventilation

Ensure the cabinet assembly can maintain the temperature and humidity within the environmental requirements of the hub switches and other powered electronics in the cabinet.

Include two cooling fans with 100 CFM, minimum capacity. Provide thermostats to be incorporated into the ventilation system. Mount fans in the top of the cabinet.

Provide the cabinets with vent openings in the lower portion of the door to allow convection cooling of electronic components. Cover them fully on the inside with a commercially available disposable three-layer graded type filter. All air entering the cabinet must pass through the air filter.

7. Air Conditioner

Furnish each hub cabinet with a rack mounted air-cooled air conditioner that operates on 120VAC. The air conditioner shall be fit within a 19-inch EIA communications rack and shall not be external mounted on the cabinet. The air conditioner shall be mounted in the bottom of the cabinet to avoid damage to any communications equipment.

The air conditioners shall have a built-in condensate evaporator and condensate drain fitting and hose that is plumbed to the outside of the cabinet. The air conditioner shall be rated for a minimum of 3500 BTU. There shall be low temperature control to prevent overcooling.

Provide EMI/RFI transient spike protection. Equip the cabinet and air conditioner with remote monitoring of high temperature and low airflow conditions. Intake air shall enter through cabinet door vent and be exhausted through top cabinet vents. Air conditioners shall be CFC free or low ODP (R-22) refrigerant and shall use closed loop cooling. Insulate all cold components (coolant lines, compressor, evaporator, etc.) with high-performance insulation.

Blower motors shall be UL listed. Ensure the blower motors are equipped with automatic reset thermal overload protection. Provide double sealed and double shielded ball bearings.

The air conditioners shall have permanent corrugated aluminum or stainless steel air filters. The filters shall be removable and washable.

All grilles shall be stainless steel.

B. Hub Cabinet Base Extender

Fabricate hub cabinet base extenders from the same materials and with the same finish as the hub cabinet housing. Fabricate base extender in the same manner as hub cabinets, meeting all of the same applicable specifications called for in these project special provisions. Provide cabinet base extenders with a height of at least 8 inches.

C. Hub Cabinet Foundation

Furnish either poured concrete hub cabinet foundations or preformed hub cabinet foundations. Obtain approval of foundation type from the engineer.

Comply with Section 1000-4 of the 2024 *Standard Specifications for Road and Structures.*

Provide hub cabinet foundations with a minimum pad area that extend 24 inches from the front and back of the hub cabinet and 3 inches from the sides of the cabinet.

On the same side as the cabinet generator hookup, cast a three inch inside width galvanized steel U-bolt into the cabinet foundation. A minimum of four inches of the U-bolt shall be cast into the concrete and a minimum of three inches of the U-bolt shall be exposed for securing a generator to the foundation.

Furnish hub cabinet foundations with chamfered top edges. Provide minimum class B concrete.

Provide preformed hub cabinet foundations with 7” (L) x 18” (W) minimum opening for the entrance of conduits. For precast hub cabinet foundations, include steel reinforcement to ensure structural integrity during shipment and placing of item. Include four ¾ inch coil thread inserts for lifting. Comply with Article 1077-16 of the 2024 *Standard Specifications for Road and Structures.*

D. Hub Cabinet UPS

Furnish and install one rack mounted UPS in each new cabinet.
Furnish UPS with external temperature monitoring that will shut off when running on battery power and the maximum operating temperature for the hub switch is reached.
Install UPS with RJ-45 ethernet network monitoring ports that can be disabled via the UPS software/firmware.
UPS shall meet the following minimum specifications:

Output	
Output Power Capacity	480 Watts / 750 VA
Max Configurable Power	480 Watts / 750 VA
Nominal Output Voltage	120V
Output Voltage Distortion	Less than 5% at full load
Output Frequency (sync to mains)	57 - 63 Hz for 60 Hz nominal
Crest Factor	up to 5:1
Waveform Type	Sine wave
Output Connections	(4) NEMA 5-15R
Input	
Nominal Input Voltage	120V
Input Frequency	50/60 Hz +/- 3 Hz (auto sensing)
Input Connections	NEMA 5-15P
Cord Length	6 feet
Input voltage range for main operations	82 - 144V
Input voltage adjustable range for mains operation	75 -154 V
Battery Type	
Maintenance-free sealed Lead-Acid battery with suspended electrolyte, leak-proof.	
Typical recharge time	2 hours
Communications & Management	
Interface Port(s)	RJ, 45, DB-9 RS-232, USB
Control panel	LED status display with load and battery bar-graphs
Surge Protection and Filtering	
Surge energy rating	480 Joules
Environmental	
Operating Environment	-32 - 104 °F
Operating Relative Humidity	0 - 95%
Storage Temperature	5 - 113 °F
Storage Relative Humidity	0 - 95%
Conformance	
Regulatory Approvals	FCC Part 15 Class A, UL 1778

1.3 CONSTRUCTION METHODS

A. Hub Cabinet

Ensure all cabinet wiring is tagged and identified using insulated pre-printed sleeves and follows the project's cable identification scheme. Ensure that the wire markers identify usage in plain words with sufficient details without abbreviations or codes.

Use stranded copper for all conductors, including those in jacketed cables and solid copper for all grounding. Neatly arrange all wiring, firmly lace or bundle it, and mechanically secure the wiring without the use of adhesive fasteners. Route and secure all wiring and cabling to avoid sharp edges and to avoid conflicts with other equipment or cabling. Terminate all wiring on a terminal block, strip, bus bar, device clamp, lug, or connector. Do not splice any wiring. Label all wiring, cables, terminal strips, and distribution blocks with permanent and waterproof tags. Provide strain relief for all cabling with connectors, all cabling entering knockouts or ports at the equipment, and where appropriate.

Fasten all components of the cabinet assembly to be mounted on cabinet side panels with hex-head or Phillips-head machine screws. Install the screws into tapped and threaded holes in the panels. The components include, but are not limited to, terminal blocks; bus bars, panel and socket mounted TVSS, circuit breakers, accessory and equipment outlets, and DC power supply chassis.

Fasten all other cabinet components with hex-head or Phillips-head machine screws installed with nuts (with locking washer or insert) or into tapped and threaded holes. Fasten stud-mounted components to a mounting bracket providing complete access to the studs and mounting nuts. Ensure that all fastener heads and nuts (when used) are fully accessible within a complete cabinet assembly, and any component is removable without requiring removal of other components, panels or mounting rails. Do not use self-tapping or self-threading fasteners.

Mount the air conditioner in the bottom of the cabinet and do not obstruct any cable entry into the cabinet. Install condensate drains to drain condensation water out of the cabinet. Ensure the cabinet has provisions to route conduit to the existing cabinet as shown in the drawings.

Furnish and install a 48" 120 VAC power strip vertically along one of the rear rails of the communications rack. Provide a power strip that has at least eight outlets along its length.

Provide a cabinet that is ISO 9001 certified at the time of bid letting.

Locate cabinets as close to the edge of the controlled access as possible and protect hub cabinets with guardrail unless instructed otherwise by the engineer.

Install base mounted cabinets as shown on the Plans and as approved by the Engineer. Refer to the "Hub Cabinet Foundation" section of these Project Special Provisions for installation requirements for the hub cabinet foundations. Install only the required number of conduits as shown on the Plans plus one additional spare stub out conduit. Position the ends of conduits approximately 2 inches above the finished surface of the concrete base.

Mount the hub cabinets on cabinet base extenders in accordance with the "Hub Cabinet Base Extender" section of these Project Special Provisions.

Mount surge protection devices in the cabinet for the field devices that will be connected to that cabinet.

Terminate power service wire, video, and data cabling on the appropriate terminal strips, surge protection devices or jacks in the cabinet with insulated terminal lugs or connectors. Use a calibrated ratchet-type crimping tool to install the insulated terminal lugs onto the field wires.

Label spare circuits of the data cables and connect them to the cabinet ground bus bar.

Neatly bundle and identify all field wiring cables in the cabinet with permanent waterproof tags.

Ground all hub cabinets in accordance with NEC requirements and the Hub Cabinet Grounding Detail included in these Project Special Provisions. Keep the ground wire from the cabinet ground bus bar to the ground rod assembly or array as short as possible. Ensure the ground wire is not in contact with any other part of the cabinet.

B. Hub Cabinet Base Extender

Install hub cabinet base extender at all hub cabinet locations.

Use permanent, flexible, waterproof sealing material to:

(a) Seal between the hub cabinet base and hub cabinet base extender.

(b) Seal 2-piece hub cabinet base extender seams.

(c) Seal space between hub cabinet base extender and the hub cabinet foundation.

C. Hub Cabinet Foundation

Comply with Section 825 of the 2024 *Standard Specifications for Road and Structures.*

When using poured concrete foundations and preformed concrete foundations, use procedures, equipment and hardware as follows:

(d) Locate new hub cabinets in locations as shown on the plans and approved by the Engineer.

(e) Do not install foundations over uncompacted fill or muck.

(f) Do not install foundations in low areas or locations prone to standing water.

(g) Hand tamp soil before placing concrete to ensure ground is level.

(h) Use a minimum of four ½ inch diameter expanding type anchor bolts to secure cabinet to foundation.

(i) Install minimum 4 inches above and 4 inches below finished grade.

(j) Locate external stubbed out conduit at cabinet foundation so conduit is located on the side of the hub cabinet with the UPS, do not locate conduit under the air conditioning system. Install a minimum of 6 conduit stub-outs.

(k) Give hub cabinet foundation a broom finish and chamfered edges.

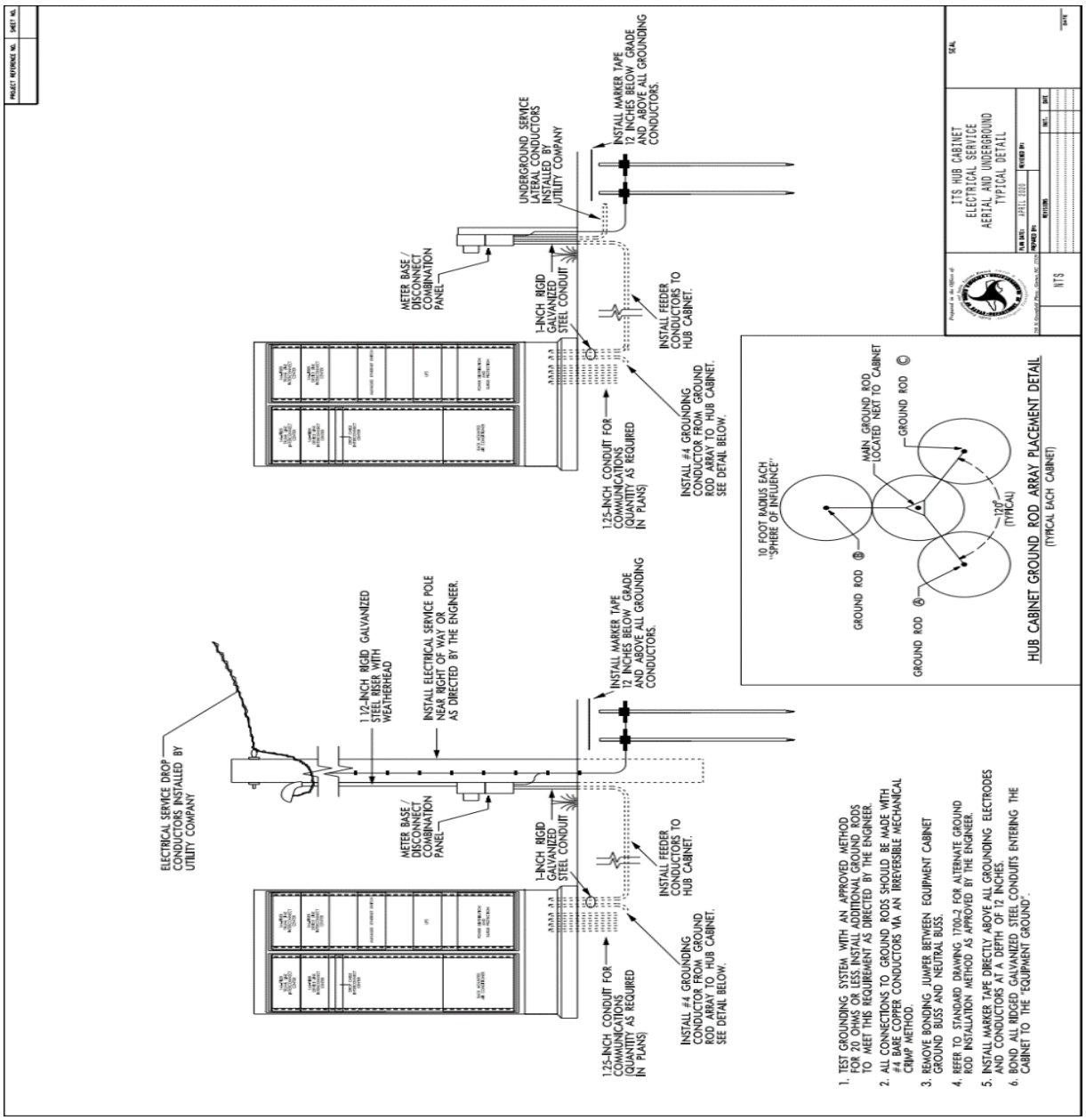
(l) Seal space between cabinet base and foundation with a permanent, flexible, waterproof sealing material.

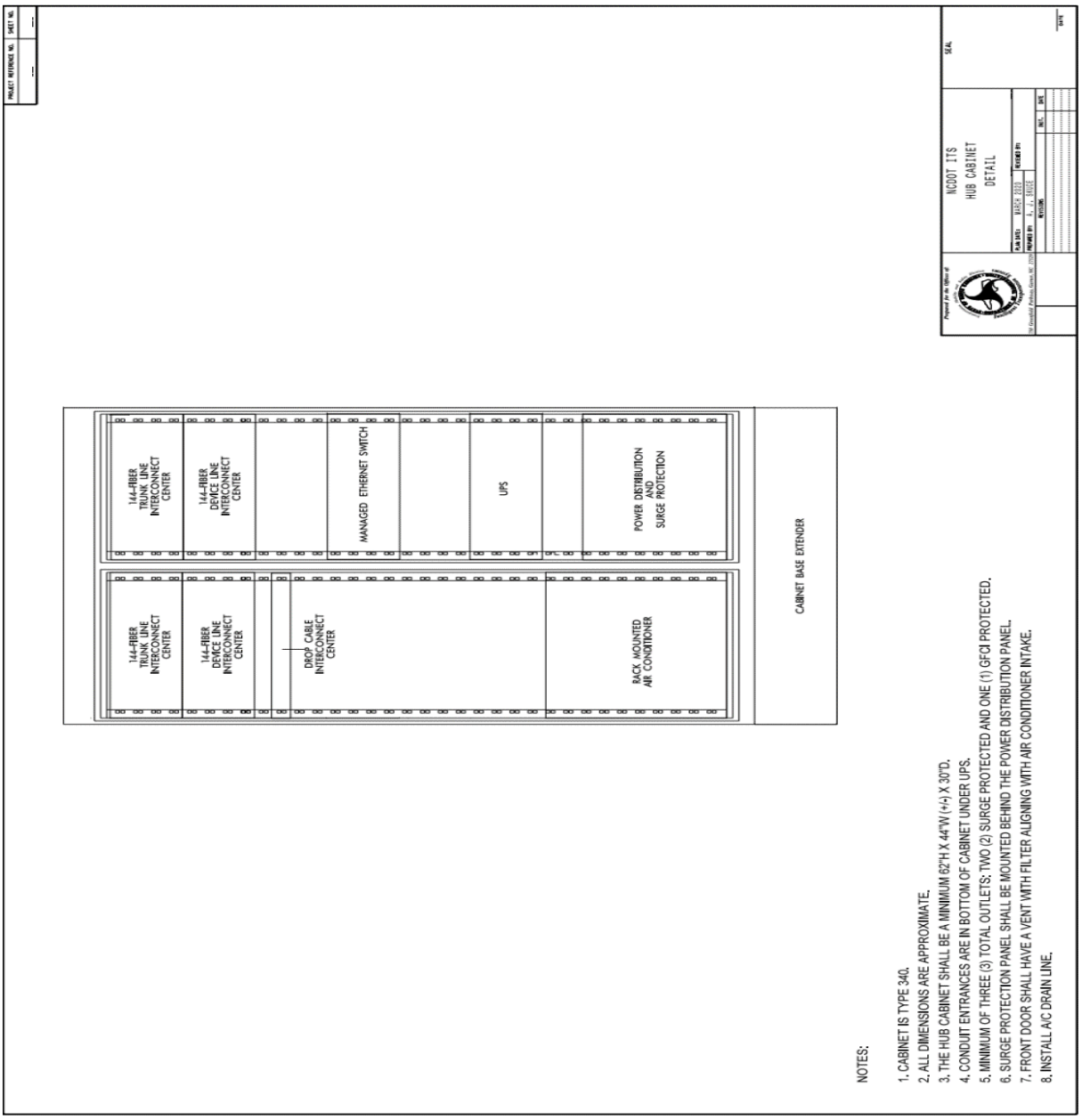
D. Hub Cabinet UPS

Install rack mounted UPS in each hub cabinet in accordance with the plans and detail drawings.

1.4 MEASUREMENT AND PAYMENT

No payment will be made for the UPS, HVAC, cabling, connectors, cabinet attachment assemblies, conduit, condulets, risers, grounding equipment, surge protectors, DIN rail mounting brackets, DIN rails, signs, decals, labels or any other equipment or labor required to install the hub cabinet as these will be considered incidental to the installation of the hub cabinet.


ELECTRICAL SERVICE DROP CONDUCTORS INSTALLED BY UTILITY COMPANY
1 1/2-INCH RIGID GALVANIZED STEEL RISER WITH WEATHERHEAD
INSTALL ELECTRICAL SERVICE POLE NEAR RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.
METER BASE / DISCONNECT COMBINATION PANEL
1-INCH RIGID GALVANIZED STEEL CONDUIT
INSTALL MARKER TAPE 12 INCHES BELOW GRADE AND ABOVE ALL GROUNDING CONDUCTORS.
INSTALL FEEDER CONDUCTORS TO HUB CABINET.
1.25-INCH CONDUIT FOR COMMUNICATIONS (QUANTITY AS REQUIRED IN PLANS)
INSTALL #4 GROUNDING CONDUCTOR FROM GROUND ROD ARRAY TO HUB CABINET. SEE DETAIL BELOW.
UNDERGROUND SERVICE LATERAL CONDUCTORS INSTALLED BY UTILITY COMPANY
10 FOOT RADIUS EACH "SPHERE OF INFLUENCE"
MAIN GROUND ROD (LOCATED NEXT TO CABINET
GROUND ROD
120° (TYPICAL)
HUB CABINET GROUND ROD ARRAY PLACEMENT DETAIL
(TYPICAL EACH CABINET)
1. TEST GROUNDING SYSTEM WITH AN APPROVED METHOD. FOR 20 OHMS OR LESS, INSTALL ADDITIONAL GROUND RODS TO MEET THIS REQUIREMENT AS DIRECTED BY THE ENGINEER.
2. ALL CONNECTIONS TO GROUND RODS SHOULD BE MADE WITH #4 BARE COPPER CONDUCTORS VIA AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
3. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
4. REFER TO STANDARD DRAWING 1700-2 FOR ALTERNATE GROUND ROD INSTALLATION METHOD AS APPROVED BY THE ENGINEER.
5. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
6. BOND ALL RIDGED, GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO THE "EQUIPMENT GROUND".
ITS HUB CABINET
ELECTRICAL SERVICE
AERIAL AND UNDERGROUND
TYPICAL DETAIL
NTS


144-FIBER TRUNK LINE INTERCONNECT CENTER
144-FIBER DEVICE LINE INTERCONNECT CENTER
MANAGED ETHERNET SWITCH
UPS
POWER DISTRIBUTION AND SURGE PROTECTION
144-FIBER TRUNK LINE INTERCONNECT CENTER
144-FIBER DEVICE LINE INTERCONNECT CENTER
DROP CABLE INTERCONNECT CENTER
RACK MOUNTED AIR CONDITIONER
CABINET BASE EXTENDER
NCDOT ITS HUB CABINET DETAIL
NOTES:
1. CABINET IS TYPE 340.
2. ALL DIMENSIONS ARE APPROXIMATE.
3. THE HUB CABINET SHALL BE A MINIMUM 62"H X 44"W (+/-) X 30"D.
4. CONDUIT ENTRANCES ARE IN BOTTOM OF CABINET UNDER UPS.
5. MINIMUM OF THREE (3) TOTAL OUTLETS: TWO (2) SURGE PROTECTED AND ONE (1) GFCI PROTECTED.
6. SURGE PROTECTION PANEL SHALL BE MOUNTED BEHIND THE POWER DISTRIBUTION PANEL.
7. FRONT DOOR SHALL HAVE A VENT WITH FILTER ALIGNING WITH AIR CONDITIONER INTAKE.
8. INSTALL A/C DRAIN LINE.

CONDUIT FOR JETTING FIBER

Description

For jetted fiber installations furnish and install conduit that has internal longitudinal ribbing and factory lubricated. Ensure the conduit is manufactured from High Density Polyethylene (HDPE) materials.

Furnish individual HDPE conduits (Traditional) and/or Grouped Microcell Conduits that are comprised of individual microducts manufactured into a multi-cell conduit configuration as required by the plans. Furnish individual HDPE conduits (Traditional) with an embedded tracer wire. See Section 1. 2.(C) "Traditional - HDPE Conduit" below. Furnish grouped microcell conduits with an internal tracer wire.

Furnish all HDPE conduit that is suitable for direct buried applications through standard trenching, plowing and/or directional drilling operations.

Ensure the conduit is coilable and can be furnished on reels.

Materials

Furnish material, equipment, and hardware under this section that is pre-approved on the ITS and Signals QPL at the time of project letting.

A. Solid Wall HDPE Conduit with Internal Ribbing (Traditional & Grouped Microcell)

Use HDPE conduit that conforms to the material and dimensional requirements of UL Standard 651A. Provide conduit meeting Conduit trade Size and Standard Dimension Ratio (SDR) based on the fiber count as listed below or as required in the Plans. Ensure the supplied conduits meet or exceed the minimum wall thickness ratios (SDR) corresponding to EPEC-40 (Schedule 40) or EPEC-B (SDR 13.5) as listed in UL Standard 651A,

HDPE CONDUIT SIZE and FIBER COUNT		
Traditional Conduit Trade Size	**Fiber Count (None Micro-Fiber)**	**Furnish**
1"	12 - 96	EPEC-40
1 ¼"	12 - 144	EPEC-40
1 ½"	72 - 288	EPEC-B (SDR 13.5)
2"	288 - larger	EPEC-B (SDR 13.5)

Ensure the PE resin compounds used in manufacturing the conduit meet or exceed the cell classification PE 334480C (black with 2% minimum carbon black) or PE 334480E (colored conduit with UV inhibitors) in ASTM D3350 and the table below.

RESIN PROPERTIES		
Property	**Requirement**	**Test Method**
Density	0.940 g/cm^3 min.	ASTM D1505

		ASTM D792 ASTM D4883
Melt Index (condition 190/2.16 is acceptable)	< 0.4 grams/10 minutes	ASTM D1238
Flexural Modulus	80,000 psi, min.	ASTM D790
Tensile Strength	Tensile Strength 3,000 psi, min.	ASTM D638
Elongation	Elongation 400%, min.	ASTM D638
Slow Crack Growth Resistance	An ESCR as per condition B, 10% IGEPAL requirement of F_{10}>96 hrs is allowable	ASTM D1693
Hydrostatic Design Basis	"0" for Non-Pressure Rated Pipe	ASTM D2837
UV Resistance (Outdoor Conduit Only)	Stabilize with at least 2% by weight carbon black or colored with UV Inhibitor	ASTM D4218

Ensure the HDPE conduit is resistant to benzene, calcium chloride, ethyl alcohol, fuel oil, gasoline, lubricating oil, potassium chloride, sodium chloride, sodium nitrate and transformer oil and is protected against degradation due to oxidation and general corrosion.

Furnish all HDPE conduits with internal longitudinal ribbing and that is factory lubricated with a permanent coextruded internal layer to provide a low coefficient of friction of 0.20 or less in accordance with Telcordia GR-356.

Furnish coilable conduit that is supplied on reels in continuous lengths for transportation and storage outside. Ensure that the process of installing the coilable conduit on the reel does not alter the properties or performance of the conduit for its intended purpose.

B. Conduit Color Schemes

Ensure for traditional conduits and grouped microcell conduits that multiple conduit colors can be provided in accordance with the plan requirements. For conduits manufactured with stripes, ensure that a minimum of three stripes are uniformly spaced around the conduit with 120 degrees of separation. Do not use "Solid Yellow" or "Black with Yellow Stripes" conduit, furnish conduits in the following minimum colors (Blue, Orange, Green, Brown, Slate or Grey, Black, Red, White).

Furnish grouped microcell conduit assemblies with an "Orange" outer sheath unless otherwise noted in the plans or these project special provisions. An alternate grouped microcell conduit outer sheath color may be submitted for approval by the Engineer.

C. Traditional - HDPE Conduit

On traditional conduits, where multiple conduits are to be placed at the same time, furnish minimum one HDPE locatable conduit manufactured with a minimum of a #14 AWG solid

copper (soft drawn or annealed per ASTM B3) tracer wire attached to the outer shell of the conduit. Ensure the locatable conduit is manufactured to the material and dimensional specifications of NEMA TC-7 for the wall type to be certified by the manufacturer.

Ensure the non-locatable standard wall supplied HDPE conduit is printed in accordance with the requirements of UL Standard 651A and is listed by a Nationally Recognized Testing Laboratory (NTRL). Ensure all non-locatable standard wall HDPE conduits are marked at least with the following information at 2 feet or less intervals per the examples below in a-f. For locatable standard wall HDPE conduit ensure the conduit is marked at least with the following information on 2 feet or less intervals with items a-e below:

(a) Material: HDPE
(b) Trade Size: i.e., 2 inches
(c) Conduit Type: SDR 13.5 or EPEC-B
(d) Manufacturer's name or trademark
(e) Manufacturer's production code to identify manufacturing date, facility, etc.
(f) National Recognized Testing Laboratory (NRTL) symbol or listing number for the non-locatable wall types and manufacturer certified for the locatable wall types

D. Traditional – Mechanical Duct plugs, Mechanical Fiber/Conduit Duct Plugs

Provide reusable mechanical duct plugs to seal traditional HDPE conduits that are designated as spare or unused at the time of installation. Ensure the mechanical duct plug is sized to slip inside the conduit and can be tightened using compression to expand a seal creating a snug fit to ensure debris cannot enter the conduit system. Conduit plugs and/or caps that require special adhesive glues that permanently adhere the device to the conduit will not be accepted.

Provide mechanical fiber/conduit sealing split duct plugs designed to slip over the fiber cable and inside the HDPE conduit. Ensure mechanical fiber/conduit sealing split duct plugs through the use of compression have an expandable seal to ensure a snug fit around the fiber's outside diameter and the inside diameter of the conduit to ensure debris cannot enter the conduit system.

The use of a duct and conduit sealer or mastic which is of a putty-like compound shall not be used. Ensure any duct plug used to seal a conduit with or without a fiber cable is removable and re-usable. Conduit plugs are not required to be listed electrical devices.

E. Grouped Microcell Conduits

Furnish individual microduct conduits that are bound together within and outer extruded 0.070" sheath of high-density polyethylene to form a grouped microcell conduit assembly. Ensure the individual 22/16 mm microducts that form the grouped microcell conduit assembly have a SDR number less than or equal to 7.3.

Furnish grouped microduct conduit assemblies with a minimum allowable flexural modulus of 5,625 Kg/cm^2 (80,000 psi) and a minimum Pipe Stiffness of 49.2 Kg/cm^2 (699 psi).

Ensure the completed grouped microcell conduit assembly is furnished with a minimum of two (2) ripcords located along the outer sheath. The outer sheath of the grouped microcell conduit assembly shall not be adhered (glued) to the internal microcell conduits to allow for easy removal of outer sheath.

Furnish grouped microcell conduits assemblies with a preinstalled 14 AWG THWN solid copper soft drawn per ASTM B3 tracer wire located within the interior of the outer sheath. Grouped

Microcell conduit assemblies with and internal tracer wire located inside an individual microduct conduit will not be accepted.

For overriding applications, where a new single microduct will be installed in an existing conduit system, furnish a microduct conduit with an SDR number less than or equal to 11 to serve as the new carrier pipe. For override applications provide a microduct conduit sized as specified in the Plans.

Ensure the individual microducts supplied by the manufacturer meet quality and verification testing in accordance with ASTM F2160 for materials and associated properties for cell classification PE 334480 C for black or E for color. Ensure the outer sheath of the group microcell conduit system is marked every 2 feet in accordance with ASTM F2160 standards to include the following a-f below:

(a) Material: HDPE
(b) Trade Sizes and # of micoducts: i.e., 4-way 22/16 mm
(c) Conduit Type: SDR 7.3 or EPEC-7.3
(d) Manufacturer's name or trademark
(e) Manufacturer's production code to identify manufacturing date, facility, etc.
(f) Manufacturer certified meeting the material and dimensional microduct requirements.

F. HDPE Conduit Couplers

HDPE conduit couplers may be used when transitioning from trenchless installation methods to Trenching/Plowing. HDPE Couplers shall meet the following minimum requirements.

a) Barbed aluminum couplers
b) 100% Airtight and pressure tested to 175 psi
c) Rated for high pH soil conditions

G. Microduct Couplers and End Caps

Furnish gasketed couplers and gasketed end caps recommended by the manufacturer of the furnished microduct conduits for joining and sealing off of the microduct conduit ends. Couplers and end caps shall be sized specifically for the microduct conduits and designed to be easily removed by hand and re-useable.

Couplers shall meet, at minimum, the required safety margins testing as outlined under Bell Core GR-356-CORE. Additionally, the couplers shall be tested to illustrate that the couplers are 100% airtight (no air loss) due to failure of couplers when pressure is raised from the 125 psi (maximum Bell Core GR-356-CORE pressure tested) to 175 psi 23^0 C $\pm 5^0$ C (73^0 F $\pm 9^0$ F) for 5 minutes.

H. Pull Tape

Furnish pull tape manufactured out of ½-inch wide polyester material with a minimum of a #22 AWG solid PVC insulated tracer wire woven into the polyester material. Ensure the pule tape is pre-lubricated and has a minimum tensile strength of 1,250 lbs.

Construction Methods

A. General

Install traditional HDPE conduits and grouped microcell conduit assemblies utilizing the method identified in the plans (trench, micro-trench, plow, directional drill, etc.) Comply with the

following Sections in Article 1715-3 "Construction Methods" of the North Carolina Standard Specifications for Roads and Structures -Dated January 2024, where applicable:

Section 1715-3 (B) – Trenching
Section 1715-3 (C) – Plowing
Section 1715-3 (D) – Directional Drilling

MINIMUM CLEARANCE REQUIREMENTS	
Man-made Structure or General Installations	**Minimum Clearance Requirement (all distances are "averages")**
Minimum/Maximum Conduit Depth Parallel to Interstate	30"/36"
Minimum/Maximum Conduit Depth crossing a Roadway (Perpendicular)	4 feet or 8 times the back reamer's diameter, whichever is greater
Bridge Foundation	5 ft horizontal and 4 ft vertical (clearances greater than minimum horizontal should continue to use the 4V:5H ratio, i.e., 10 ft horizontal should be no deeper than 8 ft)
Drainage Pipes 60" or Less	4 ft below (while maintaining a minimum depth of 30" below grade)
Drainage Pipes Greater than 60"	4 ft below (while maintaining a minimum depth of 30" below grade)
Box Culverts	4 ft below (while maintaining a minimum depth of 30" below grade)
Slope Protection (rip rap)	2 ft below
Slope Protection Foundation Footing	5 ft below
Crossing Beneath Ditches	32" below bottom of ditch
Navigable Waters/Stream Crossings	6 ft below

If it can be demonstrated that rock would be encountered, a reduction in depth to minimum 18-inches of cover is allowed. Any reduction in conduit dept must be approved by the Engineer.

Follow industry accepted practices for installing the conduit(s) when trenching, plowing and/or directional drilling operations are required. Use pulling eyes or external conduit grips sized in accordance with the manufacture's recommendations for directional drilling operations. Where external grips are to be used the ends of the conduits should be sealed to prevent debris from entering as the conduit is being installed.

For any installation practices that require pulling of the conduits use a breakaway swivel rated to not exceed the manufactures recommended working tensile load. When a field bend or elevation change in the conduit is required to work around obstructions or obstacles do not violate the manufacturer's recommend safe working tensile load and minimum allowable bend radius.

Backfill and tamp trenches in 6-inch lifts while removing any rocks or debris that could possibly damage the conduit system. Place non-detectable marker tape 12 inches below the final grade.

During installation of any conduit(s) temporarily install a mechanical duct plug (traditional) or end cap (microduct) on the exposed conduit ends to prevent any debris from entering the conduit. Install conduit(s) to enter and exit the junction boxes through the mouse holes, precast knockouts or field drilled conduit entrance holes. Sufficient slack conduit should be pulled into the junction box so the opposing ends overlap for joining. Adequate time should be given prior to joining to allow the conduit to relax and recover due to any elongation that may have occurred as it was being pulled into place. **Conduits installed for the purpose of jetting in fiber shall not enter or exit junction boxes through the bottom.**

Install quick setting, non-shrinking grout around the conduit openings to seal and hold the conduit in place as it enters and exits the junction boxes. Ensure the lowest conduit entering the junction box maintains a minimum of 4-inch separation from the bottom layer of crushed stone located inside the junction box.

Ensure the orientation for conduits of the same color enter and exit the junction box positioned opposite each other so that when mating the conduit of the same color the ends will be in direct line with one another. During initial installations of the conduits ensure the opposing conduits are pulled into the junction box so the opposing ends overlap for joining and are properly sealed. Install conduits in one continuous length between junction boxes. Joining conduits shall only be performed within junction boxes, unless otherwise approved by the Engineer (see "Conduit Integrity Testing" below).

When temporarily joining conduits inside junction boxes to increase fiber jetting distances use removable split couplers designed to be airtight to temporarily join the opposing ends. Prior to joining two conduits with a removable split coupler use approved conduit shears to provide smooth, clean, square cuts on ends of the conduits. At the appropriate time during cable installation, the split couplers will need to be removed to allow for the specified slack loop length to be installed.

Final dressing of the conduits shall be done after the cable slack loops have been installed in each junction box. For the conduit sections where the cable has been installed, the conduit is to be slit and removed to 4" from the junction box wall. Consult the conduit manufacturer for the determining the appropriate tools to be used that will protect the installed cables. A split expandable seal is to be placed around the cable into the end of each conduit end, see Section 1.4 (B) - "Jetting Operations" below.

For the spare conduits the duct ends are to be left overlapped for future use. All ends should be sealed using an expandable duct plug which is to be removed when the "Conduit Integrity Testing", see B below, is being done. Once the CIT testing has been completed the ends are to be sealed as outlined in Section 1.4 (C) "Duct Sealing" below.

B. Conduit Integrity Testing

Immediately upon completing the conduit installation or prior to installation of the fiber cable it will be the responsibility of the Contractor to ensure usability of the conduit system. This will be done by conducting a mandatory "Conduit Integrity Tests" (CIT) on each individual conduit in the presence of the Engineer. The purpose of performing the CIT to identify there are no obstructions, leaks or other defects resulting from the conduits installation between access points (junction box locations). The CIT includes a series of three (3) individual steps to be completed, prior to acceptance of the conduit system.

CIT Steps

1) Air Pressure Test
2) Shuttle/Mandrel Test
3) Sponge Test/Cleaning

Air Pressure Test:

Seal the downstream end of the conduit with a pressure rated temporary end cap or plug and attach an airtight fitting with a quick connect air coupling and pressure gauge to compressor end of the conduit. Connect the compressor hose to the fitting with an inline pressure gauge and fill the conduit with compressed air raising the pressure to 6 bars (87 psi). Once the pressure has reached the designated level wait to see if the pressure drops slightly and add additional air to reach the desired pressure level. Once the pressure level appears to have stabilized at the prescribed level wait 5 minutes to see if the pressure remains stable. If the pressure reading remains stable or does not drop significantly (Minimal reductions of 1 to 2 pounds is acceptable) after a 5 minutes lapse of time, then there is no leakage in the duct and the section being tested has passed.

If the pressure reading shows a significant drop-in pressure, then determine where the leakage is occurring, and corrective actions shall be taken. Note the loss of pressure may be occurring at the coupler, if it has not been properly installed. If it is at the coupling in a handhole for example correct it and retest. If the problem is found to be in the conduit between access points notify the Engineer and make arrangements to replace or repair that section of conduit at no additional expense to the Department (see repair of conduit segments later)

Shuttle/Mandrel Test:

An obstruction or kink or some other defect in the installed conduit can be determined by a shuttle test. The test is conducted by using a shuttle that is 70-80% of conduits inner diameter that is either a sphere or a segment of fiber optic cable with a length of 3 times the diameter of the conduit being tested. The shuttle is to be inserted into the conduit and passed through the conduit by applying compressed air. The pulling option is to pull a segmented mandrel through the conduit, designed for proving duct runs.

Provided the shuttle or mandrel passes through from end to end of the conduit then the duct is considered to be acceptable for cable installation. If the shuttle mandrel fails to pass from end to end, then the conduit is either kinked or blocked. It will be the installers obligation to find the blockage or kinked location. For conduits that do not pass this test notify the Engineer and make arrangements to replace or repair that section of conduit at no additional expense to the Department (see repair of conduit segments later).

Sponge Test/Cleaning:
Installation of a test sponge as recommended by the jetting equipment or conduit manufacturer is to be used for cleaning and/or lubricating the conduits inner diameter from end to end, prior to cable installation. Two sponges are to be used for this purpose using the steps listed below:

1. From the jetting end blow one or two sponges through the conduit to the destination handhole. Inspect the sponges and repeat this step until the sponges are clean of dirt and debris after passing through the conduit system, then move to step 2.
2. At the jetting end of the conduit insert one sponge pushing it into the end of the conduit several inches.
3. Leave enough room to then pour in the lubricant manufacturer's suggested amount of lube for the diameter and distance the cable is to be jetted.
4. Lubricate and insert the second sponge into the end of the conduit.
5. Secure the conduit lead end to the jetting machine's sealed air block and apply compressed air to blow the sponge and lubricant through the conduit.
6. The last step is to jet the fiber cable into the conduit.

Repair of Conduit Segments
For HDPE Conduit segments (traditional and/or multicell), where the conduit has been discovered to have been damaged (failing to pass the Conduit Integrity Testing) notify the Engineer. The Engineer has the authority to require any of the following options regarding the damaged section of conduit:

1) Replace the damaged section of conduit
2) Allow the use of conduit couplers to replace the damaged section of the conduit
3) Allow the damaged section to be repaired using the "HDPE pipe welding heat fusion" process.

C. Conduit Sealing
Immediately upon completing the Conduit Integrity Testing install an approved mechanical duct plug or gasketed end coupler over the ends of all conduits to guard against debris or water entering the conduit.

D. HDPE Conduit Couplers
For HDPE Conduit couplers:

a) No more than two (2) couplers per conduit segment between junction boxes unless otherwise approved by the engineer.
b) Install a locatable marker ball at each coupler location.
c) Document and provide GPS coordinates for each coupler location.
d) Ensure couplers are installed per manufacturer specifications and installers are trained and certified by the manufacturer.
e) Provide details on coupler installation requirements and training to the Department and/or its representatives upon request.

E. Spare Conduits and Pull Tape
For conduits designated to be used as spares, install a continuous section of Pull Tape through the conduit. Place the embedded tracer wire of the pull tape under the gel filled wire nut along with

the other conduit's internal tracer wire. (See "Tracer Wire Bonding/Isolation Test Switch" in the Junction Box details found elsewhere in these Specifications).

Jetting Fiber

A. General

Furnish personnel trained in the operation of the fiber jetting machine and all safe operating procedures. Provide a fiber jetting machine complete with a head and feeder system with all necessary seals and nozzle attachments including a compressed air machine to facilitate installation of the fiber.

Provide couplers and split half couplers as necessary to make temporary joints of conduits to facilitate jetting of the fiber cable through midspan junction boxes. Ensure the couplers and split half couplers are designed to provide an airtight seal around the HDPE conduits and that they are reusable. Ensure split half couplers can be easily assembled and disassembled using standard wrenches and/or nut drivers and that couplers can easily be removed and reused.

Furnish a UL approved blowing lubricant recommended by the conduit manufacturer and approved by the fiber manufacturer that will not adversely affect the HDPE conduit nor the fiber optic cable both during and after the cable jetting installation process. Ensure the lubricant is designed to meet or exceed all cable blowing requirements with respect to viscosity, cling, drag, wetting and designed for use in the temperature range indicative of the environmental temperature when the cable is installed. Ensure the lubricant is safe to use and is non-toxic, non-corrosive, non-flammable and does not stain, alter or cause a smearing effect to the required markings found on the outer sheath of the fiber optic cable.

B. Jetting Operations

Upon successful completion of the CIT procedures begin jetting operations to install the fiber. Ensure the fiber reel and jetting machine are synchronized to minimize unnecessary pulling and jerking on the fiber cable as it is being removed from the reel during the installation process. Apply cable pulling lubricant as recommend by manufacturers to minimize the Coefficient of Friction allowing the cable to slide effortlessly through the conduit system.

During the jetting process provide spare fiber at junction boxes and/or cabinets as required by the plans. After the jetted fiber is installed ensure that all spare conduits are sealed off with a mechanical sealing plug or gasketed end cap. For conduits that contain a fiber cable install a mechanical fiber/conduit sealing split duct plug to seal the fiber and conduit from debris. Moldable Duct Seal will not be acceptable for spare conduits or conduits containing fiber when those conduits are installed for the future installation of fiber using the "Fiber Jetting Process" and when the installation of the conduit system is along a "Limited Access" or "Controlled Access Facility".

Ensure any conduits designated as spare have a mechanical duct plug (Traditional) or gasketed end cap (Microcell) installed in the open ends to seal against debris entering the conduit system.

Fiber-Optic Cable and Splice Testing

Revise the *Standard Specifications* as follows:

Page 17-26 & 17-27, Article 1731-3 (F) Testing, the following replaces pages 17-26 lines 20-47 & 17-27 lines 1-5:

(F) Testing

Provide notification a minimum of 10 business days before beginning Fiber-Optic tests to the Engineer and ITS Design Unit. After splicing is completed, perform bi-directional OTDR tests and bi-directional Optical Power Meter (OPM) tests on each fiber, including unused fibers.

Install a 1,000 meter pre-tested launch cable between the OTDR and fiber-optic cable to be tested and a 1,000 meter pre-tested destination cable on the end of the fiber-optic cable to be tested. Ensure each launch cable has been tested and is compatible with the fiber being installed. Provide Engineer and ITS Design Unit with verified length and test results of the launch cable before use. Re-test or replace launch cable at Engineer's request.

Ensure the OTDR tester pulse length, pulse width, averaging time/count, and any other settings are appropriately set to provide a detailed, high-resolution trace for the length of cable being tested.

Test the fiber-optic cable at both 1310 and 1550 nm.

Ensure bi-directionally averaged fusion splice losses do not exceed 0.05 dB per splice and connectors have a loss of 0.5 dB or less per connector. If any splice or connector exceeds maximum allowable loss or if a fiber exceeds its calculated loss budget, take appropriate corrective actions up to and including replacement of the fiber cable.

Clearly record and label each bi-directional OTDR trace result, identifying a starting and ending point, and all splices and connectors with their distance/location measurements, for all fibers being tested in a spreadsheet file format.

Perform OPM tests in both directions for each fiber to measure the overall loss. Submit OPM test results for both directions in a spreadsheet file format for review and approval. Do not submit bi-directionally averaged OPM test results. Ensure the fiber number and direction of each OPM test result is clearly labeled. Ensure the OPM tester is configured properly for the length of cable being tested and perform OPM test in accordance with the testing equipment manufacturer recommendations, including properly sized launch and landing cables. Provide OPM tester settings and launch/landing cable details with the OPM test results.

Provide engineering calculations for each fiber or group of fibers that demonstrate the loss budget. The calculations shall summarize the optical losses versus the allowable losses for each fiber. Provide a spreadsheet with a labeled tabular summary showing each test segment with begin and end points and actual versus allowable losses.

Furnish an electronic copy of all OTDR trace results, OPM test results and digital photographs showing workmanship for each splice. Furnish the manufacturer's make, model number and software version of the OTDR and OPM used for testing.

GENERAL

The State will not be bound by oral explanations or instructions given at any time during the bidding process or after award. Only information that is received in response to this RFP will be evaluated; reference to information previously submitted will not suffice as a response to this solicitation.

NO CONTACT CLAUSE

To ensure that information is distributed equitably to all short-listed Design-Build Teams, all questions and requests for information shall be directed to the State Contract Officer through the Alternative Delivery e-mail address, altdelivery@ncdot.gov. This precludes any Design-Build team member, or representative, from contacting representatives of the Department, other State Agencies or Federal Agencies either by phone, e-mail or in person concerning the Design-Build Project.

USE OF TERMS

Throughout this RFP and all manuals, documents and standards referred to in the RFP the terms Contractor, Bidder, Design-Builder, Design-Build Team, Team, Firm, Company and Proposer are synonymous.

Throughout this RFP and all manuals, documents and standards referred to in the RFP, the terms NCDOT, Department, Engineer and State are synonymous.

DESIGN REFERENCES

Design references developed and published by NCDOT and those developed and published by other agencies and adopted for use by NCDOT which are to be used in the design of this project may be obtained by contacting Contract Standards and Development Unit within the Field Support Division. Standard prices for materials, which the Department normally sells for a fee, will be in effect. The Design-Build Team shall be responsible for designing in accordance with the applicable documents and current revisions and supplements thereto.

REVIEW OF SUBMITTALS

Major design milestones and required design submittals shall be identified as activities on a CPM, bar chart or other scheduling tool. This schedule shall be submitted to the Alternative Delivery Unit and Resident Engineer concurrently with the first design submittal, or within 30 days of the contract award, whichever is earlier. The schedule shall be revised and resubmitted as design milestones change or as directed by the Alternative Delivery Unit. Submittals will be reviewed within ten working days (15 days for temporary structures, overhead sign assemblies, MSE walls, FEMA compliance documents, and temporary shoring) from the date of receipt by NCDOT unless otherwise stipulated in the scope of work. All submittals shall be prepared and submitted in accordance with the *Alternative Delivery Submittal Guidelines*, which by reference are incorporated and made a part of this contract. All submittals shall be made simultaneously to the Alternative Delivery Unit and the Resident Engineer. The Department will not accept

subsequent submittals until prior submittal reviews have been completed for that item. The Design-Build Team shall inform the Alternative Delivery Unit in writing of any proposed changes to the NCDOT preliminary designs and / or previously reviewed submittals and obtain approval prior to incorporation. The Design-Build Team shall prioritize submittals in the event that multiple submittals are made based on the current schedule. All submittals shall include pertinent Special Provisions. No work shall be performed prior to Department review and acceptance of the design submittals.

OVERVIEW

The Design-Build Project, I-5719FC, involves the installation of Intelligent Transportation System (ITS) Infrastructure along two primary segments:

- Segment 1: Installation of approximately ten (10) miles of fiber optic cable and devices from the South Carolina state line to US 74.
- Segment 2: Installation of various ITS devices and connection to the existing NCDOT fiber network from US 74 to US 321.

Project services shall include, but are not limited to:

- **Design Services** – completion of construction plans
- **Construction Services** – necessary to build and ensure workmanship of the designed facility
- **Intelligent Transportation System –** design and construction of ITS components, including CCTV cameras, dynamic message sign (DMS), fiber-optic communications cable and conduit, and ITS integration
- **As-Constructed Drawings**
- **As-Built Plans**

Construction Engineering Inspection will be provided by the NCDOT Division personnel or will be performed under a separate contract.

The I-5719FC Categorical Exclusion Type-I (B) (Ground Disturbing Action) has been approved.

GENERAL SCOPE

The scope of work for this project includes design, construction and management of the project. The design work includes all aspects to installing fiber and devices in Segment 1, and installing and connecting ITS devices to the existing NCDOT Broadband fiber network in Segment 2. Unless allowed elsewhere in this RFP, the designs shall meet the latest version of AASHTO *A Policy on Geometric Design of Highways and Streets*, AASHTO *LRFD Bridge Design Specifications,* FHWA *Manual of Uniform Traffic Control Devices* and all NCDOT design policies that are current as of the Price Proposal submittal date or the Best and Final Offer submittal date, whichever is later.

Unless noted otherwise elsewhere in this RFP, all documents referenced herein shall be the edition / version, including all interim revisions, effective on the Design-Build submittal date or the Best and Final Offer submittal date, whichever is later.

Construction shall include, but not be limited to, all necessary clearing, grading, conduit, fiber, roadway, drainage, structures, utility coordination and relocation, and erosion and sediment control work items for the proposed broadband infrastructure installation. Construction engineering and management shall be the responsibility of the Design-Build Team. Construction shall comply with 2024 NCDOT *Standard Specifications for Roads and Structures* and any special provisions.

Areas of work required for this project shall include, but are not limited to the following items:

Erosion and Sedimentation Control Design and Implementation
Transportation Management Plan Design and Implementation
Intelligent Transportation Systems (ITS) Design
Construction
Design and Construction Management
Utility Construction
R/W Utilities, Conflicts and / or Construction
Construction Surveying
Location and Surveys

All designs shall be in Microstation format using Geopak software (current version used by the Department) or Bentley Open Roads Designer (ORD). If the Design-Build Team elects to use ORD, the Department will not honor any requests for additional contract time or compensation for any effort required to complete the designs using ORD.

DESIGN AND CONSTRUCTION PERFORMED BY DESIGN-BUILD TEAM

The design work consists of the design and the installation of ten (10) miles of ITS Infrastructure in Segment 1 and installing various ITS Infrastructure and connection to the existing NCDOT fiber in Segment 2. The Design-Build Team shall prepare complete engineering drawings, typical details, engineering calculations, and technical specifications for the Project.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall acknowledge that project documents furnished by the Department are preliminary and provided solely to assist the Design-Build Team in the development of the project design. The Design-Build Team shall be fully and totally responsible for the accuracy and completeness of all work performed under this contract and shall save the State harmless and shall be fully liable for any additional costs and all claims against the State which may arise due to errors, omissions and negligence of the Design-Build Team in performing the work required by this contract.

There shall be no assignment, subletting or transfer of the interest of the Design-Build Team in any of the work covered by the Contract without the written consent of the State, except that the Design-Build Team may, with prior written notification of such action to the State, sublet property searches and related services without further approval of the State.

The Design-Build Team shall certify all plans, specifications, estimates and engineering data furnished by the Team.

All work by the Design-Build Team shall be performed in a manner satisfactory to the State and in accordance with the established customs, practices, and procedures of the North Carolina Department of Transportation, and in conformity with the standards adopted by the American Association of State Highway Transportation Officials, and approved by the U.S. Secretary of Transportation as provided in Title 23, U.S. Code, Section 109 (b). The decision of the Engineer / State / Department shall control in all questions regarding location, type of design, dimension of design, and similar questions.

Alternate designs, details and / or construction practices (such as those employed by other states, but not standard practice in NC) are subject to Department review and approval and will be evaluated on a case-by-case basis.

The Design-Build Team shall not change team members, subconsultants or subcontractors identified in the Statement of Qualifications (SOQ) or Technical Proposal without written consent of the Engineer or the State Contract Officer. In addition, subconsultants and subcontractors not identified in the SOQ or Technical Proposal shall not perform any work without written consent by the Engineer. Individual offices of the Design-Build Team not identified in the Statement of Qualifications submitted shall not perform any work without written consent by the Engineer. Failure to comply with this requirement may be justification for removing the Team from further consideration for this project and disqualification from submitting on future Design-Build Projects.

All firms shall be prequalified by the Department for the work they are to perform. Joint Ventures, LLCs or any legal structure that are different than the existing prequalification status must be prequalified prior to the Price Proposal submittal deadline. Subcontractors need only be prequalified prior to performing the work. Design firms should be prequalified prior to the Price Proposal submittal deadline. If not prequalified at the time of the Price Proposal submittal deadline, the prime contractor shall be solely responsible for either (1) ensuring that the design firm is prequalified prior to its first design submittal or (2) replacing that firm with a prequalified firm.

ELECTRONIC PLAN SUBMITTALS AND E-SIGNATURES

The Design-Build Team shall submit all Release for Construction Plans in accordance with the NCDOT e-Signature requirements, including but not limited to providing signed and sealed searchable .pdf files. Reference the website noted below for additional information:

https://connect.ncdot.gov/business/consultants/Pages/Guidelines-Forms.aspx

ETHICS POLICY

Employees employed by the Design-Build Team or employees employed by any subconsultant for the Design-Build Team to provide services for this project shall comply with the Department’s Ethics Policy. Failure to comply with the Ethics Policy will result in the employee's removal from the project and may result in removal of the Company from the Department’s appropriate prequalified list.

APPROVAL OF PERSONNEL

The Department will have the right to approve or reject any personnel, assigned to a project by the Design-Build Team.

In the event of engagement of a former employee of the Department, the Design-Build Team or their subcontractors shall restrict such person or persons from working on any of the Design-Build Team's contracted projects in which the person or persons were "formerly involved" while employed by the State. The restriction period shall be for the duration of the contracted project with which the person was involved. *Former Involvement* shall be defined as active participation in any of the following activities:

Drafting the contract or contract Scopes of Work
Design-Build Team selection
Negotiation of the contract cost (including calculating manhours or fees)
Contract administration

An exception to these terms may be granted when recommended by the Secretary and approved by the Board of Transportation.

The Design-Build Team and their subconsultants / subcontractors shall restrict all personnel embedded within the Department, including but not limited to Design Units and Divisions, from working on any Design-Build procurement / project. Except as allowed otherwise below, the Design-Build Team shall provide a list of all embedded personnel to the Department and a signed Confidentiality Agreement for each embedded employee, as well as their employer and NCDOT Unit Manager. If the Design-Build Team has previously provided a signed Confidentiality Agreement for an embedded employee who's employer and / or NCDOT Unit Manager have not changed, the Design-Build Team shall 1) indicate on the aforementioned list when the original Confidentiality Agreement was provided to the Alternative Delivery Unit (date and TIP Project), 2) provide a copy of the original signed Confidentiality Agreement, or 3) provide a new signed Confidentiality Agreement. The Design-Build Team shall submit the aforementioned list and Confidentiality Agreements to Mr. Ronald E. Davenport, Jr., P.E., State Contract Officer, within ten business days of the issuance of the Industry Draft RFP, and provide updated lists and Confidentiality Agreements, as appropriate, throughout the project procurement / duration.

Failure to comply with the terms stated above in this section may be grounds for termination of this contract and / or not being considered for selection of work on future contracts for a period of one year.

SUBMITTAL OF TECHNICAL AND PRICE PROPOSALS

Technical and / or Price Proposals that do not adhere to all the requirements noted below may be considered non-responsive and may result in the Department not considering the Design-Build Team for award of the contract. The Department will only evaluate the maximum number of allowable pages noted below. Thus, the Department may 1) reject submissions that exceed the page limitations or 2) remove the page(s) that exceed the page limitations prior to evaluating the submission. The Department will notify the Proposer in writing of the reason(s) for the rejection or the details of the altered submission.

GENERAL SUBMITTAL INSTRUCTIONS

Technical Proposals for all Design-Build Teams will be accepted until **August 13, 2025 at 3:00 PM Local Time** at the office of the State Contract Officer as shown below. Sealed Price Proposals for all Design-Build Teams will be accepted until **August 20, 2025 at 3:00 PM** at the office of the State Contract Officer as shown below:

Mr. Ronald E. Davenport, Jr., PE
Contract Standards and Development
1020 Birch Ridge Drive
Century Center Complex - Building B
Raleigh, NC 27610

No Proposals will be accepted after the time specified.

Proposals shall be submitted in separate, sealed parcels containing the Technical Proposal in one and the Price Proposal in the other parcel. Proposals shall be delivered to Door B3 of the Century Center Complex—Building B. The courier shall call either Ms. Marsha Sample at (919) 707-6915, Mr. Ken Kennedy, PE at (919) 707-6919 or Mr. Josh Sellers, PE (919) 707-6908 to accept delivery at Door B3.

TECHNICAL PROPOSAL SUBMITTAL INSTRUCTIONS

An electronic copy of the Technical Proposal, on a thumb drive, shall be submitted in a sealed package. The electronic copy shall be created by converting all files into a PDF format. The electronic copy shall be scaled to reproduce to the appropriate page format, as defined below. The outer wrapping shall clearly indicate the following information:

Technical Proposal - Electronic Copy
Submitted By: Design-Build Team's Name
Design-Build Team Address
Contract Number C205112
TIP Number I-5719FC
Cleveland & Gaston Counties
ITS Infrastructure

Submittal by mail shall not be permitted for this Technical Proposal.

Technical Proposal Requirements

A page shall be 8 ½" X 11", except graphs, charts and project schedules may be on 11" X 17". Throughout the entire Proposal, there is no required font size or line spacing. However, all aspects of the Technical Proposal, including but not limited to narrative, tables, charts and graphics, should be clearly legible.

If the Proposer uses dividers and they contain specific project related information they will count as part of the page count.

Excluding the introductory letter to Mr. Ronald E. Davenport, Jr., P.E. (two-page maximum length), **the maximum number of allowable pages shall be 30 pages**. CVs / resumes will not be included in the page count.

Submissions exceeding the page limitations outlined within the RFP may be rejected and the Design-Build Team will be notified in writing of the reason(s) for the rejection.

Project team members, identified in the Statement of Qualifications, shall not be modified in the Technical Proposal without written approval of the Department. Any such request should be sent to the attention of Mr. Ronald E. Davenport, Jr., PE, via the Alternative Delivery e-mail (**altdelivery@ncdot.gov**).

PRICE PROPOSAL SUBMITTAL INSTRUCTIONS

Price Proposals shall be submitted in a sealed package. The outer wrapping shall clearly indicate the following information:

Price Proposal
Submitted by Design-Build Team's Name
Design-Build Team Address
Contract Number C205112
TIP Number I-5719FC
Cleveland & Gaston Counties
ITS Infrastructure

Submittal by mail shall not be permitted for this Price Proposal.

The Price Proposal shall be submitted by returning the Request for Proposals with the item sheets completed, and all required signatures and bonds. Failure to execute the required documents may render the Price Proposal non-responsive.

EVALUATIONS

Decisions based on cost alone will not establish the design standards for the project. Technical Proposals shall address the technical elements of the design and construction of the project. The

Technical Review Committee will consider the understanding of the project, the anticipated problems and the solutions to those problems, in addition to other evaluation criteria identified herein.

The Design-Build Team's Technical Proposal shall be developed using narratives, tables, charts, plots, drawings and sketches as appropriate. The purpose of the Technical Proposal is to document the Design-Build Team's understanding of the project, demonstrate the Design-Build Team's capabilities to complete the project, document their selection of appropriate design criteria and state their approach and schedule for completing all design and construction activities.

The Technical Proposal will be evaluated in each of the following major categories:

	EVALUATION FACTORS	POINTS
1.	Management	20
2.	Responsiveness to Request for Proposal	30
3.	Schedule and Milestones	30
4.	Maintenance of Traffic and Safety Plan	20

TECHNICAL PROPOSAL EVALUATION CRITERIA

1. Management - 20 points

Provide a comprehensive Organizational Chart that identifies the design, quality and construction management, and the relationships with subconsultants/subcontractors. The Organizational Chart shall identify all firms and personnel changes (additions, substitutions, deletions) to the Design-Build Team since submittal of the Statement of Qualifications.

Design-Build Team Management

- Describe the Design-Build Team's concept of design management and identify key positions and subordinate organizational units.
- Describe how the various design disciplines will be coordinated, including how designs developed by different firms and offices will be integrated/consistent.
- Describe how design personnel will interface with the construction personnel.
- List projects, including description and similarity to the subject project that the Design-Build Team's designer(s) have developed Transportation Management Plans and ITS Plans.
- Describe the Design-Build Team's concept of the project construction management organization and how it interrelates with the other elements of the Design-Build Team's organization for the project.
- Describe the work categories that the Design-Build Team anticipates will be performed by the Design-Build Team's own direct labor force and those categories that will be performed by subcontractors.

Quality Management

- Describe how the Design-Build Team will comply with the design and construction quality control requirements. Specifically, include a narrative that describes the Design-Build Team's understanding of the Department's quality control philosophy and how the Design-Build Team will implement it for this project.
- Describe any significant design and/or construction quality control issues experienced in the last ten years and how those issues will be addressed for this project.

2. Responsiveness to Request For Proposals - 30 points

Natural Environmental Responsibility

- Describe the Design-Build Team's approach to addressing environmental concerns within the project boundaries.
- Identify methods of construction in proximity to wetlands, streams, and riparian buffers.
- Describe all project/construction related NOVs received by any team member within the last five years on projects in the United States and the disposition of each listed NOV.
- Describe the Design-Build Team's approach to Sedimentation and Erosion Control for the project.

Design Features

- Provide a detail of a typical installation along the roadway to include any special design features or construction techniques needed.
- Identify proposed deviations to the preliminary design provided by the Department, not required herein.
- Describe the Design-Build Team's approach to avoid and minimize impacts to existing utilities within the existing right of way. In addition, describe the Team's approach to minimize or prevent future relocations.
- Describe any innovative design features or construction practices that will bring value to the project.
- Describe how the Design-Build Team will ensure accurate placement of conduit infrastructure according to plans/technical provisions, and record actual as-constructed conditions in Plans of Record.

3. Schedule and Milestones - 30 points

Provide a brief narrative description of the Design-Build Team's proposed plan for performing construction on the project. The description shall include at least the following:

- Indicate if, and how, the Design-Build Team intends to divide the project into work segments to enable optimum construction performance.
- Describe the Design-Build Team's plans and procedures to ensure timely deliveries of materials to achieve the project schedule.
- Describe the Design-Build Team's approach to coordinating with active construction projects that may occur within or in close proximity to the project limits.
- Provide a detailed schedule for the project including both design and construction activities. The schedule shall show the sequence and continuity of operations.
- The schedule shall also include the Design-Build Team's final completion date and, if proposed, their substantial completion date. These dates shall be clearly indicated on the Project Schedule and labeled "Final Completion Date" and "Substantial Completion Date."

4. Maintenance of Traffic and Safety Plan - 20 points

Maintenance of Traffic

- Provide a Transportation Management Phasing Concept (TMPC).
- Describe any traffic control requirements that will be used during construction.
- Describe how traffic will be maintained as appropriate and describe the Design-Build Team's understanding of any time restrictions noted in the RFP.
- Describe the Design-Build Team's approach to site access and material staging, including material delivery to the project site.
- If a temporary portable barrier system will be utilized, provide the type and why it is needed.
- Address if there will be a need to use law enforcement officers and describe how and where they will be used.
- Identify a Traffic Control Supervisor and briefly describe their qualifications for this role.

Safety Plan

- Describe the safety considerations specific to the project.
- Discuss the Design-Build Team's overall approach to safety.
- Describe any proposed improvements that will be made prior to or during construction that will enhance the safety of the workforce and/or travelling public both during and after the project construction.

SELECTION PROCEDURE

There will be a Technical Review Committee (TRC) composed of five or more senior personnel from engineering groups involved that will evaluate the Technical Proposal on the basis of the criteria provided in the Request for Proposals.

The selection of a Design-Build Team will involve both technical quality and price. The Technical Proposals will be presented to the TRC for evaluation. The TRC shall first determine whether the Technical Proposals are responsive to the Request for Proposals requirements. The Department reserves the right to ask for clarification on any item in the Technical Proposal. A written response to this request for clarification shall be provided to the Department prior to the opening of the Price Proposals. The contents of the written response may affect the Technical Review Committee's determination of the Technical Proposal's responsiveness and / or the overall evaluation of the Technical Proposal. If any commitments or clarifications provided in the written response conflict with the contents of the Technical Proposal, the contents of the written response shall govern and be incorporated into the contract.

Each responsive Technical Proposal shall be evaluated based on the rating criteria provided in the Request for Proposals. The TRC will submit an overall consensus Technical Score for each Design-Build Team to the State Contract Officer.

The State Contract Officer will use a table based on the maximum quality credit percentage to assign a Quality Credit Percentage to each Technical Proposal based on that proposal's overall consensus Technical Score. The maximum quality credit percentage for this project will be **30%.** The Technical Review Committee may elect to assign point values to the nearest one-half of a point (e.g. 90.5). In this event, the Quality Credit Percentage will be determined by linearly interpolating within the table entitled "Quality Credit Percentage for Technical Proposals".

Quality Credit Percentage for Technical Proposals

Technical Score	Quality Credit (%)	Technical Score	Quality Credit (%)
100	30.00	84	14.00
99	29.00	83	13.00
98	28.00	82	12.00
97	27.00	81	11.00
96	26.00	80	10.00
95	25.00	79	9.00
94	24.00	78	8.00
93	23.00	77	7.00
92	22.00	76	6.00
91	21.00	75	5.00
90	20.00	74	4.00
89	19.00	73	3.00
88	18.00	72	2.00
87	17.00	71	1.00
86	16.00	70	0.00
85	15.00		

The maximum Technical Score, including any extra credit given for warranties or guarantees, shall not exceed 100 points in determining the Quality Credit percentage.

If any of the Technical Proposals are considered non-responsive, the State Contract Officer will notify those Design-Build Teams of that fact. The State Contract Officer shall publicly open the sealed Price Proposals and multiply each Design-Build Team's Price Proposal by the Quality Credit Percentage earned by the Design-Build Team's Technical Proposal to obtain the Quality Value of each Design-Build Team's Technical Proposal. The Quality Value will then be subtracted from each Design-Build Team's Price Proposal to obtain an Adjusted Price based upon Price and Quality combined. Unless all Technical Proposals are non-responsive or the Department elects to proceed with the Best and Final Offer process, the Department will recommend to the State Transportation Board that the Design-Build Team having the lowest adjusted price be awarded the contract. The cost of the Design-Build contract will be the amount received as the Price Proposal.

The following table shows an example of the calculations involved in this process.

An Example of Calculating Quality Adjusted Price Ranking

Proposal	Technical Score	Quality Credit (%)	Price Proposal ($)	Quality Value ($)	Adjusted Price ($)
A	95	25.00	3,000,000	750,000	2,250,000
B	90	20.00	2,900,000	580,000	2,320,000
C *	90	20.00	2,800,000	560,000	2,240,000
D	80	10.00	2,700,000	270,000	2,430,000
E	70	0.00	2,600,000	0	2,600,000
* Successful Design-Build Team - Contract Cost $2,800,000					

Best and Final Offer

In the event initial Price Proposals exceed an acceptable range of the Engineer's Estimate or if the Department feels it is necessary, for any reason, the Department may choose to make amendments to the details of the RFP and request a Best and Final Offer from all the previously short-listed teams. Alternately, the Department may choose to redistribute to the short-listed Design-Build Teams another RFP for the project with no amendments to the RFP scope.

After receipt of the redistributed RFP, the Design-Build Team has the option of changing the Technical Proposal details to adhere to the RFP modifications. If the Design-Build Team changes any component of the Technical Proposal, the TRC will review those amended components of the Technical Proposal and reevaluate the scores accordingly. The Design-Build Team shall highlight the changes to bring them to the Department's attention. A revised consensus Technical Score will be calculated, if appropriate, based on these amendments to the Technical Proposal.

Additional oral interviews will not be held. The Design-Build Teams shall submit both a revised Price Proposal and a revised Technical Proposal (if applicable) at the time, place and date

specified in the redistributed RFP. A revised Quality Credit Percentage (if required) and Adjusted Price will be determined. This will constitute the Design-Build Team's Best and Final Offer. Award of the project may be made to the Design-Build Team with the lowest Adjusted Price on this Best and Final Offer.

Stipend

No stipend is available for this project.

TRANSPORTATION MANAGEMENT SCOPE OF WORK (2025)

LAWS, STANDARDS, AND SPECIFICATIONS

The Design-Build Team shall design the Transportation Management Plan (TMP) in accordance with the requirements of this RFP and the version of the standards listed below that are effective on the Technical Proposal submittal date.

- 2024 NCDOT *Standard Specifications for Roads and Structures (Standard Specifications)*
- 2024 NCDOT *Roadway Standard Drawings (Standard Drawings)*
- FHWA *Manual on Uniform Traffic Control Devices* (MUTCD) 11th Edition
- NCDOT *Supplement to the Manual on Uniform Traffic Control Devices* (NCSMUTCD)
- AASHTO *A Policy on Geometric Design of Highways and Streets*
- NCDOT *Roadway Design Manual*
- AASHTO *Roadside Design Guide*
- Americans with Disabilities Act of 1990 (ADA)
- FHWA *Standard Highway Signs*
- NCDOT *Design-Build Submittal Guidelines*
- FHWA *Rule on Work Zone Safety and Mobility* (23 CFR 630 Subpart J and K)
- Transportation Research Board *Highway Capacity Manual*
- NCDOT *Transportation Management Plans Design Manual*

References

The Design-Build Team shall use the references provided on the site below as supplementary guidelines and requirements for the design and implementation of the Transportation Management Plan (TMP).

https://connect.ncdot.gov/projects/WZTC/Pages/default.aspx

Prequalification

The Design-Build Team shall select a Private Engineering Firm (PEF) that has experience developing TMPs on comparable projects for the North Carolina Department of Transportation (NCDOT) and maintains prequalification code 00541 (Traffic Management Plan - Level 1 and 2).

TRANSPORTATION MANAGEMENT PLANS

The Design-Build Team shall prepare Transportation Management Plans (TMP) that include Temporary Traffic Control Plans (TTCP) and a Traffic Operations Plan (TOP).

The Design-Build Team shall produce TMPs for each phase of work that impacts road users. The TMPs shall include details of all traffic control devices, and signage applicable to each phase of work. The information on the TMP shall be of sufficient detail to allow verification of design criteria and safety requirements. The Design-Build Team shall develop TMPs that include procedures to communicate TMP information to the public about road and travel conditions within the work zone and affected roadway network.

A Transportation Management Phasing Concept (TMPC) shall be prepared by the Design-Build Team to present the Design-Build Team's approach to all areas covered under the TMP, including hauling of materials to, from, and within the project right of way. The Design-Build Team shall include the TMPC in the Technical Proposal. The Design-Build Team shall submit the TMPC for Department review and acceptance and shall address NCDOT comments on the TMPC prior to commencing production of the TMP for each phase of work or any construction. Any changes to the TMPC after acceptance by NCDOT shall require a submittal for review prior to any future phasing submittals.

LANE AND ROAD CLOSURE NOTIFICATION

Lane Closure Notice (LCN)

The Design-Build Team shall issue a Lane Closure Notice (LCN) to NCDOT and affected government entities a minimum of thirty (30) calendar days prior to the publication of any notices or placement of any traffic control devices associated with lane closures, or other change in traffic control requiring lane closures. The Design-Build Team will be allowed to issue a single LCN for multiple / consecutive lane closures that occur in the same location.

For a LCN utilizing a non-NCDOT controlled facility, the Design-Build Team shall secure concurrence in writing from the controlling government entity. A LCN shall contain the estimated date, time, duration, and location of the proposed work. The Design-Build Team shall keep NCDOT informed of any and all changes or cancellations of proposed lane closures prior to the date of their implementation.

If an emergency condition should occur, an LCN shall be provided to NCDOT within two (2) days after the event. For non-NCDOT controlled facilities, the Design-Build Team shall immediately notify the controlling government entity.

STOC Coordination

Lane Closures

In addition to the aforementioned minimum thirty (30) calendar day and weekly notices for a LCN, the Design-Build Team shall notify the NCDOT Metrolina Regional TMC and STOC when the process of closing a lane, ramp, loop or paved shoulder begins. The day of the lane closure, the Design-Build Team shall notify the NCDOT Metrolina Regional TMC and STOC a minimum of 30 minutes of before the lane closure to activate additional DMS/CMS messages.

Lane Opening

The Design-Build Team shall notify the NCDOT Metrolina Regional TMC and STOC when the process of re-opening a lane, ramp, loop or paved shoulder begins, and again when the lane, ramp, loop or paved shoulder is completely open.

GENERAL DESIGN AND CONSTRUCTION REQUIREMENTS

Maintenance of Access

Maintain access to all businesses, schools, residences, bus stops, mass transit facilities, park and ride lots, and emergency services at all times. Prior to incorporation, obtain written approval from the Engineer on the method to maintain access.

In accordance with the Department's Policy on Evaluating Temporary Accommodations for Pedestrians during Construction, found on the website noted below, the Design-Build Team shall maintain pedestrian accommodations in all areas as follows:

Roadway	Minimum Level of Pedestrian Accommodation
NC 161 (York Road), NC 274 (Bessemer City Road), and US 321 (N Chester Street)	Basic
All Other Roads	Absence of Need

https://connect.ncdot.gov/projects/WZTC/Documents/AccomPedinWZProc.pdf

Pedestrian counts have not been conducted. The Design-Build Team shall provide level of accommodations as listed above and/or what pedestrian volumes indicate and require. The Design-Build Team can obtain pedestrian volumes from the Engineer, should they have that information. Should the pedestrian counts yield a level different from what is listed above; the Design-Build Team can have the levels of accommodation listed above adjusted.

Traffic Control Supervisor

The Design-Build Team shall furnish a Traffic Control Supervisor for the project who is knowledgeable of TMP design, devices, and application, and has full authority to ensure traffic is maintained in accordance with the plans and specifications.

The Traffic Control Supervisor shall be on the project site overseeing all road closures and median crossover operations to ensure traffic control devices are properly installed and adjusted as necessary. The Traffic Control Supervisor shall also make necessary changes to the traffic control operations and aide in the monitoring of traffic queuing.

The Design-Build Team shall identify a Traffic Control Supervisor in their Technical Proposal that has the following qualifications:

- A minimum 24 months of On-the-Job Training in supervision and work zone set up and implementation on similar projects.

- Be certified by an approved NCDOT training provider. If the Design-Build Contractor or their traffic control subcontractor is approved by NCDOT to train their own staff, a notarized certification letter shall be furnished to the Engineer at the preconstruction meeting. The letter shall state certification and re-certification dates. It shall also state the Traffic Control Supervisor has the knowledge and experience as well as the authority to ensure traffic is maintained in accordance with the contract documents.

The Traffic Control Supervisor for the project shall perform the following:

- During construction, be available or on call 24 hours per day, 7 days per week to address mobility and / or safety concerns within the work zone and direct / make any necessary changes in the traffic control operations in a timely and safe manner. The Design-Build Team shall provide NCDOT the name of the Traffic Control Supervisor and support personnel, and the phone number(s) where they can be reached 24 hours per day, seven days per week.

- Coordinate and cooperate with traffic control supervisors of adjacent, and overlapping construction projects, as well as construction projects in proximity to the subject project, to ensure safe and adequate traffic control is maintained throughout the project at all times, including periods of construction inactivity.

- Coordinate and cooperate with the NCDOT Division Incident Management staff and Resident Engineer.

- Coordinate and cooperate with the NCDOT Metrolina Regional TMC and STOC to ensure proper messages are displayed on the DMSs and any PCMSs that are required to communicate with the NCDOT Metrolina Regional TMC and STOC.

- Coordinate with Hospitals, EMS, Fire Departments, and Law Enforcement throughout construction to alert these entities to traffic control impacts that may affect their services.

- Prior to the start of construction activities that could result in school bus delays, coordinate with Gaston County Schools.

- Provide traffic control setup that ensures safe traffic operations and workers' safety throughout the construction area.

- Attend all scheduled traffic control coordination meetings, as required by the Engineer.

- Monitor traffic delays and backups within the work zone.

- Ensure all employees working inside NCDOT right of way have received the proper training appropriate to the job decisions each individual is required to make.

Work Zone Installer

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

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

https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx

In accordance with Article 1101-14 of the *Standard Specifications*, a work zone supervisor may fulfill the role of the work zone installer during the setup, installation, and removal of temporary traffic control devices within any highway right of way, provided they are on site and directing the installation and removal of temporary traffic control devices.

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

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

The Work Zone Installer does not replace or change the requirements of the Traffic Control Supervisor described above.

Traffic Control Devices

The Design-Build Team shall use traffic control devices that conform to all NCDOT requirements and are listed on the NCDOT Approved Products List. The Approved Products List may be referenced on the website noted below:

https://apps.ncdot.gov/vendor/approvedproducts/

The use of any devices that are not shown on the NCDOT Approved Products List shall require written approval from the Design-Build Unit prior to incorporation.

When within 1000’ of a signalized intersection, channelizing device spacing shall not exceed a distance in feet equal to the posted speed limit. When beyond 1000’ to a signalized intersection, channelizing device spacing shall not exceed a distance in feet equal to twice the posted speed

limit. Channelizing devices shall be spaced ten feet on-center in radii. Channelizing devices shall be two feet off the edge of an open travelway when lane closures are not in effect. Skinny drums shall only be allowed as defined in Section 1180 of the NCDOT *Standard Specifications for Roads and Structures*.

Portable changeable message signs (PCMS) should be placed off the shoulder of the roadway and outside of the clear zone. If a PCMS must be placed on the roadway shoulder or within the clear zone, it shall be delineated with retroreflective temporary traffic control (TTC) devices. When PCMSs are not being used to display TTC messages, they should be relocated such that they are outside of the clear zone and turned away from traffic. If relocation is not practical, the PCMS shall be delineated with retroreflective TTC devices.

If any trailer mounted traffic control device must be placed on the roadway shoulder or within the clear zone, it shall be delineated with retroreflective temporary traffic control (TTC) devices.

All traffic control devices, including but not limited to, temporary or permanent barrier systems, shall be placed / located a minimum two-foot offset (shy distance) from the edge of an open travel lane.

Temporary Traffic Barrier Systems

Placement of temporary traffic barrier systems shall be shown on the TMPC and shall be designed in accordance with the requirements below.

The Design-Build Team shall maintain all existing positive median cross-over protection for the entire I-85 project limits. The Design-Build Team shall indicate in the Technical Proposal the type of positive protection proposed and replacement / resetting requirements.

Determine the need for temporary traffic barrier in accordance with the FHWA *Rule on Temporary Traffic Control Devices* (23 CFR 630 Subpart K). Reference the NCDOT Work Zone Traffic Control website noted below for examples and *Guidelines for the Use of Positive Protection in Work Zones*.

https://connect.ncdot.gov/projects/WZTC/Pages/Design-Resources.aspx

The Design-Build Team shall adhere to the AASHTO *Roadside Design Guide* in determining the length of need, flare rate, and clear zone. The Design-Build Team shall adhere to the maximum deflections from crash testing of the proposed temporary traffic barrier system in accordance with NCHRP-350 *Recommended Procedures for the Safety Performance Evaluation of Highway Features* and 2016 AASHTO *Manual for Assessing Safety Hardware* (MASH).

The Design-Build Team shall only use an NCDOT approved temporary traffic barrier system.

The temporary traffic barrier system shall not be installed more than two weeks prior to beginning work in any location. Once the temporary traffic barrier system is installed at any location, the Design-Build Team shall proceed in a continuous manner to complete the proposed work in that location.

Excluding water filled barrier, protect the approach end of temporary traffic barrier systems from oncoming traffic at all times with a truck mounted impact attenuator (maximum 72-hour duration) or an approved end unit such as a temporary crash cushion unless the approach end of the temporary traffic barrier system is offset from oncoming traffic as follows:

Posted speed limit (mph)	Minimum offset (feet)
40 or less	15
45 - 50	20
55	25
60 mph or higher	30

Crash cushions shall be installed according to the manufacturer's recommendations, including offsets from fixed objects.

The Design-Build Team shall provide the proper connection between the existing guardrail or bridge rail and the temporary traffic barrier system. Connection details shall be included in the TTCP.

Install temporary traffic barrier system with the traffic flow, beginning with the upstream side of traffic. Remove the temporary traffic barrier system against the traffic flow, beginning with the downstream side of traffic.

All temporary traffic barrier systems utilized for traffic control shall be placed on a paved surface. A minimum two-foot width of 1) paved surface, 2) standard sloped turf shoulder, or 3) a combination of paved surface and standard sloped turf shoulder shall extend behind all unanchored barrier, unless permitted otherwise by the Department, in writing. The aforementioned standard sloped turf shoulder shall adhere to *Standard Drawing* Nos. 560.01 and 560.02.

The Design-Build Team shall use a minimum six-foot offset to temporary traffic barrier along any shifting or merging taper, including but not limited to, existing, temporary, and / or proposed shifting or merging tapers. At the start of a taper, temporary traffic barrier shall continue along the tangent to achieve this six-foot offset. For all ramp / loop merge tapers, temporary traffic barrier shall continue parallel to the travel lanes a minimum of 200 feet beyond the start of the merge taper before flaring back towards the travel lanes in accordance with *Standard Drawing* No. 1101.11, Sheet 3.

When temporary traffic barrier is placed on a roadway shoulder, the Design-Build Team shall install shoulder closure signs and devices in advance of the barrier in accordance with the *Standard Drawings*.

The Design-Build Team shall not place temporary traffic barrier in any paved gore area. If the work cannot be safely performed without placing temporary traffic barrier in the paved gore area, the Design-Build Team shall submit a transportation management plan revision for temporary closure of the ramp or loop to the Department for review and acceptance prior to installation.

Temporary traffic barrier used for traffic control shall not act as a retaining wall.

Lane and Shoulder Requirements

On I-85 and US 74, the Design-Build Team shall not install more than two (2) miles of lane closure in any one direction, measured from the beginning of the merge taper to the end of the lane closure.

For simultaneous lane closures in any one direction on any road within the project limits, a minimum of three (3) miles shall be provided between lane closures including those occurring in neighboring projects. The distance between lane closures shall be measured from the end of one closure to the beginning of the taper of the next lane closure.

On two-lane, two-way facilities, that cross I-85 or US-74, the Design-Build Team shall not install more than five hundred (500) feet of lane closure in any one direction on any roadway within the project limits or in conjunction with this project, measured from the beginning of the merge taper to the end of the lane closure.

The Design-Build Team shall remove lane closure devices from the lane when work is not being performed behind the lane closure or when a lane closure is no longer needed.

Place sets of three drums perpendicular to the edge of the travelway on 500-foot centers when unopened lanes are closed to traffic. These drums shall be in addition to channelizing devices.

When personnel and / or equipment are working within 15-feet of an open travel lane, the Design-Build Team shall close the nearest open shoulder using the *Standard Drawings*, unless the work area is protected by an approved temporary traffic barrier or guardrail.

When personnel and / or equipment are working on the shoulder adjacent to an undivided facility and within five feet of an open travel lane, the Design-Build Team shall, at a minimum, close the nearest open travel lane using the *Standard Drawings*, unless the work area is protected by an approved temporary traffic barrier or guardrail.

When personnel and / or equipment are working on the shoulder adjacent to a divided facility and within ten feet of an open travel lane, the Design-Build Team shall, at a minimum, close the nearest open travel lane using the *Standard Drawings*, unless the work area is protected by an approved temporary traffic barrier or guardrail.

When personnel and / or equipment are working within a lane of travel of an undivided or divided facility, the Design-Build Team shall, at a minimum, close the lane using the *Standard Drawings*. The Design-Build Team shall conduct the work so that all personnel and / or equipment remain within the closed travel lane.

The Design-Build Team shall not perform work involving heavy equipment within 15-feet of the edge of travelway when work is being performed behind a lane closure on the opposite side of the travelway.

Impacts to Other Network Roadways

The Design-Build Team shall coordinate with the Division Maintenance Engineer, Resident Engineer, Division Traffic Engineer, Rail Division, and STOC to manage traffic operations within the work zone and other roadways within the network that may be affected by the work zone activities. Coordination shall include, but not be limited to, providing notification of planned lane or road closures, traffic detours, public information, traffic management, access management, and incidents.

On all roads, the Design-Build Team shall make all modifications to existing pavement markings, markers, and / or signing located outside the project limits that are necessitated by the TMP. Additionally, the Design-Build Team shall readjust the markings, markers, and / or signing located outside the project limits to the existing / proposed pattern when the temporary changes are no longer needed.

The Design-Build Team shall take steps to minimize disruptions to existing roadway facilities during construction and shall demonstrate in the TMPC how the traffic control phasing minimizes inconvenience to motorists on all roads.

Signing

The Design-Build Team shall install advance work zone warning signs when work is within 40 feet from the edge of travel lane. The advance work zone warning signs shall be installed no more than three days prior to beginning construction.

When no work is being conducted for a period longer than one week, the Design-Build Team shall remove or cover all advance work zone warning signs, as directed by the Engineer. Stationary work zone warning signs shall be covered with an opaque material that prevents reading of the sign at night by a driver traveling in either direction.

When portable work zone signs are not in use for periods longer than 30 minutes, the Design-Build Team shall lay the portable work zone sign flat on the ground and collapse the sign stand and lay it flat on the ground.

The Design-Build Team shall install and maintain all detour signing and devices required for road closures. The Design-Build Team shall cover or remove all detour signs and devices required for road closures, within and outside of the project limits, when a detour is not in operation.

The Design-Build Team shall ensure proper signing is in place at all times during construction as required by the MUTCD. Guide signs shall be maintained and modified, as required by the TMP, throughout the entire project construction duration. Temporary or modified Type A or B guide signs may be stationary mounted on temporary supports or on a portable movable system. Temporary guide signs that are not overhead-mounted shall be installed such that the bottom of the sign is a minimum of 7 feet and no more than 10 feet above the pavement surface and shall be rigid enough to withstand 90 MPH winds. Laterally, the outer edge of the guide sign shall not be more than 60 feet from the edge of travel. All temporary signing shall be shown on the TTCP,

IMP, and / or Temporary Signing Plans to be reviewed and approved by the Work Zone Traffic Control Section, the Signing and Delineation Unit and STOC as appropriate, prior to incorporation.

Lighting

The Design-Build Team shall provide portable temporary construction and equipment lighting to conduct night work in accordance with the *Standard Specifications*.

For nighttime lane closures along I-85, furnish and install Sequential Flashing Warning Lights. (Reference Section 1140 of the *Standard Specifications* for *Sequential Flashing Warning Lights*)

Smart Work Zone Devices

For lane closures at any time along I-85, furnish and install Connected Lane Closure System Project Special Provision found elsewhere in this RFP.

Law Enforcement

Law enforcement officers may be used as a pilot vehicle during any rolling roadblock operation, as permitted in the *Standard Drawing* No. 1101.03, Sheet 9. Law enforcement officers shall be used to direct traffic when installing / removing / shifting traffic signal heads at intersections and during flagging operations at signalized intersections. Law enforcement officers may be used to maintain traffic through other work areas and / or unsignalized intersections. The use of law enforcement officers shall adhere to article 1190 of the *Standard Specifications* and the following requirements:

- The Design-Build Team shall be responsible for coordinating with the law enforcement agency for the use of law enforcement officers.

- The Design-Build Team shall only utilize officers who are outfitted with law enforcement uniforms and marked vehicles equipped with proper lights mounted on top of the vehicle and agency emblems.

- The Design-Build Team shall coordinate with the Engineer where and how law enforcement officers will be used during construction.

The Design-Build Team shall address where and how law enforcement officers will be used in the Technical Proposal.

Work Zone Speed Limits

All speed limits shall be ordinanced by the State Traffic Engineer in order to have a lawfully enforceable speed limit; therefore, no speed limit messages / signs shall be installed prior to receiving a signed ordinance. NCDOT has sole authority of the speed limits displayed within the work zone.

Project Coordination

The Design-Build Team shall coordinate with all Contractors and NCDOT Resident Engineers in charge of any project in the vicinity of this project for any work that may affect the construction, traffic operations, and placement of temporary traffic control devices (including advance warning signs) on all roads within the project limits and associated with this project.

At a minimum, the Design-Build Team shall coordinate with the Division Traffic Engineer, Law Enforcement, Emergency Services and the Work Zone Traffic Control Section to schedule and attend Traffic Safety and Operations Meetings. These meetings shall be held to monitor and assess safety and mobility during construction. The Traffic Safety and Operations Meetings shall be held on an as needed basis during project construction. Additional Traffic Safety and Operations Meetings shall be held to address any specific issue, as directed by the Engineer.

PROJECT REQUIREMENTS AND TIME RESTRICTIONS

All time restrictions and notes shall be included in the TMP General Notes, unless noted otherwise elsewhere in this RFP.

Intermediate Contract Times 2 through 7 for Lane Narrowing, Lane Closure, Holiday and Special Event Restrictions

Except as allowed otherwise elsewhere in this RFP, the Design-Build Team shall maintain the existing traffic pattern and shall not close or narrow a single lane of traffic during the times listed in ICT 2 through 7.

Intermediate Contract Time	Facility	Days	Time Restrictions
2	I-85 between MM 0 and Mountain View Road overpass, including all ramps and loops	Monday through Friday	7:00 a.m. to 9:00 p.m.
		Saturday through Sunday	8:00 a.m. to 9:00 p.m.
	I-85 Single-Lane Closures between Mountain View Road overpass and US 321 (N Chester Street), including all ramps and loops	Monday through Friday	6:00 am to 7:00 pm
		Saturday through Sunday	9:00 a.m. to 9:00 p.m.

Intermediate Contract Time	Facility	Days	Time Restrictions
3	I-85 Double-Lane Closures between Mountain View Road overpass and US 321 (N Chester Street)	Monday through Sunday	4:00 am to 11:00 pm
4	US 74 (Andrew Jackson Highway)	Monday through Friday	6:00 a.m. to 7:00 p.m.
		Saturday through Sunday	10:00 a.m. to 6:00 p.m.
5	NC 216 (Battleground Road), SR 2283 (Dixon School Road), Gage Road, Industrial Dr, Overpass at -L-STA. 325+00, Woodlake Parkway, and Canterbury Road	Monday through Sunday	No Restrictions
6	NC 161 (York Road), SR 1307 (Edgewood Road), and NC 274 (Bessemer City Road)	Monday through Friday	6:00 a.m. to 9:00 a.m. And 4:00 p.m. to 7:00 p.m.
		Saturday and Sunday	10:00 a.m. to 6:00 p.m.
7	US 321 (N Chester Street)	Monday through Friday	6:00 a.m. to 9:00 a.m. And 3:00 p.m. to 7:00 p.m.
		Saturday and Sunday	No restrictions

In addition, the Design-Build Team shall not close or narrow a lane of traffic on the aforementioned facilities, detain, and / or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy. At a minimum, these requirements / restrictions shall apply to the following schedules:

- For any unexpected occurrence that creates unusually high traffic volumes, as directed by the Engineer.

- For New Year's between the hours of 6:00 a.m. December 31st and 9:00 p.m. January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday then between the hours of 6:00 a.m. December 31st and 9:00 p.m. the following Tuesday.

- For Easter, between the hours of 6:00 a.m. Thursday and 9:00 p.m. Monday.

- For Memorial Day, between the hours of 6:00 a.m. Friday and 9:00 p.m. Tuesday.

- For Independence Day, between the hours of 6:00 a.m. July 3rd and 9:00 p.m. July 5th. If Independence Day is on a Friday, Saturday, Sunday or Monday, then between the hours of 6:00 a.m. the Thursday before Independence Day and 9:00 p.m. the Tuesday after Independence Day.

- For Labor Day, between the hours of 6:00 a.m. Friday and 9:00 p.m. Tuesday.

- For Thanksgiving Day, between the hours of 6:00 a.m. Tuesday and 9:00 p.m. Monday.

- For Christmas, between the hours of 6:00 a.m. the Friday before the week of Christmas Day and 9:00 p.m. the following Tuesday after the week of Christmas Day.

- For Any Events at Bank of America Stadium, between three (3) hours before the start of the event and three (3) hours after the end of the event.

- For Any Events at Charlotte Motor Speedway, between three (3) hours before the start of the event and three (3) hours after the end of the event.

Liquidated Damages for Intermediate Contract Time #2 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on I-85, including all ramps and loops, are $2,500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #3 for the above lane narrowing, lane closures, holiday and special event time restrictions for two lanes on I-85 are $2,500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #4 for the above lane narrowing, lane closures, holiday and special event time restrictions on US 74 (Andrew Jackson Highway) are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #5 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on NC 216 (Battleground Road), SR 2283 (Dixon School Road), Gage Road, Industrial Dr, Overpass at -L- STA. 325+00, Woodlake Parkway, and Canterbury Road are $500.00 per 15-minute period or any portion thereof.

Liquidated Damages for Intermediate Contract Time #6 for the above lane narrowing, lane closures, holiday and special event time restrictions for a single lane on NC 161 (York Road), SR 1307 (Edgewood Road), and NC 274 (Bessemer City Road) are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #7 for the above lane narrowing, lane closure, holiday and special event time restrictions for a single lane on US 321 (N Chester Street) are $500.00 per 15-minute period or any portion thereof.

Unless allowed otherwise elsewhere in this RFP, at a minimum, the Design-Build Team shall maintain the existing traffic pattern.

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall not close any direction of travel on any roads or any ramps / loops. Using a median crossover shall be defined as a closure of a direction of travel.

Proposed road closures for any road within the project limits shall be approved by the Engineer, in writing, prior to incorporation in the TMP.

Hauling Restrictions

The Design-Build Team shall adhere to the hauling restrictions noted in the *Standard Specifications*.

The Design-Build Team shall conduct all hauling operations as follows:

- The Design-Build Team shall not conduct any hauling operations against the flow of traffic of an open travelway unless an approved temporary traffic barrier or guardrail separates the traffic from the hauling operation.

- All entrances, exits and crossings for hauling to and from the work zone shall be shown on the TMP. Entrances and exits for access to and from medians shall be in accordance with the *Standard Drawings* and the *Typical Median Access Areas* Project Special Provision found elsewhere in this RFP.

- Haul vehicles shall not enter and / or exit an open travel lane at speeds more than 10 mph below the posted speed limit. Haul vehicle acceleration to within 10 mph of the posted speed limit shall only occur on a paved surface.

- Signs with activated Beacons or LED flashers shall be installed and used when hauling from the median. These signs shall be activated once haul vehicles are detected to warn motorists of vehicles entering the highway from the median. (Reference the *Typical Median Access Areas* Project Special Provision found elsewhere in this RFP).

- Hauling operations that perpendicularly cross a roadway shall require Transportation Management Plans and shall be subject to the lane narrowing / lane closure time restrictions, and holiday and special event time restrictions listed in ICT #2 - ICT #7.

Excluding hauling operations that are conducted entirely behind a temporary traffic barrier or guardrail, single and multi-vehicle hauling shall not be allowed ingress and egress from any open travel lane during the following time restrictions:

Single Vehicle Hauling

Facility	Days	Time Restrictions
I-85, including any ramp or loop, and US 74	Monday through Friday	6:00 a.m. to 7:00 p.m.
	Saturday through Sunday	10:00 a.m. to 6:00 p.m.
All other Roads	Monday through Friday	6:00 a.m. to 9:00 a.m. And 3:00 p.m. to 7:00 p.m.

Multi-Vehicle Hauling

Facility	Days	Time Restrictions
I-85, including any ramp or loop, and US 74	Monday through Sunday	4:00 a.m. to 11:00 p.m.
All other Roads	Monday Through Friday	6:00 a.m. to 7:00 p.m.
	Saturday through Sunday	10:00 a.m. to 6:00 p.m.

The Design-Build Team shall address how hauling will be conducted in the Technical Proposal, including: identifying work area access locations; hauling of any materials to and from the site; and hauling material within the NCDOT right of way.

ITS SCOPE OF WORK

GENERAL

Design, furnish, and install new ITS Communications fiber as described in this RFP. Integrate the new fiber with the existing ITS devices as well as any existing ITS fiber within the project limits. ITS devices include but are not limited to CCTV Cameras, Dynamic Message Signs and Traffic Signal Systems. Major items of work include, but are not limited to, the following:

- Approximately Ten (10) Miles of ITS Fiber
- Eleven (11) New CCTV Cameras
- Five (5) New Dynamic Message Signs (DMS)
- Drop Cables to CCTV Cameras
- Drop Cables to DMS
- Drop Cables to Existing Signals/Signal Systems
- Drop Cables to Rest Areas/Welcome Center
- One (1) ITS Fiber Hub Cabinet
- Junction boxes (Electrical and Oversized)
- Wood Poles
- Electrical services & equipment

Furnish and install guardrail to protect ITS devices and ITS Fiber Hub Cabinets as required.

A pre-design/kickoff meeting shall take place in Division 12 between the NCDOT ITS Section, the Design-Build Team, the Division 12 Traffic Engineer, the Regional ITS Engineer, Statewide Transportation Operations Center (STOC) Engineer, the ITS Design Unit, and any other pertinent NCDOT personnel before ITS designs begin. The pre-design meeting shall, at a minimum, address equipment types, intended placement locations and scheduled installation and removal of devices. ITS Plan submittals shall only be reviewed and accepted by the NCDOT ITS Section after this pre-design meeting.

Device or cabinet locations on preliminary plans or conceptual plans created for permitting purposes are general locations and NOT indicative of final device locations. The Design-Build Team shall evaluate each device location for optimal device operation and get approval for all final device locations in accordance with this RFP and the applicable standards and project special provisions.

Acceptance of plans does not relieve the Design-Build Team of any obligation to design and build a complete system that meets the functional requirements of the RFP. The Design-Build Team is solely responsible for the correctness and constructability of the designs meeting all applicable standards.

The Design-Build Team shall coordinate with the Division Traffic Engineer, the Regional Traffic Engineer, the ITS Design Unit and the STOC throughout the project duration.

Prior to any underground work, locate existing utilities, communications cable, power cable, and adjust work activities to protect these facilities. Immediately cease work and notify the Engineer and the affected owners if damage to existing utilities occurs. Repair damages to existing utilities, communications cable, and / or power cable at no cost to the Department.

Furnish and install all equipment and perform all work in accordance with ITUT, IEEE and TIA standards as well as in accordance with the relevant ITS Project Special Provisions found elsewhere in this RFP, the 2024 NCDOT *Standard Specifications for Roads and Structures,* the 2024 NCDOT *Roadway Standard Drawings* and the *ITS & Signals Generic Project Special Provisions Version 24.1* or the latest version at the time of letting found at the following website:

https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx

DESIGN REQUIREMENTS

- **Communications**

Design, furnish and install the field-to-center communication network using fiber-optic cable. For all equipment not specified herein, provide product specifications for the Department's review and approval prior to incorporation. Furnish and install all new field equipment within the project limits.

The Department will furnish all cellular modems used on the project. The Design Build Team shall request the modems through the Engineer at least eight (8) weeks prior to scheduled installation.

The Design-Build Team shall place the conduit and trunk lines at all interchanges up and down the outside of the interchange ramps to avoid future relocations. Boring underneath overpass structures at interchanges will not be allowed.

NCDOT 144-Fiber ITS Line

Design, furnish and install a minimum 144-fiber ITS device line that runs between the new hub cabinet at the South Carolina border and the existing hub cabinet at I-85 northbound, exit 10B. Connect all ITS devices and drop cable locations between the hub cabinets to this fiber cable. These devices and their assigned buffer tubes are listed later in this RFP. All 144-fibers are to be terminated in a fiber-optic interconnect center in each hub cabinet. Label this 144-fiber cable and its interconnect centers "NCDOT ITS DEVICE / TRUNK LINE" in all junction boxes and hub cabinets. Store 50 feet of spare trunk cable in each junction box and hub cabinet. Device line buffer tubes should be assigned as follows:

- CCTV & DMS in the Blue Buffer Tube
- Signals and Signal Systems in the Orange Buffer Tube
- Rest Areas/Welcome Center in the Aqua Buffer tube

NCDOT 12-Fiber Drop Cable

Design, furnish and install 12-fiber drop cables from the ITS Device Line fiber to each ITS device in the project limits. Drop cables should be spliced into the ITS Device Line with a splice enclosure and terminated in the ITS device cabinet with a fiber-optic interconnect center. Drop cables for devices that are co-located with, or within 100 feet, of a hub cabinet may be terminated in a fiber optic interconnect center in the hub cabinet. Label these 12-fiber drop cables and their interconnect centers "<DEVICE ID> DROP CABLE" in all junction boxes and hub cabinets. Store 50 feet of spare drop cable in each junction box and ITS device cabinet.

NCDOT ITS Fiber Hub Cabinet

Design, furnish and install an ITS Fiber Hub Cabinet as specified in the project special provisions and detail drawings included with this RFP. The hub cabinet should be a climate controlled, NEMA 4, 332D Style ITS cabinet adequately sized to accommodate all electrical equipment and communications equipment including but not limited to four (4) minimum 144-fiber interconnect centers, one (1) Ethernet hub switch, one (1) UPS and the cabinet air conditioning system. Approximate hub cabinet locations are as follows:

- NC/SC state line – HUB 2

HUB numbers are for the purposes of this project only. Do not mark or label the HUB cabinets, splice trays, or interconnect centers with these numbers. Contact the STOC for proper device naming and labeling schema.

Existing ITS Integration Locations

Existing Conduits and HUB Cabinet at I-85/US 74 Interchange & I-85 Exit 10B

In the vicinity of I-85 southbound Exit 10A the Design-Build Team shall intercept an existing junction box and conduit system installed under the NCDOT Broadband Fiber Project. The Design-Build Team shall install the new 144-fiber cable through the spare conduit in this existing conduit system up to the existing HUB cabinet located at I-85 northbound Exit 10B and terminate the cable in a new interconnect center in the HUB cabinet. The Design-Build Team shall not cut or splice into any of the existing cables in the existing conduit system.

Hub Ethernet Switch

Hub switches shall be installed in each hub cabinet according to the Project Special Provisions and detail drawings included with this RFP. Hub switches shall be procured, programmed and installed by the Department of Information Technology (DIT). Contact the Engineer to request the hub switches from DIT twelve (12) weeks in advance of installation. Allow one (1) week for DIT to install each hub switch and limit requests to no more than 3 hub switches at a time unless otherwise instructed by the Engineer or DIT.

Field Ethernet Edge Switch

Ethernet edge switches will be furnished, installed, and programmed by the Design-Build Team. DIT will provide the edge switch programming information to the Design-Build Team. Design-Build Team will provide Ruggedcom model RS900G or Comnet model CNGE11FX3TX8MS edge switches with minimum 2 100/1000 Base X fiber-optic ports and 4 copper RJ45 ports.

Ensure that all fiber-optic ports operate at 1310 or 1550 nanometers in single mode. Design all SFP ranges according to the actual distance between devices in the field. Provide Type LC connectors for the optical ports. Do not use mechanical transfer registered jack (MTRJ) type connectors. Ensure that each optical port consists of a pair of fibers; one fiber will transmit (TX) data and one fiber will receive (RX) data. Ensure that the optical ports have an optical power budget of at least 15 dB. NCDOT utilizes a "2-fibers in 2-fibers out" network design from device to device.

Ensure all copper ports are RJ-45 and auto-negotiate speed (i.e., 10/100/1000 Base) and duplex (i.e., full or half). Ensure that all are compliant with the IEEE 802.3 standard pinouts.

CCTV Cameras

Design, furnish and install new CCTV camera assemblies, equipment cabinets, electrical services, solar power assemblies, wood poles, fiber-optic interconnect centers, ethernet edge switches and fiber optic drop cables at the following locations:

I-85 Exit or Mile Marker:

- Exit 2 – NC 216
- NC Welcome Center/Rest Area near Mile Marker 2.5
- Exit 4
- Exit 5
- Mile Marker 6 – Kings Mountain Gateway Trail Bridge
- Exit 8
- Mile Marker 8.5 – Between Existing NB DMS and Proposed SB DMS locations
- *Mile Marker 11 – Crowders Mountain Rd. – Install new CCTV for Freeway Monitoring
- *Exit 13 – Install Drop to Existing CCTV
- *Exit 14 – Install Drop to Existing CCTV
- *Exit 17 – Install new CCTV for Freeway Monitoring. Do not modify existing CCTV

* Cameras in "Segment 2" shall be tied into the existing NCDOT 144-fiber device cable along I-85 in this area.

Determine the exact location of each CCTV camera, obtain the Engineer's written approval of the locations, and install the cameras. All components required for the CCTV installations

shall be new. Furnish site surveys, including but not limited to bucket truck surveys or drone surveys, to ensure camera coverage areas are acceptable.

Furnish and install new electrical service equipment at all new CCTV locations. The Design-Build Team shall utilize step-up/step-down transformers to avoid the use of solar assemblies where possible. Any solar power assembly locations must be reviewed and approved by the ITS Design Unit and the Engineer. Comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC), the 2024 NCDOT *Standard Specification for Roads and Structures*, the Project Special Provisions (PSP), and all local ordinances. All work involving electrical service shall be coordinated with the appropriate utility company and the Engineer.

The Design-Build Team shall maintain CCTV communications with existing cell modems (or replacement cell modems supplied by the department) until they are ready to be switched over to the fiber network and communicate with the State ITS Network via fiber. If a replacement cell modem is needed allow 8 weeks lead time for the department to supply the modem.

Dynamic Message Signs (DMS)

Design, furnish and install Type 2C DMS assemblies, pedestal structures, electrical services, fiber-optic drop cables, fiber-optic interconnect centers and field ethernet switches at the following locations.

I-85 Exit or Mile Marker:

- Northbound just south of Mile Marker 1
- *Northbound near Mile Marker 8.5
- Southbound between Exit 8 and Mile Marker 8.5
- **Northbound just south of Jenkins Rd.
- Southbound just north of Jenkins Rd.

* Design-Build Team shall remove existing DMS and Structure, update existing electrical service to new PSP requirements, and install a new DMS pedestal structure and DMS sign assembly.

** The Design-Build Team shall remove the existing DMS assembly, including the DMS cabinet, and install the new DMS assembly and cabinet on the existing structure.

Determine the exact location of each DMS, obtain the Engineer's written approval of the locations, and install the DMS. All components required for the DMS installations shall be new.

Furnish and install new electrical service equipment at all new DMS locations. Comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC), the 2024 NCDOT *Standard Specification for Roads and Structures*, the Project Special Provisions, and all local ordinances. All work involving electrical service shall be coordinated with the appropriate utility company and the Engineer.

Signal Systems

Design, furnish and install fiber-optic drop cables to the existing closed loop signal systems listed below. Terminate the drop cable in a fiber-optic interconnect center and install a field ethernet switch in the closest signal cabinet to the I-85 ITS fiber trunk line. Signal inventory numbers listed are potential closest cabinets, only one drop cable per signal system is required. DO NOT connect the ethernet switch to the signal controller. Upon termination of the fiber-optic drop cable in the signal cabinet and installation of the edge switch, no further work will be required.

Signal Locations:

- Kings Mountain CLS - 12-1887, 12-1888
- 12-1517 – Isolated Signal
- 12-1032 – Isolated Signal
- Gastonia Citywide System – 12-0162, 12-0023

The list above is as accurate as possible as of the date of this RFP. Any drop cables or ethernet edge switches needed shall be provided at no additional cost for up to 2 additional signal locations.

Welcome Center

Design, furnish and install fiber-optic drop cables to the Welcome Center. The Design-Build Team shall work with the NC Department of Commerce to identify a pathway into the facilities to terminate the fiber-optic drop cable. Termination of the fiber-cable drop cable shall be in fiber-optic interconnect center in an equipment rack or enclosure approved by the Engineer. Upon terminating the drop cable in the appropriate location, no further work will be required.

All work associated with adding conduit and piping into the Weigh Stations and/or Rest Stop facilities shall adhere to NEC and NESC codes and all local jurisdictional work requirements and be subject to inspections by the Authority have jurisdictional control.

MATERIALS & CONSTRUCTION

Furnish and install new materials and hardware unless stated otherwise elsewhere in this RFP. Adhere to the requirements of the ITUT, IEEE and TIA standards as well as the 2024 NCDOT *Standard Specifications for Roads and Structures,* the 2024 NCDOT *Roadway Standard Drawings,* the *ITS & Signals Generic Project Special Provisions Version 24.1* or latest version at time of letting and the project special provisions included with the RFP.

- **Conduit**
    - **Power Conduit**
      Furnish and install conduit (for power) and all necessary hardware by trenching, plowing or directional drilling in accordance with Section 1715 of the 2024 NCDOT

Standard Specifications for Roads and Structures for installing the power service to the ITS devices. Conduit shall not be placed in the median or under the roadway, except for lateral traverse crossings. (Reference the Electrical Service Section below.)

- **Communications Conduit**
  - Main Trunk Line Conduit – Furnish and install:
    - Two (2) – 1.25-inch conduits for NCDOT communications trunk line
      - One Blue conduit with imbedded tracer wire for the 144-fiber ITS Line
      - One Green conduit for spare
  - Drop Cable Conduit – Furnish and Install
    - Two (2) 1.25-inch conduits for NCDOT drop cables passing under the roadway. Spare drop cable conduit under roadway shall have pull tape.
    - One (1) 1.25-inch conduit for NCDOT drop cables not passing under the roadway
    - Drop cable conduits shall be White

Furnish and install conduit and all necessary hardware by trenching, plowing or directional drilling in accordance with the Project Special Provisions included with this RFP for installing fiber-optic conduit to the ITS devices. Conduit shall not be placed in the median or under the roadway, except for perpendicular crossings. Seal all conduits with mechanical sealing devices as described in the Project Special Provisions included with the RFP.

Bundled 1.25-inch conduits are allowed for NCDOT use as long as they meet all specifications and requirements stated in this RFP.

Micro-duct and mico-fiber shall not be permitted for use on this project.

The Design-Build Team shall be responsible for providing 811 services for newly constructed infrastructure until NCDOT has accepted the infrastructure.

- **Junction Boxes**

  - **Electrical**

    Furnish and install "Tier 22" junction boxes (pull boxes) for electrical services with all necessary hardware in accordance with Limited Access Junction Box specifications included with this RFP. Provide standard size junction boxes in accordance with Limited Access Junction Box specifications for electrical service. Electrical junction boxes within 6 feet of the meter base or the ITS device with should be protected with a concrete collar/skirt of 8-inch depth, 12 inches wide all around, and flush with the top surface. Install electrical junction boxes at maximum intervals of three hundred (300) feet or at locations where underground splicing is necessary. For concrete collar/skirt requirements reference the "Junction Box (Limited Access Facilities)" Project Special Provisions and Junction Box detail drawings included with this RFP.

Install locate balls and delineator markers at all electrical junction boxes in accordance with the special provisions included with this RFP.

Provide junction box covers with standard "Electric" logo, pull slots and stainless-steel pins.

- **Communications**

Furnish and install junction boxes (pull boxes) with all necessary hardware in accordance with the Project Special Provisions included with this RFP. Provide Tier 22 load rated junction boxes accordance with Limited Access Junction Box specifications, with "mouse holes" to accommodate horizontal conduit entrances into the junction box for fiber installations.

For communications junction boxes containing a splice enclosure or installed within 6 feet of an ITS device, install a concrete collar/skirt of 8-inch depth, 12 inches wide all around, and flush with the top surface grade. For concrete collar/skirt requirements reference the Project Special Provisions and Junction Box detail drawings included with this RFP.

Install locate balls and delineator markers at all communications junction boxes in accordance with the special provisions included with this RFP.

Provide Tier 22 junction box covers with standard "NCDOT Fiber Optic" logo, pull slots and stainless-steel pins.

Space trunk line junction boxes roughly 1500 feet apart between interchanges.

Install communications junction boxes at the base of each ITS device pole/cabinet and at each hub cabinet within six feet.

Every junction box shall house 50 feet of spare cable for each NCDOT cable entering the junction box.

Every junction box with a splice enclosure shall house 50 feet of spare cable for each direction of the cables being spliced. (i.e. 50 feet of spare trunk line in each direction and 50 feet of spare of each drop cable)

Ground all tracer wires in junction boxes designated for communications fiber in accordance with the "Junction Boxes (Limited Access Facilities)" PSP and details drawings included with this RFP.

Communications cables and power cables shall NOT share junction boxes.

- **Wood Poles**

Furnish and install wood poles, with all necessary grounding systems and hardware necessary in accordance with Section 1720 of the 2024 NCDOT *Standard Specifications for Roads and Structures*. Provide wood poles sized as necessary for the intended application.

- Use 60-foot CCTV Class 3 wood poles as defined in the ITS Project Special Provision.
- Use 40-foot Class 4 wood poles for approved applications.
- Use 6" x 6" x 8' treated wood posts for underground electrical service structures.

Furnish and install related items of work including but not limited to risers with weatherhead or heat shrink tubing, Air terminals and all necessary hardware in accordance with Section 1720 of the 2024 NCDOT *Standard Specifications for Roads and Structures* and the Air Terminal and Lightning Protection System Project Special Provision included with this RFP.

- **Electrical Service**

Furnish and install new electrical services rated 100 Amps for overhead service or 200 Amps for underground service, 240/120 VAC service drops for the each new ITS device. Furnish and install related items of work, including, but not limited to service entrance equipment, service entrance conductors, feeder conductors, disconnects, junction boxes, risers, guy assemblies, and wood poles with all necessary hardware in accordance with Section 1700 of the 2024 NCDOT *Standard Specifications for Roads and Structures*.

Electrical Services and Service Disconnects with regards to voltage drop calculations shall be rated to accommodate the following breaker sizes:

CCTV = 15 AMPS
DMS = 50 AMPS or 30 AMPS (dependent on the sign manufacturer)

Calculations using actual equipment load amperage will not be allowed.

- **Generator Hookups**

For devices listed above as "Critical" devices install an external generator connection port on the device cabinet exterior. The port should be designed and sized for the appropriate electrical requirements of the cabinet it is for. ALL hub cabinet locations are considered "Critical" other critical devices, if any, are noted in the lists earlier in this RFP. Supplying generators is not required as part of this project.

OTHER CODES AND STANDARDS

All ITS materials shall conform to the latest version of the applicable standards of the National Electrical Code (NEC), National Electric Manufacturer's Association (NEMA), the Underwriters' Laboratories, Inc. (UL), the Electronic Industries Association (EIA), the International Municipal Signal Association (IMSA), and the National Electrical Safety Code (NESC). All materials and workmanship must conform to the requirements of the NESC, standards of the American Society for Testing and Materials (ASTM); and the American National Standards Institute (ANSI). Comply with all federal laws, state laws, and city codes in accordance with the 2024 NCDOT *Standard Specifications for Roads and Structures*.

SUBMITTALS

Submit a set of 60% preliminary plans, 90% unsealed set of project plans, including specifications for materials, catalog cuts, and installation and testing requirements for review. 60% and 90% submittals will have separate 10-day review periods. Upon acceptance by the Department, provide a 100% set of sealed plans and specifications to the Department. No construction of the ITS devices and infrastructure shall begin until the Department has accepted the 100% sealed plans and specifications. Provide the Department with a minimum of 10 working days for each review.

QUALIFIED PRODUCTS LIST

Submit a listing of items on the NCDOT 2024 Qualified Products List (QPL) to receive approval for use on the project. Catalog cuts will not be required for items on the QPL. The QPL website is:

https://apps.ncdot.gov/products/qpl/

ADDITIONAL REQUIREMENTS

For all ITS devices and components within the entire project limits, the Design-Build Team shall comply with the following requirements:

- **Maintenance and Repair**

  The Design-Build Team shall maintain and repair all ITS components within the project, including, but not limited to, ITS devices, ITS conduit system, and all related ITS components, from the beginning of construction until the final acceptance of the project by the NCDOT. The Design-Build Team shall be responsible for conducting 811 locates for newly constructed fiber until acceptance. After acceptance of the project, the Design-Build Team shall be responsible for repairing the system due to faulty materials or workmanship in accordance with the *Twelve Month Guarantee* Project Special Provision found elsewhere in this RFP, or longer if the Design-Build Team extends the aforementioned warranty period.

- **Plan of Record Documentation**

  Prepare and submit to the Department Plan of Record (POR)/As-built documentation that depicts the conduit and ITS device locations. Submit final POR documentation in electronic and hard copy format for Department approval. Provide electronic plans in MicroStation (latest release in use by the Department) format. Submit hard copy documentation on 11 x 17-

inch plan sheets. POR documentation shall include the final location and depth of conduits, wiring external to the cabinets, locations of splice enclosures, junction box locations, and SMFO cable terminations. Include in the POR documentation real world coordinates for all ITS devices, splice enclosures, junction boxes, and equipment cabinets installed or utilized under this project. Provide the coordinates in feet units using the North Carolina State Plane coordinate system (1983 North American Datum also known as NAD '83). Furnish coordinates that do not deviate more than 1.7 feet in the horizontal plane and 3.3 feet in the vertical plane. Global positioning system (GPS) equipment able to obtain the coordinate data within these tolerances may be used. **This Plan of Record documentation shall be provided to both the Engineer and the NCDOT ITS Section.**

Provide a digital copy of all the information required to populate the point feature classes in NCDOT's Fiber Asset Management System (FAMS) Tool Microsoft spreadsheet template "NAME" that is available on the ITS Design Resources website.

https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx

Provide this information to the Engineer and the NCDOT ITS (TSMO) Unit.

- **Integration**

Upon completion of the ITS device installations, coordinate with DIT to integrate all ITS devices with the NCDOT ITS network and verify accessibility of all devices at the STOC unless instructed otherwise by this RPF or by the Engineer.

Coordinate with DIT and the Engineer to modify, as necessary, the existing central hardware and software modules including, but not limited to databases, to provide operators access to new devices through the operators' Graphical User Interface.

- **Testing**

Develop unit and system test plans and procedures for each ITS device and all associated components, in accordance with the appropriate testing requirements found in the Project Special Provisions included with this RFP and submit to the Engineer for review and approval.

Upon completion of the ITS device installations, conduct unit and system tests according to the approved test plan and procedures. Provide all necessary test equipment.

In case of failures and substandard performance, the Design-Build Team shall identify the cause, repair or replace the faulty parts and components and repeat the test. If the problem persists, the entire unit causing the problem shall be replaced prior to retest.

After successful completion of all unit and system tests, submit the test reports along with the record of repairs and part replacements to the Engineer.

PROJECT OPERATION REQUIREMENTS

It is the Department's desire to provide uninterrupted traffic incident management and traveler information operations throughout the life of the project. Thus, the Design-Build Team shall identify the approximate location of the existing and new ITS devices and when they will be removed and/or installed and operational in their permanent location in the Technical Proposal.

The Design-Build Team shall provide a portable device that is integrated with the "Statewide ITS Network" at all existing permanent ITS device locations that will be offline longer than 24 hours when being modified or replaced until a final permanent ITS device is installed and integrated with the "Statewide ITS Network". The portable ITS devices shall be installed and integrated with the "Statewide ITS Network" prior to beginning any activity that will impede the traffic on I-85. All portable ITS devices shall communicate with the "Statewide ITS Network" by means of a Department supplied cell modem. Portable ITS device deployments shall comply with the requirements of the applicable Project Special Provisions found elsewhere in this RFP.

For unplanned disconnections to permanent or temporary ITS devices, where communications cannot be restored within 24 hours, a replacement portable device capable of communicating with the "Statewide ITS Network" shall be provided at no additional cost to the Department. Portable ITS devices used at proposed locations shall be in addition to the portable ITS device and/or CMS required for work zone traffic control and incident management during construction. (Reference the Transportation Management Scope of Work found elsewhere in this RFP)

The existing NCDOT ITS Fiber and OMC Fiber throughout the project shall remain operational at all times throughout the project construction.

Intermediate Contract Time #8 & #9 for Failure to Report a Damaged NCDOT Communications Infrastructure and / or Damaged OMC Communications Infrastructure

A Broadband Fiber Compensation Event (BFCE) is defined as any damage to existing communication infrastructure that actually disrupts the service provided by such infrastructure. The Design-Build Team shall report damage to existing communication infrastructure caused by the Design-Build Team to the Engineer, Regional ITS Engineer, OMC Contractor and the STOC within one (1) hour of the damage occurring. The OMC Contractor shall repair all damage to the communications infrastructure. The Design-Build Team shall be responsible for all costs associated with these repairs as well as any costs associated with a Broadband Fiber Compensation Event (BFCE) caused by an unplanned cut or damage up to the limits defined below. Communications infrastructure includes, but is not limited to, Fiber-optic cable, underground conduit, micro-duct conduit, junction boxes, tracer wire, electrical service conductors, grounding arrays, equipment cabinets and electrical services.

Liquidated Damages for Intermediate Contract Time #8 for failure to report a damaged NCDOT fiber optic communications cable and / or a damaged OMC fiber optic communications cable within one hour are $1,000.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #9 for a Broadband Fiber Compensation Event (BFCE) are $5,600.00 per hour or any portion thereof up to a maximum of $135,000 per event.

Intermediate Contract Times #10 and #11 for Failure to Reestablish NCDOT Fiber Optic Communications and / or OMC Fiber Optic Communications After a Planned Disruption

During construction, the Design-Build Team shall coordinate any planned disruption in NCDOT fiber optic communications and / or planned disruption in OMC fiber optic communications with the Engineer, the NCDOT Division Traffic Engineer, the OMC Contractor and the STOC. The Design-Build Team shall notify the Engineer, the NCDOT Division Traffic Engineer, the OMC Contractor and the STOC a minimum of fourteen (14) days prior to all planned disruptions in fiber optic communications. The Design-Build Team shall reestablish the NCDOT fiber optic communication within eight hours of a planned disruption. The OMC contractor shall cut, splice, and reestablish the OMC fiber communications.

A minimum of 30 calendar days prior to any planned disruption in NCDOT fiber optic communications and / or OMC fiber optic communications, the Design-Build Team shall develop and provide a plan for the Department's approval that defines 1) an anticipated planned disruption timeframe, 2) a plan of action for reestablishing NCDOT communications within eight hours of the planned disruption and 3) the coordinated plan from the OMC contractor to perform their portion of the work.

Liquidated Damages for Intermediate Contract Time #10 for failure to reestablish NCDOT fiber optic communications within eight hours of a planned disruption are $1,000.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #11 for failure to provide a plan 30 calendar days prior to work that defines 1) an anticipated planned disruption timeframe, 2) a plan of action for reestablishing NCDOT communications within eight hours of the planned disruption and 3) the coordinated plan from the OMC contractor to perform their portion of the work are $10,000.00 per failure.

Intermediate Contract Time #12 for Failure to Restore Operation/Communication to ITS Device after an unplanned disruption

The Design-Build Team shall maintain the operation of all permanent and temporary ITS devices integrated with the "Statewide ITS Network" that have not been turned over to the OMC Contractor for maintenance. If device operation is disrupted, the Design-Build Team shall restore operation within 24 hours or provide a replacement/portable ITS device at no cost to the Department. If a replacement device is provided, it shall be integrated with the "Statewide ITS Network" within 24 hours.

Liquidated Damages for Intermediate Contract Time #12 for failure to restore operation/communication to ITS devices or provide a replacement device within 24 hours are $500.00 per hour or any portion thereof.

Intermediate Contract Time #13 and #14 for Failure to Reestablish Dynamic Message Sign Operation after a Planned Disruption

During construction, the Design-Build Team shall coordinate any planned disruption in Dynamic Message Sign (DMS) operation with the Engineer, the Division Traffic Engineer, the OMC Contractor and the STOC. The Design-Build Team shall notify the Engineer, the Division Traffic Engineer, the OMC Contractor and the STOC a minimum of seven calendar days prior to all planned disruptions in DMS operation. The Design-Build Team shall reestablish DMS operation within 72 hours of a planned disruption, including full access and control from the STOC and the Regional TMC via fiber optic cable or cellular modem. This ICT only applies when a temporary Connected CMS is not in place.

A minimum of 21 calendar days prior to any planned disruption in the DMS operation, the Design-Build Team shall develop and provide a plan for the Department's approval that defines 1) an anticipated disruption timeframe and 2) a plan of action for reestablishing DMS operation, including full access and control from the STOC and the Regional TMC via fiber optic cable or cellular modem, within seventy-two (72) hours.

Liquidated Damages for Intermediate Contract Time #13 for failure to reestablish DMS operation within 72 hours of a planned disruption are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #14 for failure to provide a plan that defines 1) an anticipated DMS planned disruption timeframe and 2) a plan of action for reestablishing DMS operation a minimum of 21 calendar days prior to a planned disruption are $10,000.00 per failure.

Intermediate Contract Time #15 and #16 for Failure to Reestablish CCTV Operation after a Planned Disruption

During construction, the Design-Build Team shall coordinate any planned disruption in CCTV operation with the Engineer, the Division Traffic Engineer, the OMC Contractor and the STOC Supervisor. The Design-Build Team shall notify the Engineer, the Division Traffic Engineer, the OMC Contractor and the STOC a minimum of seven calendar days prior to all planned disruptions in CCTV operation. The Design-Build Team shall reestablish CCTV operation within 24 hours of a planned disruption, including full access and control from the STOC and the Regional TMC via fiber optic cable. This ICT only applies when a Portable CCTV is not in place.

A minimum of 21 calendar days prior to a planned disruption in CCTV Operation, the Design-Build Team shall develop and provide a plan for the Department's approval that defines 1) an anticipated disruption timeframe and 2) a plan of action for reestablishing CCTV operation, including full access and control from the STOC and the Regional TMC via fiber optic cable, within 24 hours.

Liquidated Damages for Intermediate Contract Time #15 for failure to reestablish CCTV operation within 24 hours of a planned disruption are $500.00 per hour or any portion thereof.

Liquidated Damages for Intermediate Contract Time #16 for failure to provide a plan that defines 1) an anticipated CCTV planned disruption timeframe and 2) a plan of action for reestablishing CCTV operation a minimum of 21 calendar days prior to a planned disruption are $10,000.00 per failure.

UTILITIES COORDINATION SCOPE OF WORK (2025)

The Design-Build Team shall obtain the services of a Professional Services Firm (PSF) knowledgeable in the NCDOT Utility Coordination Process involved with utility relocation / installation and highway construction. The Design-Build Team's PSF shall be responsible for coordinating all utility relocations, removals, and / or adjustments where the Design-Build Team and utility owner, with concurrence from the Department, determine that such work is essential for highway safety and performance of the required highway construction. Coordination shall be for all utilities whether or not they are specifically identified in this Scope of Work and shall include any necessary utility agreements when applicable. NCDOT will be the approving authority for all utility agreements and utility plans.

The Design-Build Team will only be allowed direct contact with the utility owners when the aforementioned PSF is present. (Reference the *Individual Meeting with Proposers* Project Special Provision found elsewhere in this RFP)

In accordance with the requirements herein, the Design-Build Team shall relocate / coordinate the relocation of all existing facilities if they are in physical conflict with construction.

Project Details

The Design-Build Team shall be responsible for verifying the utility locations, type of facilities, and identifying the utility owners in order to coordinate the relocation of any utilities, known and unknown, in conflict with the project. The following utilities are known to be located within the project construction limits:

Utility Owner	Utility Type	Cost Responsibility
Varies	CATV	Design-Build Team
Varies	Gas (Distribution)	Design-Build Team
Varies	Gas (Transmission)	Design-Build Team
Varies	Power (Distribution)	Design-Build Team
Varies	Power (Transmission)	Design-Build Team
Varies	Telecommunications	Design-Build Team
Varies	Water and Sewer	Design-Build Team (NCDOT will obtain an agreement with Utility Owners allowing the Design-Build Team to work on their facilities)
Varies	Petroleum	Design-Build Team

Water and Sewer

If the Design-Build Team's design and / or construction requires the relocation and / or encasement of existing water and / or sewer facilities, designs shall be coordinated with the NCDOT Utilities Unit. All costs associated with the design and construction for relocation and / or encasement of

these existing water and / or sewer facilities shall be the responsibility of the Design-Build Team and shall be included in the lump sum bid for the project. The Design-Build Team shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the agencies and obtain acceptance from the agencies. The Design-Build Team shall be responsible for all permit fees.

Designs shall be coordinated with the NCDOT Utilities Unit and the utility owners or their representatives. In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full-size set of utility construction drawings to the State Utilities Manager, via the Alternative Delivery Unit, for further handling. Each set shall include a title sheet, plan sheets, profiles and special provisions, if required. Once accepted by the State Utilities Manager, the plans, with the appropriate agreement, will be sent to the utility owner for review and concurrence.

The relocation of all water and sewer facilities shall be done in accordance with the NCDOT Policies, as well as the latest water and sewer design requirements / specifications or each effected owner. In the event of conflicting design parameters in the requirements noted above, the proposed design shall adhere to the most conservative values. The materials and appurtenances proposed by the Design-Build Team shall require acceptance by both NCDOT and the aforementioned appropriate utility owner prior to installation.

Utility Relocation Plans

Excluding water and sewer conflicts, if the Design-Build Team's design and / or construction create a utility conflict, the Design-Build Team shall request that the utility owner submit relocation plans (Highway Construction Plans to be provided by the Design-Build Team to utility owners) that show existing utilities and proposed utility relocations for acceptance by the NCDOT.

In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full-size set of the Utility Relocation Plans to the NCDOT State Utility Manager, via the Alternative Delivery Unit, for review and acceptance. The Department shall approve the Utility Relocation Plans prior to any utility relocation work beginning. The Design-Build Team shall also be responsible for submitting the appropriate agreements to be used with the Utility Relocation Plans (See Agreements found elsewhere in this Scope of Work). After the review process is complete, the NCDOT Utilities Unit will submit an electronic copy of the authorization letter to the Design-Build Team. The NCDOT Utilities Unit will also submit an electronic copy of the accepted Utility Relocation Plans, estimate and agreement to the Department's Resident Engineer. If the Utility Relocation Plans are accepted subject to changes, it shall be the Design-Build Team's responsibility to coordinate these changes with the appropriate utility owner.

Cost Responsibility

The Design-Build Team shall be responsible for all costs associated with utility relocations resulting from the Design-Build Team's methods of operation or sequence of work.

Work Performed by Design-Build Team for Utility Owners

If the Design-Build Team elects to make arrangements with a utility owner for proposed utility construction not required herein, in which the utility owner shall be responsible for the costs of work to be performed by the Design-Build Team, the Design-Build Team shall be responsible for negotiating all costs associated with the proposed construction. Once the Design-Build Team and the utility owner agree on a plan and a lump sum estimated cost for the utility construction, the Design-Build Team shall electronically submit one half-size set and one full size set of the utility construction drawings, in .pdf format, to the State Utilities Manager, via the Alternative Delivery Unit, for further handling. Each set shall include a title sheet, plan sheets, profiles and special provisions if required. Also, a letter from the utility owner agreeing to the plans and lump sum cost must accompany this package. The NCDOT will reimburse the Design-Build Team the estimated lump sum cost under a Supplemental Agreement. The necessary Utility Agreement to the utility owner for reimbursement shall be a two-party agreement between the NCDOT and the utility owner; and will be developed and executed by the Department.

If the Design-Build Team is requested, in writing, by a utility owner to relocate facilities not impacted by the project's construction, and / or upgrade or incorporate new facilities as part of the highway construction, designs shall be coordinated with the utility owner and the NCDOT Utilities Unit. The associated design and construction costs shall be negotiated and agreed upon between the Design-Build Team and the utility owner. The Design-Build Team shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the agencies and obtain acceptance from the agencies. The Design-Build Team shall be responsible for all permit fees.

Cable TV

The NCDOT will not permit CATV to place poles within the highway right of way but will allow down guys for their facilities within the highway right of way. Under most circumstances, the CATV Company will continue a joint-use attachment with the local Power and Telephone Company. If the CATV proposed relocation places buried facilities within the highway right of way, then plans and encroachment agreements shall be required by the NCDOT.

Communication Cables / Electrical Services for Lighting, Traffic Signals and ITS Devices

Prior to establishing the location for new meter poles, the Design-Build Team shall coordinate with the local Power Distribution Company concerning accessibility of E/C service and safety in maintenance of the meter.

Prior to installation, the Design-Build Team shall provide plans for review and acceptance for all service taps that require a parallel installation within the control of access (C/A).

Parallel service installation within a C/A shall be buried.

The Design-Build Team shall be responsible for all coordination activities, including deposit fees, required for the utility company to provide service taps. Prior to the Design-Build Team developing the associated design and / or instructing the utility company to proceed with providing the service taps, the Design-Build Team shall obtain written acceptance of the service tap locations from the Resident Engineer.

Adjusting Existing Utilities due to Proposed Traffic Management Systems Fiber Optic Communications Cables

The Design-Build Team shall be responsible for all costs for coordinating and adjusting any utilities that conflict with any proposed communication cables.

Requirements for Attachments to Existing and / or Proposed Structures

The Design-Build Team shall avoid attachments to structures where feasible. Attachments shall only be considered when other alternatives are cost prohibitive and / or are not feasible due to environmental or geographical features. All utility related attachments must be evaluated and accepted by the State Utilities Manager, including any existing attachments to any structure(s) that require modification or replacement. Attachments shall be prohibited under the following criteria:

(A) No attachments shall be allowed to cored-slab superstructures.

(B) No attachments shall be allowed to curved bridges without the Engineer's acceptance.

Attachments to structures, if approved by the State Utilities Manager, shall meet the following criteria:

(A) No attachments shall be allowed below the bottom of the beams and / or girders.

(B) Drilling of, or attachments to, beams and / or girders shall not be allowed. Attachments shall only be allowed to the backside of barrier unless otherwise approved.

Documentation of adverse conditions or cost estimates of all feasible alternatives shall be submitted to the NCDOT State Utilities Manager, via the Alternative Delivery Unit, when seeking acceptance of a structure attachment. Cost estimates shall consider all costs involved with each alternative and impact on the utility and the highway project as a whole.

General

The Design-Build Team shall not commence work at points where the highway construction operations are adjacent to utility facilities, until making arrangements with the utility owner to protect against damage that might result in expense, loss, disruption of service or other undue inconvenience to the public or utility owner. The Design-Build Team shall be responsible for

damage to the existing or relocated utilities resulting from the Design-Build Team's operations. In the event of interruption of any utilities by the project construction, the Design-Build Team shall promptly notify the utility owner and cooperate with the utility owner in the prompt restoration of service.

The Design-Build Team shall accommodate utility adjustments, reconstruction, new installation and routine maintenance work that may be underway or take place during the progress of the contract.

If total property acquisition is unavoidable due to encroachment into wells and / or septic systems, the Design-Build Team shall investigate and determine if extending water and / or sewer lines to the affected property is cost effective. If the Department concurs with the determination that a utility extension is cost effective, the costs associated with the utility design and construction shall be addressed in accordance with Article 104-7 of the 2024 NCDOT *Standard Specifications for Roads and Structures*.

The Design-Build Team shall be required to use the guidelines as set forth in the following:

(A) NCDOT *Utility Accommodation Manual* Reference the website noted below for the current version of the NCDOT utility manuals, and additional information on the transition to the new utility manuals shall be adhered to:

https://connect.ncdot.gov/municipalities/Utilities/Pages/UtilitiesManuals.aspx

(B) *Federal Aid Policy Guide* - Subchapter G, Part 645, Subparts A & B

(C) *Federal Highway Administration's Program Guide, Utility Adjustments & Accommodations on Federal Aid Highway Projects*

(D) NCDOT *Construction Manual* Section 105-8

(E) *NCDOT Right of Way Manual* - Chapter 16 Utility Relocations

(F) *NCDEQ, Public Water Supply* - Rules governing public water supply

(G) *NCDEQ, Division of Water Resources* - Title 15A - Environment and Natural Resources

Agreements

If a utility company can provide evidence of prior rights of way or a compensable interest in their facilities, the Design-Build Team shall coordinate the non-betterment utility relocation costs with the utility company and develop the Utility Relocation Agreement.

The NCDOT State Utilities Manager must execute accepted agreements on Alternative Delivery projects. The Utility Relocation Agreements (Cost Agreement) and Encroachment Agreements are

available from the NCDOT Utilities Unit. Reference Section 2.3 of the *NCDOT Utility Accommodation Manual* for the different types of Encroachment Agreements available for use.

The Design-Build Team shall submit all Utility Relocation Agreements, (URAs), all Utility Encroachment Agreements, and all supporting documents to the NCDOT State Utilities Manager, via the Alternative Delivery Unit, in electronic format. Prior to submittal, all agreements shall be signed electronically by an authorized representative of the utility owner. These electronic agreement packets will be reviewed, accepted and signed electronically by the NCDOT Utilities Manager, or designated representative, before being distributed to the field.

The Design-Build Team shall utilize the NCDOT Standard Utility Encroachment Agreements, as necessary, in relocating utilities. The encroachment agreements shall be used under the following conditions:

(A) If a utility company is not occupying a valid right of way / compensable interest and the proposed relocation will place the relocated utilities within the existing or proposed highway right of way.

(B) For **all** new utility installations not covered under a Utility Agreement and within the existing or proposed highway right of way. This includes all water, sewer and gas lines owned by entities covered under *General Statute 136-27.1* and *136-27.2.*

EROSION AND SEDIMENT CONTROL SCOPE OF WORK (2025)

1. GENERAL

The NCDOT Roadside Environmental Unit (REU) shall review and accept all Erosion and Sedimentation Control Plans in accordance with NCDOT's delegation agreement with the North Carolina Sedimentation Control Commission including authority to (1) identify special needs for this project, including the acquisition of additional right-of-way; (2) mandate special details to be included in the design plans or special provisions; (3) conduct on site plan reviews for compliance and require design changes to accommodate field changes; (4) inspect all construction sites including waste and borrow pits and haul roads; and (5) issue violation notifications or cease and desist orders. The NCDOT REU will also retain authority in plan, detail, and special provision review and acceptance. Clearing & Grubbing, and any necessary Final Grade or Intermediate Release for Construction (RFC) Erosion Control Plans shall be submitted, accepted and distributed to all NCDOT personnel listed in the Design-Build Submittal Guidelines before **any** land disturbing activities, including clearing and grubbing, can commence. If the Design-Build Team chooses to perform the work in discrete sections, then a complete set of Clearing & Grubbing and any necessary Final Grade RFC Erosion Control Plans shall be submitted, accepted, and distributed, as noted above, prior to land disturbing activities, including clearing and grubbing, commencing in that section. No land disturbing activities, including clearing and grubbing, shall occur in any location that does not have accepted Clearing & Grubbing and Final Grade RFC Erosion Control Plans. Refer to the most recent versions of the NCDOT *Erosion and Sediment Control Design and Construction Manual* and of the NCDEQ - *Erosion and Sediment Control Planning and Design Manual* for erosion control design guidelines not addressed in this Scope of Work.

2. EROSION AND SEDIMENTATION CONTROL DESIGN

2.1. Design Process and Requirements

2.1.1. Pre-Submittal Meeting

- A pre-submittal meeting shall take place between the NCDOT Roadside Environmental Unit Soil & Water Engineering Section, the Design-Build Team, and any other pertinent NCDOT personnel before any Erosion and Sedimentation Control Designs are submitted to NCDOT Roadside Environmental Unit. Erosion and Sedimentation Control Plan submittals shall only be reviewed and accepted by NCDOT Roadside Environmental Unit after the Erosion and Sedimentation Control Pre-Submittal Meeting. The Design-Build Team shall be required to submit a tentative Erosion and Sedimentation Control Plan submittal schedule at the pre-submittal meeting.
- At a minimum, the Design-Build Team shall bring one erosion control plan sheet with a Clearing & Grubbing erosion control design to the Erosion and Sedimentation Control Pre-Submittal Meeting.

2.1.2. Design and Plan Submittals

- All erosion and sediment control design shall be in accordance with North Carolina *Design Standards in Sensitive Watersheds* (DSSW) for areas within regions of regulated riparian buffers, High Quality Water Zones (within 1 (one) mile and draining to an EMC identified High Quality Water), Outstanding Resource Water, 303d listed stream for turbidity impairment, within 0.5 (one-half) mile of a critical area (CA) identified water body, and as required by permits.
- All jurisdictional streams within the project limits requiring DSSW she be identified as 'Environmentally Sensitive Areas" on the Sediment and Erosion Control Plan.
- Plan submittals shall include all pertinent design information required for review, such as design calculations, drainage areas, etc. Within the entire project limits, provide disturbed and undisturbed drainage areas in MicroStation format for all phases.
- Plans shall address any environmental issues raised during the permitting process.
- The NCDOT Roadside Environmental Unit will provide a sample set of Erosion and Sedimentation Control Plans (including any special details or special provisions used by the NCDOT Roadside Environmental Unit) and MicroStation Erosion Control Workspace to the Design-Build Team for reference upon request.
- Temporary access and haul roads, other than public roads, constructed or used in connection with the project shall be considered a part of the project and addressed in the Erosion and Sedimentation Control Plans. Temporary access and haul roads located within the footprint and / or the right of way / easement corridor of the project shall be part of the highway Erosion and Sedimentation Control Plans. As needed, temporary access and haul roads associated with borrow pits and staging areas shall be included in the Reclamation Plan.
- The Design-Build Team shall allow sufficient time in the proposed schedule to address any comments to the Erosion and Sedimentation Control Plans, as deemed necessary by the NCDOT Roadside Environmental Unit.
- At any time requested by the Engineer or the NCDOT Roadside Environmental Unit, the Design-Build Team shall provide an updated version of the Erosion and Sedimentation Control Plans for distribution to all parties involved in the construction process.
- Once RFC Erosion and Sedimentation Control Plans are issued, any major design change or addition, any change that involves calculations, and any addition, deletion, or relocation of a sediment basin shall be submitted to the NCDOT Roadside Environmental Unit for review and acceptance. Minor changes such as moving silt fence, adding or moving temporary ditches (unless adding new runoff flow to a sediment basin), and adding or moving slope drains shall be reviewed by the Engineer in the field.
- The Design-Build Team's erosion and sedimentation control designer shall submit design calculations, for the Department's review and acceptance, for all modifications to the Erosion and Sedimentation Control Plans that result in dimension modifications and / or relocations, other than minor shifts to accurately place, to the devices noted below:

- Riser Basin
- Skimmer Basin and all devices with Skimmers
- Temporary Rock Sediment Dam Type A
- Temporary Rock Sediment Dam Type B
- Temporary Rock Silt Check Type A

- All RFC Erosion and Sedimentation Control Plans, including any red line revisions, shall be kept on site at all times throughout the duration of the project.

2.2. Clearing and Grubbing Phase Plans

The Design-Build Team shall submit an Erosion and Sediment Control (E&SC) plan for all work associated with the project, hereby referenced in this document as the Clearing and Grubbing (C&G) E&SC plan. The C&G plan shall be required for all construction activities and shall address both construction stormwater from disturbed areas and stormwater drainage onto the disturbed portion of the project and be designed to manage and provide treatment for stormwater using existing topography and drainage systems. Any planned changes to the existing topography or drainage systems for construction of this project shall be addressed in additional Final Phase or Intermediate phase E&SC plan sheets. The C&G plans may utilize typical ES&C plan designs and details for repetitive construction operations to minimize the number of individual E&SC plan sheets. Unique individual E&SC plan sheets shall be required for construction and installation operations that do not conform to the aforementioned typical E&SC designs and details, encroachments into jurisdictional or environmentally sensitive areas or larger land disturbing activities (examples may include but not limited to lay down or construction yards, temporary construction office sites, or fiber huts). Methods of installation that minimize ground disturbance and can be completed and stabilized within the same workday may utilize the aforementioned typical ES&C plan design and may not require further planned E&SC devices.

2.2.1. Use correct NCDOT symbology.

2.2.2. E&SC to-scale plan sheets shall be 50:1.

2.2.3. Protect existing drainage structure inlets with Rock Inlet Sediment Trap Type ‘A’ (RIST-A), Rock Inlet Sediment Trap Type ‘C’ (RIST-C), Rock Pipe Inlet Sediment Trap Type ‘A’ (PIST-A), etc.

2.2.4. Utilize adequate perimeter controls (temporary silt ditches (TSD), temporary silt fence (TSF), etc.).

2.2.5. Clean Water Diversions (CWD) shall be used to the maximum extent practical to direct offsite drainage around the disturbed project limits. CWD should not be used to divert offsite runoff through the project construction limits without temporary piping or additional E&SC measure to separate construction stormwater from the CWD.

2.2.6. Utilize skimmer basins and rock measures with sediment control stone (Temporary Rock Sediment Dam Type 'B' (TRSD-B), Temporary Rock Silt Check Type 'A' (TRSC-A), etc.) at drainage outlets.

2.2.7. Account for topography and show existing contour lines on Clearing & Grubbing Plans only.

2.2.8. Utilize Temporary Rock Silt Checks Type 'B' (TRSC-B) or wattles to reduce velocity in existing ditches with spacing of 250 feet divided by percentage of ditch grade. Also utilize TRSC-B's or wattles in proposed TSD's and temporary diversions (TD).

2.2.9. Protect existing streams; do not place erosion control devices in live streams unless permitted by the Division of Water Resources 401 Certification and the Army Corps of Engineers 404 Permit.

2.2.10. In areas of DSSW, sediment basins shall be sized to provide adequate silt storage for 3600 cubic feet per disturbed acre with surface area equal to 435 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using 25-year peak rainfall data (NCDEQ - *Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service website **https://hdsc.nws.noaa.gov/hdsc/pfds/** for partial duration (ARI) time series type). In all other areas, utilize the 10-yr peak rainfall event, Q10, for peak inflow rate. A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit upon request.

2.2.11. In areas of DSSW, Skimmer Basins shall be sized to provide adequate silt storage for 1800 cubic feet per disturbed acre with surface area equal to 325 square feet per cubic foot per second (cfs) of the peak inflow rate, Q25, using the 25-year peak rainfall data (NCDEQ - *Erosion and Sediment Control Planning and Design Manual* or NOAA's National Weather Service website **https://hdsc.nws.noaa.gov/hdsc/pfds/** for partial duration (ARI) time series type). In all other areas, utilize the 10-yr peak rainfall event, Q10, for peak inflow rate. Skimmer Basins shall be designed to dewater in two to three days. A Skimmer Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit upon request.

2.2.12. Design Riser Basins to the following standards:

- Surface Area shall be determined by Equation A (sq. feet) = Q25 (cfs) * 435.
- Volume requirement shall be 1800 cubic feet per disturbed acre draining to the riser basin.
- Riser Pipe shall have a cross-sectional area 1.5 times that of the barrel pipe.
- The riser pipe shall be non-perforated with a skimmer attached to the bottom of the pipe, one foot from the bottom of the basin.
- See NCDEQ - *Erosion and Sediment Control Planning and Design Manual* for additional design criteria.

2.2.13. The minimum and maximum length to width ratio of all Sediment Basins shall be 2:1 and 6:1, respectively.

2.2.14. Coir Fiber Baffles shall be installed in all silt basins and sediment dams at drainage outlets. For silt basins with a 20-foot or longer length, three Coir Fiber Baffles shall be installed with a spacing of 1/4 the basin length. For silt basins with a length less than 20 feet, a minimum of two Coir Fiber Baffles shall be installed, with a spacing of 1/3 the basin length. The Design-Build Team will not be required to show the individual baffles on the Erosion Control Plans but shall be required to incorporate the Coir Fiber Baffle Detail on the Erosion Control Plans.

2.2.15. Construction activities in jurisdictional streams shall be done in accordance with the NCDOT *Best Management Practices for Construction and Maintenance Activities*.

2.2.16. Utilize Coir Fiber Wattles with Polyacrylamide (PAM) and / or TRSC-As with Matting and PAM in temporary and permanent, existing and proposed ditches at an appropriate design spacing in areas where sediment basins are not feasible at drainage outlets and in areas where sediment basins at drainage outlets with sediment traps (i.e. PIST-A, RIST-A, etc.), cannot be properly sized to surface area and/or sediment storage requirements due to safety concerns, right of way restrictions, utility conflicts, or other construction limitations approved by the NCDOT Roadside Environmental Unit.

2.2.17. Utilize temporary diversions or diversion berms as water bars to divide long sections of the grade directing the stormwater flow to E&SC outlet measures. Design spacing shall be in accordance with Table 6.23a of the NCDEQ - *Erosion and Sediment Control Planning and Design Manual*.

2.2.18. Place a device utilizing PAM at all sediment basin inlets.

2.2.19. At a maximum spacing of 200 feet or at sag points along the silt fence and as directed, utilize Special Sediment Control Fence or Coir Fiber Wattles as drainage breaks in silt fence.

2.2.20. Do not place erosion control devices that require excavation (i.e. sediment basins, silt ditches, etc.) in wetlands.

2.2.21. Provide matting for erosion control for disturbed areas in excess of 5% on grade or slopes steeper than 4:1. Provide natural fiber matting (non-polyethylene or non-polypropylene) mattings for exposed soils within all ESA areas, riparian buffer zones, and wetlands regardless of grade or slope. Areas to be stabilized with matting for erosion control shall be shown on the C&G E&SC plans if Final Phase E&SC plans are not required.

2.2.22. For all drainage outlets where the runoff cannot be treated with a sediment basin and / or the sediment basin cannot be constructed to the required sediment storage or surface area requirements, provide a written explanation.

2.2.23. Excluding perimeter Sediment Basins that will function only during Clearing and Grubbing operations, all perimeter Sediment Basins shall be placed outside of construction limits.

2.3. Final Grade Phase Plans

Final Grade (FG) phase E&SC plans shall be required for areas where construction operations cause alteration of the drainage patterns such that the C&G E&SC phase plans

cannot adequately manage or treat stormwater or E&SC measures cannot function properly. The FG E&SC plans shall be designed to manage and provide treatment for stormwater using proposed topography and drainage systems. In addition to the requirements of Section 2.2, the Final Grade Phase Plans shall:

2.3.1. Devices at all drainage turnouts shall utilize skimmer or sediment control stone (TRSD-B, TRSC-A, etc.) and a spillway with an adequately designed base length to distribute outflow.

2.3.2. Provide matting for erosion control (straw) in all disturbed or modified ditch lines, including but not limited to temporary ditch lines (TDs) utilized to divert offsite runoff around construction areas, where the velocity is greater than 2.0 feet / sec, and the shear stress is 1.25 psf or less. For ditch lines with a shear stress above 1.25 psf but not greater than 2.55 psf install matting for erosion control (excelsior). Permanent Soil Reinforcement Mat or Rip Rap shall be utilized for ditches with a sheer stress greater than 2.55 psf with approval from the Engineer.

2.4. Intermediate Phase

Intermediate Erosion Control Plans shall only be required if design modifications and / or site conditions require additional erosion control design or design revisions to the RFC Clearing and Grubbing and / or RFC Final Grade Erosion Control Plans. Intermediate Plans shall be submitted for review and shall be accepted prior to construction of any aspect impacted by the revised erosion control design. For any intermediate phase, comply with Section B, “Final Grade Phase” above.

3. DETAIL SHEETS, TITLE SHEETS AND SPECIAL PROVISIONS

3.1. Detail Sheets and Notes

3.1.1. Provide project specific special notes and details, including but not limited to, skimmer basin, coir fiber wattle with Polyacrylamide (PAM), etc.

3.1.2. Provide matting summary sheet(s): matting for erosion control, permanent soil reinforcement mat, and coir fiber mat.

3.1.3. Provide reforestation sheet(s): regular, wetland, streambank and / or buffer showing appropriate species.

3.2. Title Sheet

3.2.1. Show correct notes: NCG-01, HQW, ESA, clearing and grubbing, etc.

3.2.2. Show correct standards for project

3.2.3. List of standard NCDOT symbology

3.2.4. Show name and certification number of Level III certified individual(s) responsible for designing and / or reviewing Erosion and Sedimentation Control Plans

3.2.5. Show name of primary NCDOT Roadside Environmental Unit Erosion and Sedimentation Control Plan reviewer

3.3. Special Provisions

3.3.1. Erosion Control Special Provisions are available at the following website:

https://connect.ncdot.gov/resources/roadside/Pages/Soil-Water.aspx

3.3.2. References in Erosion Control Special Provisions from the aforementioned website to Method of Measurement, Basis of Payment, or any other statement regarding direct payment for Erosion & Sediment Control measures shall be disregarded.

3.3.3. *Erosion & Sediment Control / Stormwater Certification* Project Special Provision found elsewhere in this RFP.

4. CONSTRUCTION REQUIREMENTS

4.1. General

4.1.1. The Design-Build Team shall comply with the North Carolina Administrative Code *Title 15A Environmental Quality* Chapter 4, Sedimentation Control.

4.1.2. An accepted Erosion and Sedimentation Control Plan shall not exempt the Design-Build Team from making every effort to contain sediment onsite.

4.1.3. Whenever the Engineer determines that significant erosion and sedimentation continues despite the installation of approved protective practices, the Design-Build Team shall be required to, and shall, take additional protective action.

4.2. Preliminary Construction Meeting

4.2.1. Prior to any land disturbing activity, the Engineer will schedule a meeting with Division construction personnel, Design-Build Team senior management, Design-Build Team project staff, NCDOT project staff, consultant engineering / inspection staff, NCDOT Construction Unit, NCDOT Roadside Environmental Unit, Land Quality, Department of Water Resources and any other party associated with activities that impact the overall effectiveness of the project's erosion control.

4.2.2. During this meeting, the attendees shall review the Design-Build Team's Erosion Control Plans and identify potential erosion control issues. All attendees will provide comments, recommendations and supportive information to help facilitate resolution to the aforementioned potential erosion control issues.

4.3. Construction Meetings

4.3.1. Once construction begins, the Engineer may schedule monthly meetings to review the erosion control status. All parties listed above for the Preliminary Construction Meeting shall participate in these monthly construction meetings.

4.3.2. During the construction meetings, the erosion control efforts / issues to date will be reviewed and discussed. Additionally, the upcoming construction phases will be reviewed to identify potential erosion control issues. After the construction meeting, a project review may occur to identify site specific issues and identify solutions. The Design-Build Team shall be responsible for all actions, corrections and / or resolutions resulting from the construction meetings and / or subsequent site visits.

4.3.3. The NCDOT senior management will discuss issues that are repeatedly identified on inspection reports and / or discussed during the construction meetings with the Design-Build Team's senior management.

4.3.4. If project activities do not change the erosion control status / conditions, the Engineer may elect to change the construction meeting frequency or cancel a meeting.

4.4. Inspection and Certification

4.4.1. Erosion & Sediment Control / Stormwater Certification shall be required according to the Project Special Provision found elsewhere in this RFP.

4.4.2. Prior to installation of any erosion control devices, the Design-Build Team shall verify boundaries of jurisdictional areas in the field and delineate with Safety Fence or flagging. For guidance on Safety Fence and flagging in jurisdictional areas, see:

https://connect.ncdot.gov/resources/roadside/Pages/Field-Operations-Documents.aspx

4.5. Reclamation Plan

4.5.1. As required, borrow or waste areas that are part of the project shall require a separate Reclamation Plan, unless the borrow or waste activity is regulated under the *Mining Act of 1971*, or is a landfill regulated by the NCDEQ - Division of Waste Management (DWM). For newly created borrow pit(s) that require dewatering, Borrow Pit(s) Dewatering Basins shall be required and shall be in accordance with the applicable special provisions available at the website noted in Section IV above. The Design-Build Team shall submit the location and permit number for waste / borrow sites covered by the Mining Act or regulated by the NCDEQ - DWM concurrently to the Alternative Delivery Unit and the Resident Engineer. For Reclamation Procedures, see:

https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/Contract%20Reclamation%20Procedures.pdf

4.5.2. Temporary access and haul roads associated with borrow pits and staging areas shall be included in the Reclamation Plan.

4.6. Miscellaneous Construction Requirements

4.6.1. At a minimum, the Design-Build Team shall install Floating Turbidity Curtain at ponds, lakes, and other jurisdictional standing water bodies 1) where construction activities create surface fill impacts 2) or where sufficient erosion and sediment control devices cannot be installed to contain sediment and / or turbidity impacts.

4.6.2. Utilize special stilling basins to dewater the construction site in accordance with NCDOT *Best Management Practices for Construction and Maintenance Activities*.

4.6.3. To contain concrete wash water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment, provide Concrete Washout Structures or Prefabricated Concrete Washouts. These Concrete Washout must collect and retain all concrete wash water and solids so that this material does not migrate to surface waters or into the ground water. The Concrete Washout Structures are not intended for concrete waste not associated with washout operations. The Concrete Washout Structures may include devices above or below ground and / or commercially available devices designed specifically to capture concrete wash water. Concrete Washout options may be found in the special provision, as well as a Concrete Washout Structure Detail are available at the website noted below:

https://connect.ncdot.gov/resources/roadside/Pages/Soil-Water.aspx

4.6.4. All erosion control measures with stone extending beyond the construction limits shall be considered temporary fill. If impacted wetland areas are permitted as Hand Clearing, then the aforementioned temporary fill shall be permitted as Temporary Fill in Hand Cleared Areas for Erosion Control.

4.6.5. Sediment basins that drain directly into jurisdictional water or have a total drainage area of one acre or more shall be designed and constructed with outlet structures that only withdraw water from the surface. For sediment basins that do not drain directly into jurisdictional water or have less than one acre of total drainage area, surface dewatering outlets or stone outlets may be provided.

4.6.6. The Design-Build team shall adhere to the materials management requirements set forth in section F of the NCG010000 permit. Structural controls installed to manage construction materials stored or used on site shall be shown on the E&SC Plan.

4.6.7. All drilling mud used for directional drilling or other drilling operations must be contained and collected and not allowed to enter a stormwater conveyance or jurisdictional stream or wetland. Disposal of drilling muds will be made in accordance with NCDEQ NC Solid Waste Section document *Guidance for Managing Horizontal Drilling Muds from Pipelines and Other Such Utility Projects*. The document may be found at:

https://www.deq.nc.gov/waste-management/dwm/sf/ihs/guidance/drilling-mud-guidance/download

4.6.8. The Design-Build Team shall coordinate with the Division Roadside Engineer to delineate the limits of their active operations to allow for routine maintenance mowing and litter removal operations to occur within the project limits.

5. VEGETATION MANAGEMENT AND GROUND COVER REQUIREMENTS

5.1. Vegetation Management

5.1.1. To ensure adherence with the April 1, 2024 NCG-010000 General Construction Permit, issued by the North Carolina Department of Environmental Quality, Division of Water Resources, the Design-Build Team shall formally submit a project-wide Vegetation Management Procedure for the NCDOT's review and acceptance prior to any land disturbing activities. After this initial review, the Design-Build Team shall concurrently provide the NCDOT Resident Engineer and Roadside Environmental Field Operations Engineer updated versions of the Vegetation Management Procedure on a monthly basis. These updated versions will not require formal submittal to the Alternative Delivery Unit but will be subject to review comments by the aforementioned field personnel. All versions of the Vegetation Management Procedure shall include, but not be limited to, 1) provisions for the early establishment of grasses / vegetation, 2) provisions for obtaining the required 80% permanent vegetation stand, as defined in the April 1, 2024 NCG-01000 General Construction Permit and in accordance with the *Permanent Vegetation Establishment* Project Special Provision found elsewhere in this RFP, by the project final completion date, and 3) procedure and schedule details for fertilizer topdressing, supplemental seeding, mowing and repair seeding. The Vegetation Management Procedure shall be closely coordinated with the grading and hauling operations. The Design-Build Team shall provide a narrative overview of the Vegetation Management Procedure in the Technical Proposal.

5.1.2. From the beginning through the end of construction, the Design-Build Team shall maintain a comprehensive list that details when and where permanent / temporary / repair seeding and fertilizer topdressing have been performed.

5.2. Ground Cover Stabilization Requirements - NCG010000 (7 - 14 Days)

5.2.1. Ground cover stabilization shall comply with the timeframe guidelines specified by the North Carolina Department of Environmental Quality, Division of Water Resources NCG-010000 General Construction Permit that became effective on April 1, 2019. Excluding the slopes noted below, temporary and permanent ground cover stabilization shall be provided within seven calendar days from the last land-disturbing activity. The Design-Build Team shall label all slopes subject to the seven-day ground cover stabilization requirements on all Erosion and Sedimentation Control Plans submitted to the Department for review and acceptance.

5.2.2. For the slopes noted below, temporary and / or permanent ground cover stabilization shall be provided within 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of ten feet or less
- Slopes 3:1 or flatter, with a slope length of 50 feet or less
- Slopes 4:1 or flatter

5.2.3. Temporary and / or permanent ground cover stabilization shall be provided in accordance with the provisions in this RFP, the Vegetation Management Procedure developed by the Design-Build Team and the April 1, 2024 NCG-010000 General Construction Permit.

5.3. Additional Ground Cover Stabilization Requirements

5.3.1. Once the Design-Build Team identifies the area for stabilization due to inactivity, the Design-Build Team shall obtain concurrence from the Engineer and adhere to the following options based on the estimated amount of time the area will remain inactive. If the area stabilized exceeds the estimated timeframe, the Design-Build Team shall implement the next level of stabilization as directed by the Engineer. All application rates noted below are in pounds per acre.

5.3.2. **Short Term Stabilization - For areas that will remain inactive for up to 21 days**

Erodible areas shall be stabilized utilizing non-vegetative cover. Non-vegetative cover options include straw mulch, hydraulic applied erosion control products or rolled erosion control products. If straw mulch is used, it shall provide 100% groundcover and be tacked sufficiently to hold the mulch in place for the duration of the inactive period. All other methods shall be installed according to the manufacturer's directions.

5.3.3. **Mid-Term Stabilization - For areas that will remain inactive for up to 90 days**

- Erodible areas shall be stabilized utilizing the following stabilization protocol:

March 1 - August 31	**September 1 - February 28**
50# German or Browntop Millet	50# Rye Grain or Wheat
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

- At the Engineer's sole discretion, the use of limestone on sandy soils that require topsoil for stabilization may be eliminated. The Design-Build Team shall consult with, and obtain written approval from, the NCDOT Roadside Environmental Unit prior to eliminating limestone.
- Upon obtaining written approval from the Engineer, the Design-Build Team may use wood mulch and / or ground clearing and grubbing debris as an option for Mid-Term Stabilization. If approved, the aforementioned mulch and / or debris shall be installed at a thickness that prevents erosion.

5.3.4. **Long Term Stabilization - For areas that will remain inactive for more than 91 days**

- Erodible areas shall be stabilized utilizing the following stabilization protocol:

All Roadway Areas

August 1 - June 1		**May 1 - September 1**	
20#	Kentucky Bluegrass	20#	Kentucky Bluegrass
75#	Hard Fescue	75#	Hard Fescue
25#	Rye Grain	10#	German or Browntop Millet
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Riparian and Wetland Locations

August 1 - June 1		**May 1 – September 1**	
18#	Creeping Red Fescue	18#	Creeping Red Fescue
8#	Big Bluestem	8#	Big Bluestem
6#	Indiangrass	6#	Indiangrass
4#	Switchgrass	4#	Switchgrass
35#	Rye Grain	25#	German or Browntop Millet
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Areas

100#	Tall Fescue	100#	Tall Fescue
15#	Kentucky Bluegrass	15#	Kentucky Bluegrass
30#	Hard Fescue	30#	Hard Fescue
25#	Rye Grain	10#	German or Browntop Millet
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Approved Tall Fescue Cultivars

06 Dust	Escalade	Kalahari	Serengeti
2nd Millennium	Essential	Kitty Hawk 2000	Shelby
3rd Millennium	Evergreen 2	Legitimate	Shenandoah III

Avenger	Faith	Lexington	Shenandoah Elite
Bar Fa	Falcon IV	LifeGuard	Sheridan
Barlexas	Falson NG	LSD	Sidewinder
Barlexas II	Falcon V	Magellan	Signia
Barrera	Fat Cat	Masterpiece	Silver Hawk
Barrington	Fesnova	Millennium SRP	Skyline
Barrobusto	Fidelity	Monet	Solara
Barvado	Finelawn Elite	Mustang 4	Southern Choice II
Biltmore	Finelawn Xpress	Naturally Green	Speedway
Bingo	Finesse II	Ninja 2	Spyder LS
Bizem	Firebird	Ol' Glory	Sunset Gold
Black Tail	Firecracker LS	Padre	Taccoa
Blackwatch	Firenza	Patagonia	Tahoe II
Blade Runner II	Five Point	Pedigree	Talladega
Bonsai	Focus	Picasso	Tanzania
Braveheart	Forte	Piedmont	Temple
Bravo	Garrison	Plantation	Terrano
Bullseye	Gazelle II	Proseeds 5301	Thor
Cannavaro	GLX Aced	Prospect	Thunderstruck
Catalyst	Gold Medallion	Quest	Titanium LS
Cayenne	Grande 3	RainDance	Titan LTD
Cezanne RZ	Greenbrooks	Raptor II	Tracer
Chipper	Greenkeeper	Rebel IV	Traverse SRP
Cochise IV	Gremlin	Rebel Exeda	Trio
Constitution	Greystone	Rebel Sentry	Tulsa Time
Corgi	Guardian 21	Regenerate	Turbo
Corona	Guardian 41	Regiment II	Turbo RZ
Coyote	Hemi	Rembrandt	Tuxedo
Cumberland	Honky Tonk	Rendition	Ultimate
Darlington	Hot Rod	Reunion	Umbrella
DaVinci	Hunter	Rhambler 2 SRP	Van Gogh
Desire	Inferno	Riverside	Venture
Diablo	Integrity	RNP	Watchdog
Dominion	Jaguar 3	Rocket	Wolfpack II
Dynamic	Jamboree	Saltillo	Xtremegreen
Dynasty	Justice	Scorpion	

Approved Kentucky Bluegrass Cultivars:

4-Season	Blue Coat	Granite	Prosperity
Alexa II	Blue Note	Hampton	Quantum Leap
America	Blue Velvet	Harmonie	Rambo
Apollo	Boomerang	Impact	Rhapsody
Aramintha	Cabernet	Jackrabbit	Rhythm
Arcadia	Champagne	Jefferson	Royce

Aries	Champlain	Juliet	Rubicon
Armada	Chicago II	Keeneland	Rugby II
Arrow	Corsair	Langara	Rush
Arrowhead	Courtyard	Legend	Shariz
Aura	Dauntless	Liberator	Showcase
Avid	Delight	Lunar	Skye
Award	Diva	Madison	Solar Eclipse
Awesome	Dynamo	Mazama	Sonoma
Bandera	Eagleton	Mercury	Sorbonne
Barduke	Emblem	Merlot	Starburst
Barnique	Empire	Midnight	Sudden Impact
Baron	Envicta	Midnight II	Thermal Blue
Baroness	Everest	Moon Shadow	Total Eclipse
Barrister	Everglade	Mystere	Touche
Barvette HGT	Excursion	Nu Destiny	Tsunami
Bedazzled	Freedom II	NuChicago	Valor
Belissimo	Freedon III	NuGlade	Washington
Bewitched	Front Page	Oasis	Zedor
Beyond	Futurity	Odyssey	Zinfandel
Blackjack	Gaelic	Perfection	
Bluebank	Ginney II	Pinot	
Blueberry	Gladstone	Princeton 105	

Approved Hard Fescue Cultivars:

Aurora Gold	Firefly	Nordic	Rhino
Azay Blue	Gladiator	Oxford	Scaldis II
Beacon	Granite	Predator	Spartan II
Berkshire	Heron	Quatro	Stonehenge
Beudin	Jetty	Reliant II	Sword
Blueray	Minimus	Reliant IV	Warwick
Chariot	Miser	Rescue 911	
Eureka II	Nancock	Resolute	

Approved Creeping Red Fescue Cultivars

Aberdeen	Boreal	Epic	Cindy Lou

- From January 1 – December 31, the Design-Build Team shall apply an additional 20# of Sericea Lespedeza on cut and fill slopes 2:1 or steeper.

5.4. Soil Analysis

If vegetation establishment indicates a deficiency in soil nutrients or an incurred pH level is present, the Design-Build Team shall take soil samples and apply additional soil amendments to the affected area and as directed.

5.5. Fertilizer

5.5.1. Fertilizer used within the project limits shall be 10-20-20 analysis or a different analysis that provides a 1-2-2 ratio applied at a rate that provides the same amount of plant food as a 10-20-20 analysis and as directed.

5.5.2. Fertilizer used for waste and borrow areas shall be 16-8-8 grade applied at a rate of 500 pounds per acre; or a different analysis that provides a 2-1-1 ratio applied at a rate that provides the same amount of plant food as a 16-8-8 analysis and as directed.

5.6. Supplemental Seeding

5.6.1. For all supplemental seeding, the kinds of seed and proportions shall be the same as specified above for *Long Term Stabilization*. The rate of application for supplemental seeding shall be between 25# to 75# per acre. Prior to topdressing, the Design-Build Team shall determine the actual rate per acre for supplemental seeding and submit the supplemental seeding rate and areas to the Department for review and acceptance.

5.6.2. To prevent disturbance of existing vegetation, minimum tillage equipment, consisting of a sod seeder, shall be used to incorporate seed into the soil where degree of slope allows. Where degree of slope prevents the use of a sod seeder, a clodbuster (ball and chain) may be used.

6. EROSION CONTROL DAMAGES

6.1. Damages

6.1.1. The Design-Build Team shall observe and comply with Federal and State Laws, Local Laws, Ordinances, and Regulations; as well as Orders and Decrees of Bodies having any jurisdiction or authority in accordance with Section 107 of the 2024 NCDOT *Standard Specifications for Roads and Structures*.

6.1.2. The Design-Build Team shall take all reasonable precautions to comply with all regulations of all authorities having jurisdiction over public and private land governing the protection of erosion and sedimentation. Any fines, remediation required or charges levied against the Department for failing to comply with all rules and regulations concerning erosion and sediment control, due to the Design-Build Team's negligence, carelessness, or failure to implement the Erosion and Sedimentation Control Plans and Specifications; or failure to maintain an approved Storm Water Pollution Prevention Plan (SWPPP), regardless of absence of neglect, shall be deducted from monies due the Design-Build Team. In addition to said fines, remediation required, or charges levied, any associated engineering costs or actions taken by the Department in order for the Department to comply with rules and regulations, as a result of the Design-Build Team's negligence, carelessness, or failure to implement the Erosion and Sedimentation Control Plans and Specifications; and / or the SWPPP, regardless of absence of neglect, shall be deducted from the monies due to the Design-Build Team.

*** STANDARD SPECIAL PROVISIONS ***

AWARD OF CONTRACT

(1-16-18)(Rev. 4-10-24) 103 DB1 G01

Revise the 2024 *Standard Specifications for Roads and Structures* as follows:

Page 1-24, Subarticle 103-4(A) General, first paragraph, replace the 3rd and 4th sentences with the following:

Where award is to be made, the notice of award will be issued within 60 days after the opening of bids or upon issuance of any necessary debt instrument, whichever is later, but not to exceed 120 days; except with the consent of the successful proposer the decision to award the contract to such proposer may be delayed for as long a time as may be agreed upon by the Department and such proposer. In the absence of such agreement, the successful proposer may withdraw his bid at the expiration of 120 days without penalty if no notice of award has been issued.

HAUL ROADS

(7-16-24) 105 DB1 G04

Revise the *Standard Specifications* as follows:

Page 1-45, Article 105-15 RESTRICTION OF LOAD LIMITS, line 31, add the following after second sentence of the second paragraph:

At least 30 days prior to use, the Design-Build Team shall notify the Engineer of any public road proposed for use as a haul road for the project.

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES

(10-2-20) DB01 G090

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

EQUIPMENT IDLING GUIDELINES

(1-19-21) 107 DB1 R096

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

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

1. Idling when queuing.

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

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

MAINTENANCE OF THE PROJECT

(11-20-07) (Rev. 1-16-24) 104-10 DB1 G125

Revise the *Standard Specifications* as follows:

Page 1-35, Article 104-10 Maintenance of the Project, line 3, add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

Page 1-35, Article 104-10 MAINTENANCE OF THE PROJECT, line 8, add the following as the last sentence of the first paragraph:

The Design-Build Team shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. *Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in* accordance with this article, such repair or replacement shall be performed within seven consecutive calendar days of such inspection report.

Page 1-35, Article 104-10 MAINTENANCE OF THE PROJECT, lines 20-22, replace the last sentence of the last paragraph with the following:

The Design-Build Team will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail / guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7,

Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail / guiderail. Performance of weekly inspections of guardrail / guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

PLANT AND PEST QUARANTINES

(3-18-03) (Rev. 3-18-25) Z-04a

(Imported Fire Ant, Guava Root Knot Nematode, Spongy Moth (formerly known as gypsy moth), Witchweed, Cogon Grass, And Any Other Regulated Noxious Weed or Plant Pest)

Within Quarantined Area

This project may be within a county regulated for plant and / or pests. If the project or any part of the Design-Build Team'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/divisions/plant-industry/plant-protection/plant-industry-plant-pest-quarantines** 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 present a hazard of spreading imported fire ant, guava root knot nematode, spongy

moth (formerly known as gypsy moth), witchweed, cogon grass, or other regulated noxious weed or plant pest.

ON-THE-JOB TRAINING

(2-24-15) (Rev. 7-20-17) 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 one 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 subcontractor. 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.

STANDARD SPECIAL PROVISION

AVAILABILITY OF FUNDS - TERMINATION OF CONTRACTS

(9-1-11) 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 North Carolina Department of Transportation *Standard Specifications*, dated January 2024 and as amended by the Standard Special Provision, Division One found elsewhere in this RFP.

***** STANDARD SPECIAL PROVISIONS *****

NCDOT GENERAL SEED SPECIFICATIONS FOR SEED QUALITY

(5-7-11) Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

Restricted Noxious Weed	Limitations per Lb. of Seed	Restricted Noxious Weed	Limitations per Lb. of Seed
Blessed Thistle	4 seeds	Cornflower (Ragged Robin)	27 seeds
Cocklebur	4 seeds	Texas Panicum	27 seeds
Spurred Anoda	4 seeds	Bracted Plantain	54 seeds
Velvetleaf	4 seeds	Buckhorn Plantain	54 seeds
Morning-glory	8 seeds	Broadleaf Dock	54 seeds
Corn Cockle	10 seeds	Curly Dock	54 seeds
Wild Radish	12 seeds	Dodder	54 seeds
Purple Nutsedge	27 seeds	Giant Foxtail	54 seeds
Yellow Nutsedge	27 seeds	Horsenettle	54 seeds
Canada Thistle	27 seeds	Quackgrass	54 seeds
Field Bindweed	27 seeds	Wild Mustard	54 seeds
Hedge Bindweed	27 seeds		

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)
Kobe Lespedeza
Korean Lespedeza
Weeping Lovegrass
Carpetgrass
Bermudagrass
Browntop Millet
German Millet - Strain R
Clover - Red / White / Crimson

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Centipedegrass
Crownvetch
Pensacola Bahiagrass
Creeping Red Fescue
Japanese Millet
Reed Canary Grass
Zoysia

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem
Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION

ERRATA

(1-16-24) Z-4

Revise the 2024 NCDOT *Standard Specifications for Roads and Structures* 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 16-3, Article 1609-2 MATERIALS, after line 26, replace "Type 4" with "Type 4a".

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

***** STANDARD SPECIAL PROVISIONS *****

TITLE VI AND NONDISCRIMINATION

(6-28-77) (Rev 1-16-24) 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 US.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award."

4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.

5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.

6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.

(b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))

(c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))

(d) The Contractor is responsible for notifying subcontractors of NCDOT's External Discrimination Complaints Process.

1. Applicability

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

2. Eligibility

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

3. Time Limits and Filing Options

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

(i) The date of the alleged act of discrimination; or

(ii) The date when the person(s) became aware of the alleged discrimination; or

(iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.

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

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

4. Format for Complaints

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

5. Discrimination Complaint Form

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

6. Complaint Basis

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

TABLE 103-1
COMPLAINT BASIS

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. *(Executive Order 13166)*
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin *(Limited English Proficiency)*	Place of birth. Citizenship is not a factor. (*Discrimination based on language or a person's accent is also covered)*	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. *Note:* Sex under this program does not include sexual orientation.	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) *(Religion/ Creed in all aspects of any aviation or transit-related construction)*	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. ***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.	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. *(49 U.S.C. 5332(b);* *49 U.S.C. 47123)*

(3) Pertinent Nondiscrimination Authorities

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

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

(b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

(c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

(d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;

(e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

(f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

(g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

(h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

(i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

(j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

(k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

(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, Non-discrimination 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 PROVISIONS *****

MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS

(12-18-07) Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female Participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project or the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations in *41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

EMPLOYMENT GOALS FOR MINORITY AND FEMALE PARTICIPATION

Economic Areas

Area 023 29.7%
Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%
Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%
Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%
Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%
Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%
Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%
Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%
Buncombe County
Madison County

Area 030 6.3%
Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

SMSA Areas

Area 5720 26.6%
Currituck County

Area 9200 20.7%
Brunswick County
New Hanover County

Area 2560 24.2%
Cumberland County

Area 6640 22.8%
Durham County
Orange County
Wake County

Area 1300 16.2%
Alamance County

Area 3120 16.4%
Davidson County
Forsyth County
Guilford County
Randolph County
Stokes County
Yadkin County

Area 1520 18.3%
Gaston County
Mecklenburg County
Union County

Goals for Female

Participation in Each Trade

(Statewide) 6.9%

STANDARD SPECIAL PROVISION

REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION CONTRACTS

FHWA - 1273 - Revised October 23, 2023 Z-8

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non- minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101.
Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long- standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be 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. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and
1200.220.

1. **Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction 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 to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) 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, 2 CFR 180.800;

(3) 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 (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification – Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. 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 clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction 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 to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20250086 01/03/2025 NC86

Z-086

Date: January 3, 2025

General Decision Number: NC20250086 01/03/2025 NC86

Superseded General Decision Numbers: NC20240086

State: North Carolina

Construction Type: HIGHWAY

COUNTIES

Alleghany	Jackson	Surry
Ashe	Lincoln	Swain
Avery	Macon	Transylvania
Cherokee	McDowell	Watauga
Clay	Mitchell	Wilkes
Cleveland	Polk	Yancey
Graham	Rutherford	

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The Design-Build Team must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The Design-Build Team must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the Design-Build Team must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at **http://www.dol.gov/whd/govcontracts**.

Modification Number	**Publication Date**
0	01/03/2025

SUNC2014-001 11/13/2014

	Rates	**Fringes**
BLASTER	21.83	
CARPENTER	12.54 **	
CEMENT MASON / CONCRETE FINISHER	14.10 **	
ELECTRICIAN		
Electrician	19.19	2.39
Telecommunications Technician	15.13 **	
IRONWORKER	14.53 **	
LABORER		
Asphalt Raker and Spreader	12.23 **	
Asphalt Screed / Jackman	15.22 **	
Carpenter Tender	10.00 **	
Cement Mason / Concrete Finisher Tender	12.26 **	
Common or General	10.68 **	
Guardrail / Fence Installer	13.43 **	
Pipelayer	12.22 **	
Traffic Signal / Lighting Installer	15.85 **	
PAINTER		
Bridge	19.62	
POWER EQUIPMENT OPERATORS		
Asphalt Broom Tractor	11.00 **	
Bulldozer Fine	16.20 **	
Bulldozer Rough	13.89 **	
Concrete Grinder / Groover	24.66	
Crane Boom Trucks	14.44 **	.53
Crane Other	19.59	
Crane Rough / All-Terrain	21.25	
Drill Operator Rock	15.25 **	
Drill Operator Structure	20.92	
Excavator Fine	16.11 **	
Excavator Rough	13.10 **	
Grader / Blade Fine	19.24	
Grader / Blade Rough	13.07 **	
Loader 2 Cubic Yards or Less	13.38 **	
Loader Greater Than 2 Cubic Yards	16.01 **	
Material Transfer Vehicle (Shuttle Buggy)	17.39	
Mechanic	18.51	
Milling Machine	13.88 **	
Off-Road Hauler / Water Tanker	13.87 **	
Oiler / Greaser	14.98 **	

	Rates	Fringes
Pavement Marking Equipment	13.33 **	
Paver Asphalt	15.68 **	.05
Roller Asphalt Breakdown	14.05 **	.06
Roller Asphalt Finish	14.98 **	.04
Roller Other	11.75 **	
Scraper Finish	13.87 **	
Scraper Rough	11.53 **	
Slip Form Machine	20.79	
Tack Truck / Distributor Operator	14.67 **	.06
TRUCK DRIVER		
GVWR of 26,000 Lbs or Less	11.72 **	
GVWR of 26,001 Lbs or Greater	13.50 **	

Welders - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.75) or 13658 ($13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at http://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in

the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing this classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

"SU" wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the "SA" identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

END OF GENERAL DECISION

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20250088 01/03/2025 NC88

Z-088

Date: January 3, 2025

General Decision Number: NC20250088 01/03/2025 NC88

Superseded General Decision Numbers: NC20240088

State: North Carolina

Construction Type: HIGHWAY

COUNTIES

Alamance	Forsyth	Randolph
Anson	Gaston	Rockingham
Cabarrus	Guilford	Stokes
Chatham	Mecklenburg	Union
Davie	Orange	Yadkin
Durham	Person	

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The Design-Build Team must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The Design-Build Team must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance

of work on the contract does not appear on this wage determination, the Design-Build Team must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at **http://www.dol.gov/whd/govcontracts**.

Modification Number	Publication Date
0	01/03/2025

SUNC2014-003 11/14/2014

	Rates	Fringes
BLASTER	18.64	
CARPENTER	13.68 **	.05
CEMENT MASON / CONCRETE FINISHER	13.93 **	
ELECTRICIAN		
Electrician	18.79	2.72
Telecommunications Technician	15.19 **	1.25
IRONWORKER	13.30 **	
LABORER		
Asphalt Raker and Spreader	12.78 **	
Asphalt Screed / Jackman	14.50 **	
Carpenter Tender	12.51 **	.27
Cement Mason / Concrete Finisher Tender	11.04 **	
Common or General	10.40 **	.01
Guardrail / Fence Installer	13.22 **	
Pipelayer	12.43 **	
Traffic Signal / Lighting Installer	15.65 **	.24
PAINTER		
Bridge	23.77	
POWER EQUIPMENT OPERATORS		
Asphalt Broom Tractor	10.00 **	
Bulldozer Fine	16.13 **	
Bulldozer Rough	14.36 **	
Concrete Grinder / Groover	17.92	
Crane Boom Trucks	18.19	
Crane Other	19.83	
Crane Rough / All-Terrain	19.10	
Drill Operator Rock	14.28 **	
Drill Operator Structure	20.89	
Excavator Fine	16.95	
Excavator Rough	13.63 **	
Grader / Blade Fine	19.84	
Grader / Blade Rough	15.47 **	
Loader 2 Cubic Yards or Less	13.31 **	
Loader Greater Than 2 Cubic Yards	16.19 **	
Material Transfer Vehicle (Shuttle Buggy)	15.44 **	
Mechanic	17.51	
Milling Machine	15.22 **	
Off-Road Hauler / Water Tanker	11.83 **	
Oiler / Greaser	14.16 **	
Pavement Marking Equipment	12.05 **	
Paver Asphalt	15.97 **	

	Rates	Fringes
Paver Concrete	18.20	
Roller Asphalt Breakdown	12.79 **	
Roller Asphalt Finish	13.76 **	
Roller Other	12.08 **	
Scraper Finish	12.65 **	
Scraper Rough	11.50 **	
Slip Form Machine	19.60	
Tack Truck / Distributor Operator	14.82 **	
TRUCK DRIVER		
GVWR of 26,000 Lbs or Less	11.45 **	
GVWR of 26,001 Lbs or Greater	13.57 **	.03

Welders - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.75) or 13658 ($13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at **https://www.dol.gov/agencies/whd/government-contracts**.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the

local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

"SU" wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the "SA" identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via mail to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

END OF GENERAL DECISION

MINIMUM WAGES

(07-21-09) Z-5

FEDERAL: The Fair Labor Standards Act provides that with certain exceptions every employer must 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.

The determination of the intent of the application of these Acts to the project's contract shall be the Design-Build Team's responsibility.

The Design-Build Team shall have no claim against the Department of Transportation for any changes in the minimum wage laws, State or Federal. It shall be the responsibility of the Design-Build Team to be fully informed of all Federal and State Laws affecting the project's contract.

***** STANDARD SPECIAL PROVISIONS *****

(10-23-17) (Rev. 1-16-24)

DIVISION ONE OF STANDARD SPECIFICATIONS

Division One of the 2024 NCDOT *Standard Specifications for Roads and Structures* (*Standard Specifications*) shall apply except as follows:

Definitions: Throughout Division One of the *Standard Specifications*, the term "Contractor" is replaced with "Design-Build Team", the term "Bidder" is replaced with "Proposer," the term "Bid" is replaced with "Price Proposal," and the phrase "lowest Responsible Bidder" is replaced with "responsible Proposer with the lowest adjusted price." Throughout Article 102-2, the term "State Contractual Services Engineer" is replaced with "State Prequalifications Engineer". The replacement of "Contractor" with "Design-Build Team" does not apply to Article 102-2. The replacement of the above terms also does not apply when the terms are part of a phrase (e.g. bid bond, prime contractor, total amount bid, etc.)

Deletions: Articles / Subarticles 102-3(B), 102-4, 102-8(B), 102-9(C)(2), 103-2(B), and 103-4(B) of the *Standard Specifications* are deleted from Design-Build Contracts.

Modifications: The remainder of this Standard Special Provision includes modifications to Division One of the *Standard Specifications*.

SECTION 101
DEFINITION OF TERMS

Page 1-3, Article 101-3, replace and add certain definitions as follows:

ADDITIONAL WORK

Additional work is that which results from a change or alteration to the contract and for which there are contract unit prices in the original contract or an executed supplemental agreement.

ADVERTISEMENT

The public advertisement inviting Statements of Qualifications for the design and construction of specific projects.

AWARD

The decision of the Department of Transportation to accept the Technical and Price Proposals of the selected Design-Build Team for work which is subject to the furnishing of payment and performance bonds, and such other conditions as may be otherwise provided by law, the Request for Proposals, and the *Standard Specifications*.

CONTRACT

The executed agreement between the Department and the successful Proposer, covering the performance of, and compensation for, the work. The term contract is all inclusive with reference to all written agreements affecting a contractual relationship and all documents referred to therein. The contract shall include, but not be limited to, the Request for Proposals, the Technical Proposal, the Price Proposal, the printed contract form and attachments, contract bonds, plans and associated special provisions prepared by the Design-Build Team, standard specifications and supplemental specifications, standard special provisions and project special provisions contained in the Request for Proposals or as developed by the Design-Build Team and accepted by the Department, and all executed supplemental agreements. The contract shall constitute one instrument.

DATE OF AVAILABILITY

That date, established as set forth in the Request for Proposals, by which it is anticipated that the Contract will be executed and sufficient design efforts or work sites within the project limits will be available for the Design-Build Team to begin the controlling operations or design.

DESIGN-BUILD

A form of contracting in which the successful Proposer undertakes responsibility for both the design and construction of a project.

DESIGN-BUILD TEAM

An individual, partnership, joint venture, corporation or other legal entity that furnishes the necessary design and construction services, whether by itself or through subcontracts.

DESIGN-BUILD PROPOSAL

A proposal to contract consisting of a separately sealed Technical Proposal and a separately sealed Price Proposal submitted in response to a Request for Proposals on a Design-Build project.

PLANS

The project plans, Standard Drawings, working drawings and supplemental drawings, or reproductions thereof, accepted by the Engineer, which show the location, character, dimensions and details of the work to be performed. Unless noted otherwise within the Request for Proposals, the term “plans” refers to plans as developed by the Design-Build Team and accepted by the Department.

(A)
(B)
(C)

(D) Standard Drawings

Drawings approved for repetitive use, showing details to be used where appropriate. All Standard Drawings approved by the Department plus subsequent revisions and additions. Standard Drawings are available for purchase from:

State Contract Officer
1591 Mail Service Center
Raleigh, NC 27699-1591

(E) Preliminary Plans

Department-furnished drawings distributed in concert with a Request for Proposals, or as developed by the Design-Build Team.

(F) Project Plans

Construction drawings prepared, sealed and completed by the Design-Build Team, or as provided by the Department, that contain specific details and dimensions peculiar to the work.

(G) Working Drawings and Supplemental Drawings

Supplemental design sheets, shop drawings, or similar data which the Design-Build Team is required to submit to the Engineer.

(H) As-Built Plans

Coordinately correct plans documenting the details, dimensions and locations of the completed work.

PRICE PROPOSAL

The offer of a Proposer, submitted on the prescribed forms, to perform the work and furnish the labor and materials at the price quoted.

PROPOSER

An individual, partnership, firm, corporation, LLC, or joint venture formally submitting a Technical Proposal and Price Proposal in response to a Request for Proposals.

REQUEST FOR PROPOSALS

The paper document provided by the Department that the Proposer uses to develop his paper offer to perform the work at designated bid prices.

RIGHT OF WAY

The land area shown on the plans as right of way within which the project is to be constructed.

SCHEDULE OF VALUES

A schedule of work items necessary to complete work, along with the progress of each work item, primarily for the purpose of partial payments.

TABLE OF QUANTITIES

A listing of work items (corresponding to the items in the Trns*port pay item list) that contributes to a project completion. The table shall include estimated quantities for each work item.

TECHNICAL PROPOSAL

A submittal from a Proposer, in accordance with the Request for Proposals requirements, for the purpose of final selection. The Technical Proposal is defined to also include any supplemental information requested by the Department from a Proposer prior to opening bids.

SECTION 102
PROPOSAL REQUIREMENTS AND CONDITIONS

Page 1-9, delete Article 102-1 and replace with the following:

102-1 INVITATION TO BID

After the advertisement has been made, an Invitation to Bid will be made available to known prequalified contractors and any other contracting firms, material suppliers and other interested parties who have requested they be placed on the Invitation to Bid mailing list, informing them that Statements of Qualifications and Design-Build Proposals will be received for the design and construction of specific projects. Such invitation will indicate the contract identification number, length, locations and descriptions; a general summary of the scope of work to be performed; and information on how to receive a Request for Qualifications.

All projects will be advertised in daily newspapers throughout the state before the Price Proposal opening.

Page 1-12, delete Article 102-3 and replace with the following:

102-3 CONTENTS OF REQUEST FOR PROPOSALS

A Request for Proposals will be furnished by the Department to the selected Proposers from among the respondents to the Request for Qualifications. Each Request for Proposals will be marked on the front cover by the Department with an identifier of the Proposer to whom it is being furnished. This Request for Proposals will state the location of the project and will show a schedule of contract items for which Technical and Price Proposals are invited. It will set forth the date and time Technical and Price Proposals are to be submitted and when the Price Proposals will be opened. The Request for Proposals will also include special provisions or requirements that vary from or are not contained in any preliminary design information or standard specifications.

The Request for Proposals will also include the printed contract forms and signature sheets for execution by both parties to the contract. In the event the Proposer is awarded the contract, execution of the Request for Proposals by the Proposer is considered the same as execution of the contract.

Standard specifications, sealed plans specifically identified as the Department's responsibility and other documents designated in the Request for Proposals shall be considered a part of the Request for Proposals whether or not they are attached thereto. All papers bound to the Request for Proposals are necessary parts thereof and shall not be detached, taken apart, or altered.

The names and identity of each prospective Proposer that receives a copy of the Request for Qualifications for the purposes of submitting a Statement of Qualifications shall be made public, except that a potential Proposer who obtains a Request for Qualifications may, at the time of ordering, request that his name remain confidential.

One copy of the Final Request for Proposals will be furnished to each prospective Proposer. Additional copies may be purchased for the sum of $25 each. The copy of the Final Request for Proposals marked with the Proposer's name and prequalification number shall be returned to the Department as the Proposer's Price Proposal.

Page 1-14, Article 102-7, 4th paragraph, delete the first two sentences and replace with the following:

Details shown in the subsurface investigation report are preliminary only. The subsurface investigation and subsurface report, if provided, is done so for information purposes only.

Pages 1-14, delete Article 102-8 and replace with the following:

102-8 PREPARATION AND SUBMISSION OF BIDS

All Price Proposals shall be prepared and submitted in accordance with the following requirements:

1. The Request for Proposals provided by the Department shall be used and shall not be taken apart or altered. The Price Proposal shall be submitted on the same form, which has been furnished to the Proposer by the Department as identified by the Proposer's name marked on the front cover by the Department.

2. All entries including signatures shall be written in ink.

3. The Proposer shall submit a lump sum or unit price for every item in the Request for Proposals. The lump sum or unit prices bid for the various contract items shall be written in figures.

4. An amount bid shall be entered in the Request for Proposals for every item and the price shall be written in figures in the "Amount Bid" column in the Request for Proposals.

5. An amount bid shall be entered in the Request for Proposals for every item on which a unit price has been submitted. The amount bid for each item other than lump sum items shall be determined by multiplying each unit bid price by the quantity for that item and shall be written in figures in the Amount Bid column in the Request for Proposals.

6. The total amount bid shall be written in figures in the proper place in the Request for Proposals. The total amount bid shall be determined by adding the amounts bid for each lump sum item.

7. Changes in any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Proposer shall initial the change in ink.

8. The Price Proposal shall be properly executed. To constitute proper execution, the Price Proposal shall be executed in strict compliance with the following:

    a. If a Price Proposal is by an individual, it shall show the name of the individual and shall be signed by the individual with the word "Individually" appearing under the signature. If the individual operates under a firm name, the Price Proposal shall be signed in the name of the individual doing business under the firm name.

    b. If the Price Proposal is by a corporation, it shall be executed in the name of the corporation by the President, Vice President, or Assistant Vice President. It shall be attested by the Secretary or Assistant Secretary. The seal of the corporation shall be affixed. If the Price Proposal is executed on behalf of a corporation in any other manner than as above, a certified copy of the minutes of the Board of Directors of said corporation authorizing the manner and style of execution and the authority of the person executing shall be attached to the Price Proposal or shall be on file with the Department.

c. If the Price Proposal is made by a partnership, it shall be executed in the name of the partnership by one of the general partners.

d. If the Price Proposal is made by a limited liability company, it shall be signed by the manager, member, or authorized agent.

e. If the Price Proposal is made by a joint venture, it shall be executed by each of the joint venturers in the appropriate manner set out above. In addition, the execution by the joint venturers shall appear below their names.

9. The Price Proposal shall not contain any unauthorized additions, deletions, or conditional bids.

10. The Proposer shall not add any provision reserving the right to accept or reject an award or to enter into a contract pursuant to an award.

11. The Price Proposal shall be accompanied by a bid bond on the form furnished by the Department or by a bid deposit. The bid bond shall be completely and properly executed in accordance with the requirements of Article 102-10 and as modified herein. The bid deposit shall be a certified check or cashier check in accordance with Article 102-10 and as modified herein.

12. The Price Proposal shall be placed in a sealed package and shall have been delivered to, and received by, the Department prior to the time specified in the Request for Proposals.

Page 1-18, Article 102-10, 3rd paragraph, delete the fifth sentence and replace with the following:

The condition of the bid bond or bid deposit is: the Principal shall not withdraw its bid within 75 days after the submittal of the same, and if the Department shall award a contract to the Principal, the Principal shall, within 14 calendar days after the written notice of award is received by him, give payment and performance bonds with good and sufficient surety as required for the faithful performance of the contract and for the protection of all persons supplying labor and materials in the prosecution of the work.

Page 1-18, Article 102-10, delete the end of the Article beginning with, and inclusive of, the 6th paragraph.

Pages 1-19, delete Article 102-12 and replace with the following:

102-12 WITHDRAWAL OR REVISION OF BIDS

A Design-Build Team will not be permitted to withdraw its Technical Proposal and / or Price Proposal after they have been submitted to the Department, unless allowed under Article 103-3 or unless otherwise approved by the Chief Engineer.

Page 1-19, delete Article 102-13 and replace with the following:

102-13 RECEIPT AND OPENING OF BIDS

Price Proposals from short-listed Proposers will be opened and read publicly on the date and time indicated in the Request for Proposals. The Technical Scores of the previously conducted evaluation of the Technical Proposals will also be read publicly in accordance with the procedures outlined in the Request for Proposals. Proposers, their authorized agents, and other interested parties are invited to be present.

Page 1-19, Article 102-14, replace the 1st paragraph with the following:

102-14 REJECTION OF BIDS

Any Price Proposal submitted which fails to comply with any of the requirements of Articles 102-8, 102-9 or 102-10, or with the requirements of the project scope and specifications shall be considered irregular and may be rejected. A Price Proposal that does not contain costs for all items in the Request for Proposals shall be considered irregular and may be rejected.

SECTION 103
AWARD AND EXECUTION OF CONTRACT

Page 1-21, delete Article 103-1 and replace with the following:

103-1 CONSIDERATION OF PRICE PROPOSALS

After the Price Proposals are opened and read, they will be tabulated. The Price Proposal and Technical Score of the Technical Proposal will be made available in accordance with procedures outlined in the Request for Proposals. In the event of errors, omissions, or discrepancies in the Price Proposal, corrections to the Price Proposal will be made in accordance with the provisions of Article 103-2. Such corrected bid prices will be used to determine the lowest adjusted price.

After the reading of the Price Proposals and Technical Scores, the Department will calculate the lowest adjusted price as described in the Request for Proposals.

The right is reserved to reject any or all Price Proposals, to waive technicalities, to request the Proposer with the lowest adjusted price to submit an up-to-date financial and operating statement, to advertise for new Price Proposals, or to proceed to do the work otherwise, if in the judgment of the Department, the best interests of the State will be promoted thereby.

Page 1-21, Subarticle 103-2(A), add items (8) and (9) as follows:

(8) Discrepancy in the "Total Amount Bid" and the addition of the "Amount Bid" for each line Item

In the case of the Total Amount Bid does not equal the summation of each Amount Bid for the line items, the summation of each Amount Bid for the line items shall be deemed to be the correct Total Amount Bid for the entire project.

(9) Omitted Total Amount Bid –Amount Bid Completed

If the Total Amount Bid is not completed and the Amount Bid for all line items is completed the Total Amount Bid shall be the summation of the Amount Bid for all the line items.

Page 1-24, Subarticle 103-4(A), first paragraph, replace the 3rd and 4th sentences with the following:

Where award is to be made, the notice of award will be issued within 75 days after the submittal of Price Proposals, except with the consent of the responsible Proposer with the lowest adjusted price the decision to award the contract to such bidder may be delayed for as long a time as may be agreed upon by the Department and such Proposer. In the absence of such agreement, the Proposer may withdraw his Price Proposal at the expiration of the 75 days without penalty if no notice of award has been issued.

Page 1-24, Subarticle 103-4(B), first paragraph, replace the first sentence with the following:

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

Page 1-25, Article 103-6, delete the 1st and 2nd paragraphs and replace with the following:

Checks that have been furnished as a bid deposit will be retained until after the contract bonds have been furnished by the successful Proposer, at which time the checks that were furnished as a bid deposit will be returned.

SECTION 104
SCOPE OF WORK

Page 1-26, delete Article 104-1 and replace with the following:

104-1 INTENT OF CONTRACT

The intent of the contract is to prescribe the work or improvements that the Design-Build Team undertakes to perform, in full compliance with the contract documents. In case the method of construction or character of any part of the work is not covered by the contract, this section shall apply. The Design-Build Team shall perform all work in accordance with the contract or as may be modified by written orders, and shall do such additional, extra, and incidental work as may be considered necessary to complete the work to the full intent of the contract. Unless otherwise provided elsewhere in the contract, the Design-Build Team shall furnish all implements, machinery, equipment, tools, materials, supplies, transportation, and labor necessary for the design, prosecution and completion of the work.

Page 1-26, Article 104-3, replace "plans or details of construction" with "contract" in all instances within this Article.

Page 1-34, Article 104-8, add the following Subarticle to the end of this article:

(E) Coordination with CPM

If the Design-Build Team requests additional compensation in accordance with Articles 104-3, 104-7, and this Article, a fragmentary logic diagram (fragnet) shall be prepared and submitted with such request. A fragnet is defined as the sequence of new activities that are proposed to be added to the current schedule to represent the alleged cost and potential time impact(s). The fragnet shall be developed with sufficient detail to clearly depict the alleged change to the current schedule of record.

The Design-Build Team shall prepare the fragnet depicting all activities and costs associated with the request for additional compensation. The fragnet shall identify all predecessor and successor activities, any changes in durations of existing activities and any activities added to or deleted from the current schedule or record as a direct result of the request for additional compensation.

If the request for additional compensation is agreeable to the Engineer, the Engineer will evaluate the provided fragnet within current schedule of record as follows:

(1) The Design-Build Team shall provide the fragnet, supporting information and narrative describing how the fragnet is incorporated (predecessors and successors) into the schedule referenced below.

(2) The Design-Build Team shall update the current schedule of record to the anticipated supplemental agreement effective date and provide this schedule to the Engineer for review.

(3) The Design-Build Team shall provide a separate updated schedule, as defined in item 2 above, with the fragnet inserted.

(4) The revised Scheduled Completion Date will be evaluated by the Engineer; and

(5) If the associated time difference in the above Scheduled Completion Dates (items 2 and 3 above) results in a time extension, such extension will be provided within the supplemental agreement, unless modified through compensation for acceleration or other mitigation strategy. If project float is created by the work, it will be encompassed within the modified and updated schedule of record. Both the Design-Build Team and the NCDOT will have access to this float as detailed in Article 108-2 of this Standard Special Provision.

Page 1-35, delete Article 104-10 and replace with the following:

104-10 MAINTENANCE OF THE PROJECT

The Design-Build Team shall maintain the project from the date of beginning construction on the project until the project is finally accepted. For sections of facilities impacted by utility construction / relocation performed by the Design-Build Team prior to beginning construction on the roadway project, maintenance of the impacted sections of facilities shall be performed by the Design-Build Team beginning concurrently with the impact. This maintenance shall be continuous and effective and shall be prosecuted with adequate equipment and forces to the end that all work covered by the contract is kept in satisfactory and acceptable conditions at all times.

All existing and constructed guardrail / guiderail within the project limits shall be included in this maintenance. The Design-Build Team shall perform weekly inspections of all guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in accordance with this Article, such repair or replacement shall be performed within seven consecutive calendar days of such inspection report.

The Design-Build Team shall maintain all existing drainage facilities, except where the work consists of resurfacing only, such that they are in the same condition upon acceptance of the project as they were when the project was made available to the Design-Build Team. In the event that the Design-Build Team's work is suspended for any reason, the Design-Build Team shall maintain the work covered by the contract, as provided herein. When a portion of the project is accepted as provided in Article 105-17, immediately after such acceptance, the Design-Build Team will not be required to maintain the accepted portion. Should latent defects be discovered

or become evident in an accepted portion of the project, the Design-Build Team shall repair or replace the defective work at no cost to the Department.

Where an observation period(s) is required that extends beyond the final acceptance date, the Design-Build Team shall perform any work required by the observation period until satisfactory completion of the observation period.

With the exception of the maintenance of existing and constructed guardrail / guiderail, the Design-Build Team will not be directly compensated for any maintenance operations. The Design-Build Team will not be compensated for the performance of weekly inspections of guardrail / guiderail, and the damage reports required as described above. Authorized maintenance activities for existing and constructed guardrail / guiderail within the project limits will be paid for as extra work in accordance with Articles 104-7 and 104-8 of the *Standard Specifications.*

SECTION 105
CONTROL OF WORK

Pages 1-40, delete Article 105-2 and replace with the following:

105-2 PLANS AND WORKING DRAWINGS

All plans shall be supplemented by such approved working drawings as are necessary to adequately control the work. Working drawings furnished by the Design-Build Team and approved by the Engineer shall consist of such detailed drawings as may be required to adequately control the work. They may include stress sheets, shop drawings, erection drawings, falsework drawings, cofferdam drawings, bending diagrams for reinforcing steel, catalog cuts, or any other supplementary drawings or similar data required of the Design-Build Team. When working drawings are approved by the Engineer, such approval shall not operate to relieve the Design-Build Team of any of his responsibility under the contract for the successful completion of the work.

Changes on shop drawings after approval and / or distribution shall be subject to the approval of the Engineer and he shall be furnished a record of such changes.

Page 1-41, Article 105-3, add the following after the 3rd paragraph:

The Design-Build Team shall bear all the costs of providing the burden of proof that the nonconforming work is reasonable and adequately addresses the design purpose. The Design-Build Team shall bear all risk for continuing with nonconforming work in question until it is accepted.

The Engineer may impose conditions for acceptance of the nonconforming work. The Design-Build Team shall bear all costs for fulfilling the conditions.

The decisions whether the product satisfies the design purpose, whether the nonconforming work is reasonably acceptable and the conditions for acceptance are at the sole discretion of the Engineer.

Pages 1-41, delete Article 105-4 and replace with the following:

105-4 COORDINATION OF PLANS, SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS

The Request for Proposals, all construction Plans, the Standard Specifications, Supplemental Specifications and Special Provisions and all supplementary documents are essential parts of the contract and a requirement occurring in one is as binding as though occurring in all. They are complementary and describe and provide the complete contract.

In case of discrepancy or conflict, the order in which they govern shall be as follows:

(A) Request for Proposals, in which Project Special Provisions govern Standard Special Provisions

(B) Technical Proposal from the Design-Build Team

(C) Accepted Plans and Details from the Design-Build Team, or sealed plans provided by the Department, as applicable

(D) Standard Drawings

(E) Standard Specifications

Where dimensions on the plans are given or can be computed from other given dimensions they shall govern over scaled dimensions.

The Design-Build Team shall take no advantage of any error or omission in the plans, estimated quantities, or specifications. In the event the Design-Build Team discovers an error or omission, he shall immediately notify the Engineer.

Page 1-43, delete Article 105-9 and replace with the following:

105-9 CONTRUCTION STAKES, LINES, AND GRADES

The Design-Build Team shall be responsible for all surveying, construction staking and layout required in the performance of the work. The Design-Build Team shall be responsible for the accuracy of lines, slopes, grades and other engineering work which the Design-Build Team provides under this contract.

SECTION 106
CONTROL OF MATERIAL

Page 1-49, Article 106-2, add the following after the second paragraph:

Prior to beginning construction, the Design-Build Team shall provide a Table of Quantities as described in Article 101-3 of these specifications.

The Table of Quantities Work Items shall correspond to Pay Items as defined in the Standard Specifications. These Work Items have associated Materials and Conversion Factors. For non-standard Work Items, a Generic Work Item with the correct Unit of Measure and in an appropriate category will be used. For example, "GENERIC TRAFFIC CONTROL ITEM - EA" or "GENERIC RETAINING WALL ITEM - LF". For these Generic Work Items, Materials must be defined and appropriate conversion factors submitted.

An initial Table of Quantities shall be submitted no later than 30 calendar days after the date of award. The Table of Quantities shall be updated and resubmitted within 14 days of when a set of Plans is sealed as Release for Construction (RFC) Plans, and whenever there are substantial changes to the Quantities on previously incorporated RFC Plans.

A Certified Table of Quantities shall be submitted with each pay request. All Certified Tables of Quantities shall indicate that the information accurately represents the materials used for the work performed for which payment is requested, and be notarized by a Design-Build Team representative.

Page 1-50, Article 106-6, add the following after the last paragraph:

For items normally pretested by the Department, the Design-Build Team shall provide a minimum of 30 days notice prior to the beginning of production of the items for this project along with final approved shop drawings.

SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Page 1-60, delete Article 107-18 and replace with the following:

107-18 FURNISHING RIGHT OF WAY

The responsibility for coordinating the securing of all necessary rights of way is as outlined in the Request for Proposals.

SECTION 108
PROSECUTION AND PROGRESS

Page 1-63, delete Article 108-2 and replace with the following:

108-2 COST-LOADED CRITICAL PATH METHOD PROJECT SCHEDULE

(A) General Requirements

The Design-Build Team shall create a Cost-Loaded Critical Path Method Project Schedule (CPM Schedule). The Design-Build Team shall include the work of subcontractors, vendors, suppliers, utilities, railroads, permitting agencies, NCDOT, and all other parties associated with the project in the CPM Schedule. Failure by the Design-Build Team to include any element of its work or the work of others required for project completion shall not excuse the Design-Build Team from completing the project by the Contract Completion Date(s). The Design-Build Team shall assign a dollar value to each activity in the CPM Schedule. In accordance with Article 109-4(A) of this Standard Special Provision, the Design-Build Team shall use the CPM Schedule to prepare its payment applications. The Design-Build Team shall provide adequate time in the CPM Schedule for all parties involved with the project to complete their work, including inspections, procurement activities and testing. The Design-Build Team's plan, as presented in the CPM Schedule, shall adhere to all contract requirements.

The Engineer's acceptance of any CPM Schedule shall not relieve the Design-Build Team of responsibility for the accuracy or feasibility of the CPM Schedule, shall not modify the contract requirements, shall not be construed as an endorsement or validation of the Design-Build Team's plan, and shall not guarantee that the project can be performed or completed as scheduled. The Engineer's acceptance of the Design-Build Team's CPM Schedules in no way attests to the validity of the assumptions, logic constraints, dependency, relationships, resource allocations, resource availability, manpower and equipment, or any other aspect of the means and methods of performing the work. The Design-Build Team is and shall remain solely responsible for the scheduling, planning, and execution of the work in order to meet the Project Milestones, the Intermediate Contract Times, and the Contract Completion Date(s).

The Design-Build Team shall not submit a resource leveled CPM Schedule for the purposes of payment, determining expected start and finish dates, or the longest path of the CPM Schedule. Rather, the longest path and expected start and finish dates shall be determined by logic, durations, and calendars.

Materials - Unless approved otherwise by the Department, in writing, the Design-Build Team shall produce every schedule referenced in this Article and / or submitted to the Engineer on a computer using software and files that are compatible with the most recent version of Primavera. Other software capable of providing the required information will be considered, but must be reviewed and approved by the Department prior to submitting a schedule produced with the alternate software.

Definitions - The following definitions apply solely to the terms used in this Article. The following definitions do not modify in any way the definitions provided elsewhere in the contract documents.

Activity - A discrete, identifiable task or event that takes time, has definable start and stop dates, furthers the work's progress, and can be used to plan, schedule, and monitor a project.

Activity Calendar - A set of days assigned to an activity on which work associated with the activity may be scheduled.

Activity Code - Additional information assigned to an activity for purposes of grouping or filtering related activities. Common codes include phase, area, responsibility, subcontractor, type of work, and sub phase.

Activity ID - A unique, alphanumeric, identification code assigned to an activity.

Actual Dates - Actual Starts and Actual Finishes of activities in the schedule.

Actual Finish - The date when the work represented by a specific activity in the schedule was actually finished.

Actual Start - The date when the work represented by a specific activity in the schedule was actually started.

Activity Network Diagram - A graphic representation of a CPM Schedule that shows the relationships among activities.

Availability Date - The contract Date of Availability provided in the *Contract Time and Liquidated Damages* Project Special Provisions found elsewhere in this FRP.

Bar Chart - A graphic representation of a schedule without relationships. A timescale appears along the horizontal axis.

Baseline Schedule - The first accepted CPM Schedule showing the accepted plan to complete the entire project.

CPM of Record - The most recent CPM Schedule accepted by the Engineer.

Calendar Day - A day shown on the calendar beginning and ending at midnight.

Constraint - A restriction imposed in a schedule, which fixes a value that would otherwise be calculated within the schedule. Examples of values that can be fixed by a constraint include float, start date, end date, and completion date.

Contract Time - The number of calendar days inclusive between the Availability Date and the Contract Completion Date(s).

Contract Value - The Design-Build Team's lump sum bid for the entire project and any additional dollar value added through Supplemental Agreement(s).

Controlling Activity - The first incomplete activity on the Critical Path. This term shall be considered synonymous with "Controlling Operation."

Critical Delay - A delay to an activity on the critical path that extends the Scheduled Completion Date(s).

Critical Path - The longest path of activities that determines the scheduled project completion date(s). Activities on the critical path are critical activities.

Data Date - The earliest possible date identified in a schedule from which remaining activities can proceed.

Early Finish - The earliest date an activity can finish based on its duration and its predecessors.

Early Start - The earliest date an activity can start based on its predecessors.

Final Schedule - The last monthly updated CPM Schedule containing actual start and finish dates for every activity.

Free Float - The amount of time an activity can be delayed without delaying the early state date of any successor activity.

Lag - An offset of time from the predecessor to the successor. Lag shall be a numerical value that is not assigned a description or activity number.

Late Finish - The latest date an activity can finish based on its successors without causing a delay to the Scheduled Completion Date(s) of the project.

Late Start - The latest date an activity can start based on its successors and duration without causing a delay to the Scheduled Completion Date(s) of the project.

Logic - Plural or singular reference to the predecessor and successor relationships between activities in the schedule.

Milestone - An activity with no duration that is typically used to represent the beginning or end of the project or an interim phase. Includes, but is not limited to, Intermediate Completion Dates and the Contract Completion Date(s).

Open End - The condition that exists when an activity has either no predecessor or no successor, or when an activity's only predecessor relationship is a finish-to-finish or only successor relationship is a start-to-start.

Original Duration - The original estimate of time, expressed in workdays, required to perform an activity.

Preceding Work - Work that must be performed prior to work being performed on the same project by other contractors or Design-Build Teams and under separate contract with the NCDOT.

Predecessor - An activity that is defined by schedule logic to precede another activity.

Progress Schedule - A CPM Schedule produced by incorporating the project's actual progress into the CPM of Record for purposes of reviewing payment applications prior to any major schedule revisions.

Punch Work - Minor corrective work typically performed at the end of construction that is necessary to bring the project into full compliance with the contract requirements.

Relationship - Interdependence between two activities. Relationships link an activity to predecessors and successors.

Remaining Duration - The estimated time, expressed in workdays, required to complete an activity.

Revised Schedule - A Progress Schedule with Schedule Revisions.

Scheduled Completion Date(s) - The completion date(s) forecast by the CPM Schedule. The CPM Schedule may also forecast Intermediate Completion Dates for Milestones, Phases, or other portions of the project.

Schedule Representative – An individual with CPM scheduling experience on projects of similar size, scope, complexity and having a thorough understanding of the Contract, plans, and associated project phasing and milestones. **Schedule Revision(s)** - A change in calendars, along with adding / deleting activities, the method of calculation, relationships, sequence, or original duration of activities in the schedule; or a change in the remaining duration of a work activity that is not caused by the actual progress of the activity. Revisions can be considered either Major or Minor as noted in Section F below.

Schedule Update - A CPM Schedule produced by the Design-Build Team and provided to the Engineer on regular intervals, not to exceed once per 35-days by incorporating the project's actual progress into the CPM of Record prior to any major schedule revisions.

Schedule Revision(s) - A change in calendars, along with adding / deleting activities, the method of calculation, relationships, sequence, or original duration of activities in the schedule; or a change in the remaining duration of a work activity that is not caused by the actual progress of the activity. Revisions can be considered either Major or Minor as noted in Section F below.

Successor - An activity that is defined by schedule logic to succeed another activity.

Total Float - The amount of time an activity can be delayed without affecting the project's completion date(s) or an intermediate deadline (constraint); it is the difference between the late finish date and the early finish date.

(B) Design-Build Team's Schedule Representative

The Design-Build Team shall propose to the Engineer a person to serve as the Schedule Representative responsible for developing, updating and revising the Design-Build Team's CPM Schedule. The Design-Build Team shall propose a Schedule Representative with scheduling experience on projects of similar size, scope and complexity. The Schedule Representative shall have a thorough understanding of project phasing and milestones, as well as the project's budget / invoicing. The Schedule Representative may also serve as the project manager, so long as all the requirements of this Article can still be met. The proposed Schedule Representative's qualifications shall be submitted with the Technical Proposals for evaluation. The Engineer may reject a Schedule Representative that does not meet the minimum requirements of this Article. In such case, the Design-Team must designate another individual meeting the minimum requirements for a Schedule Representative prior to acceptance of the first CPM Schedule.

The Design-Build Team shall use the same Schedule Representative for the duration of the project unless submitted and approved by the Department in writing. If the accepted Schedule Representative is no longer assigned to the project, the Design-Build Team shall submit a new Schedule Representative for the Engineer's review within 14 days of receiving notice of the Schedule Representative's departure.

(C) Interim Schedule

The Design-Build Team may submit electronically to the Engineer an Interim Cost-Loaded Critical Path Method Project Schedule (Interim Schedule). The Interim Schedule shall be submitted electronically within 14 days of contract execution. The Interim Schedule shall be used to monitor the project progress and process the Design-Build Team's payment applications for up to 120 days. The use of an Interim Schedule is optional.

The Interim Schedule shall meet the following requirements:

(1) The Interim Schedule shall start with an activity identified as "Availability Date."

(2) The last activity in the Interim Schedule shall be identified as "Project Completion." The Design-Build Team shall plan the other activities in the schedule so that the late finish date of "Project Completion" is calculated to occur on the Contract Completion Date.

(3) The Design-Build Team shall identify all major work components in the Interim Schedule as activities. For the Interim Schedule, the Design-Build Team may present large work components, such as "construction of the project," as a single activity in the schedule, so long as the Interim Schedule meets the other requirements of this Article.

The Design-Build Team shall identify the following for each activity in the Interim Schedule.

(a) A unique alphanumeric activity ID

(b) A description of the work associated with each activity ID

(c) A duration

(i) The Design-Build Team shall limit activities expected to start in the first 120 days to a maximum duration of 20 workdays. The Design-Build Team shall subdivide activities expected to take longer than 20 days so as to provide more detail and to meet this requirement. Any duration provided by the Department, utilities, or other government agencies will be exempt from this requirement.

(ii) The Design-Build Team may assign any realistic durations for activities expected to start more than 120 days after the Availability Date.

(d) Predecessors

(e) Successors

(f) Value of the Work

(i) The Design-Build Team shall assign an accurate dollar value to each activity expected to start within 120 days of the Availability Date based on estimated

costs plus associated profit and overhead. The profit and overhead assigned by the Design-Build Team to the individual activities starting in the first 120 days shall be equal to or less than the mark-up applied to the work when establishing the Design-Build Team's lump sum bid for the entire project.

(ii) The Design-Build Team shall limit the value of an activity to $500,000 for activities expected to start in the first 120 days. The Design-Build Team shall subdivide activities starting in the first 120 days and with anticipated values over $500,000 into two or more activities to meet this requirement. Mobilization, design activities and material procurement activities are except from this $500,000 requirement.

(iii) The Design-Build Team shall assign a dollar value to each activity in the Interim Schedule.

(iv) Activities may be assigned a value of zero dollars, as appropriate.

(v) The total value of all activities in the Interim Schedule shall be equal to the Design-Build Team's lump sum bid for the entire project.

(vi) Any activities that are incidental shall have a value of zero dollars.

(4) The Design-Build Team shall assign each activity in the Interim Schedule at least one predecessor and one successor, except the first activity and the last activity in the schedule.

(5) The Design-Build Team shall use scheduling software that adheres to the requirements found elsewhere in this Article to calculate the following data for each activity in the Interim Schedule:

(a) Early Start
(b) Early Finish
(c) Late Start
(d) Late Finish
(e) Total Float

(6) The Design-Build Team shall submit a brief written narrative with the Interim Schedule that explains the planned sequence of work, the critical path, proposed project phasing, and any other scheduling assumptions made by the Design-Build Team.

The Engineer may choose to reject the Interim Schedule if it does not conform to the requirements of this Article. If the Engineer rejects the Interim Schedule, the project shall be administered as if no Interim Schedule has been submitted.

(D) Baseline Cost-Loaded Critical Path Method Schedule

Within 60 days of contract execution, the Design-Build Team shall submit electronically to the Engineer a Baseline Cost-Loaded Critical Path Method Project Schedule (Baseline Schedule) meeting the requirements of this Article and using industry-accepted CPM scheduling practices as identified in the AGC's Construction Planning and Scheduling book, Second Edition. Within 21 days of receipt of the Design-Build Team's Baseline Schedule, the Engineer will complete the review. If the Engineer decides it is warranted, the Engineer will convene a joint review conference at which the Engineer and the Design-Build Team shall make any necessary corrections or adjustments to the Baseline Schedule. If a revision is necessary either from the Engineer's Review or the joint review conference, the Design-

Build Team shall submit a revised Baseline Schedule electronically within seven days of such joint review conference and the Engineer will review the revised Baseline Schedule within seven days of re-submittal. The Design-Build Team and the Engineer shall repeat this process until an acceptable Baseline Schedule is established.

Once accepted, the Baseline Schedule becomes the first CPM of Record for the project. If an Interim Schedule was submitted and accepted by the Engineer, the accepted Baseline Schedule replaces the Interim Schedule for all purposes, including payment.

The Design-Build Team shall submit a Baseline Schedule that meets the following requirements.

(1) The first activity in the schedule shall be the "Availability Date." The Design-Build Team shall constrain this activity to start on the contract Date of Availability identified elsewhere in this RFP. Except as indicated otherwise elsewhere in this Article or agreed in writing by the Engineer, the Design-Build Team shall not use constraints.

(2) If the Design-Build Team proposes a Substantial Completion Date in the Technical Proposal, the schedule shall include an activity identified as Substantial Completion.

(3) The Last Activity in the Schedule shall be identified as "Project Completion." The Design-Build Team shall plan the other activities in the schedule so that the expected finish of "Project Completion" is calculated to occur on the Contact Completion Date.

(4) The Design-Build Team shall plan its work to meet all time-related contract requirements. This includes but is not limited to submittal review times, Milestones, Intermediate Contract Times, phasing requirements, and the date of Substantial Completion, as appropriate.

(5) The Design-Build Team shall identify all the components of the work and the work of others on the project as activities in the Baseline Schedule. If the Engineer cannot identify a work item as an activity or as part of an activity in the schedule, then that work item shall be considered incidental.

(6) The Design-Build Team shall designate the following for each activity in the Baseline Schedule, including:

   (a) A unique alpha numeric activity ID

   (b) A description of the work associated with each activity ID

   (c) A duration

      (i) Unless approved otherwise by the Engineer, the Design-Build Team shall limit construction activities to a maximum duration of 20 workdays. The Design-Build Team shall subdivide activities expected to take longer than 20 days so as to provide more detail and to meet this requirement. If for any reason the maximum 20-day duration cannot be achieved, the Design-Build Team shall provide a written request to the Engineer, explaining the reason for a duration over 20 workdays. Any duration provided by the Department, utilities, or other government agencies shall be exempt from this requirement. Waiting times for plant growth cure times, material procurement, and other

activities assigned a zero-dollar value and no assignment of responsibility are also exempt from this requirement.

(ii) The Design-Build Team shall limit design activities to the required design submittal intervals or a maximum of 90 days, whichever is shorter. The Design-Build Team shall subdivide activities expected to take longer so as to provide more detail.

(iii) All activities with a dollar value greater than zero shall have a duration assigned to it, even if the duration is equal to zero.

(d) Predecessors - Each activity except for "Availability Date" shall have at least one predecessor.

(e) Successors - Each activity except for "Final Completion" shall have at least one successor.

(f) Activity Calendar - The Activity Calendar shall clearly identify the days when work could be performed on the activity and the days when work cannot be performed on the activity, in addition to the number of hours per day for a given work week. Weather days shall be included as non-workdays in specific work type calendars. Weather calendars shall be agreed to by the Engineer. Weather shall not be accounted for in activity durations.

(g) Activity Code - Each activity in the schedule shall be assigned an activity code for the following categories:

(i) Area of the Project
(ii) Structure within the Area of the Project
(iii) Phase of the Project
(iv) Work Type
(v) Responsibility for the Work

- The Design-Build Team shall identify the entity responsible to perform each activity in the Baseline Schedule. Examples might include a particular subcontractor, the Department, the Design-Build Team, a design consultant, a utility company, etc.
- If more than one entity is performing a particular activity, then the activity code shall identify both entities.
- When the Baseline Schedule is submitted, the Design-Build Team shall provide a list to the Engineer of each activity code that assigns responsibility to entities that are not under the control of the Design-Build Team.

(vi) Categories and Groupings

- The Design-Build Team shall assign different categories for items in separate Divisions within the *Standard Specifications* and at least one type of work shall be classified as punch work.

- The Design-Build Team shall choose a method of identifying the type of work that shall clearly communicate to the Engineer the nature of the work being performed.

(h) Value of the Work

(i) The Design-Build Team shall assign an accurate dollar value to each activity based on a reasonable assignment of the value of that work when compared to the overall work being performed on the project.

(ii) The Design-Build Team shall not assign a dollar value to an activity less than the estimated cost to perform that work.

(iii) The Design-Build Team shall not assign a dollar value to the work being performed by the Department or other third parties.

(iv) Activities scheduled to occur early in the project shall be assigned the same or lesser value than similar activities scheduled to occur later in the project, unless otherwise approved by the Department, in writing.

(v) The Design-Build Team shall limit the value of an activity to $500,000. The Design-Build Team shall subdivide activities with anticipated values over $500,000 into two or more activities to meet this requirement. Mobilization, some design activities, and materials procurement activities are exempt from this $500,000 requirement.

(vi) The Design-Build Team shall assign activities in the schedule representing tasks incidental to the performance of the work a value of zero dollars.

(vii) Activities may be assigned a value of zero dollars when appropriate. Examples include the work of others, or tasks performed by subcontractors for which the contractor has no cost.

(viii) Each Activity in the Baseline Schedule shall be cost loaded so that the sum of the budgeted total costs for each activity equals to the Contract Value. The budgeted total costs for each activity shall not change once the Baseline Schedule is approved as the first CPM of Record, unless authorized in writing by the Engineer.

(ix) Any work performed that is not identified in the schedule shall have a value of zero dollars.

(x) Any activities that are incidental shall have a value of zero dollars.

(xi) The Design-Build Team shall be limited to the total percentage and distribution percentages defined in the *Mobilization* Project Special Provision found elsewhere in this RFP for mobilization. The Design-Build Team shall assign costs that correspond to the aforementioned percentages to “Mobilization, Pre-Permit” and “Mobilization, Post-Permit” activities.

(xii) The Design-Build Team shall assign activities to both erosion and sedimentation control device installation and device maintenance. The activity for erosion and sedimentation control device maintenance shall span the duration of the project construction and shall be cost-loaded in a linear manner.

(xiii) The Design-Build Team shall assign at least one-half of one percent of the lump sum bid for the entire project to the activity or activities representing punch work.

(xiv) All costs assigned to activities shall be evaluated on a linear basis with regard to payment unless a payment curve is provided and approved. Such curves shall be agreed to in the Baseline Schedule and shall not change unless authorized in writing by the Engineer.

(7) The Design-Build Team shall assign each activity in the Baseline Schedule at least one predecessor and one successor, except the first activity, "Availability Date," and the last activity, "Project Completion."

(8) The Design-Build Team shall not use start-to-finish relationships to connect predecessor and successor activities.

(9) The Design-Build-Team shall limit the use of start-to-start and finish-to-finish relationships to connect predecessor and successor activities. The Schedule Representative shall explain to the Engineer why a start-to-start or finish-to-finish relationship was used upon the Engineer's request.

(10) The Design-Build Team shall produce a Baseline Schedule that does not contain open-ended activities, except for the first and last activity in the schedule.

(11) The Design-Build Team shall not use negative lags in the Baseline Schedule. The Design-Build Team shall limit the use of lags in the Baseline Schedule, and shall not use a lag greater than ten days unless approved otherwise by the Engineer. If for any reason the maximum ten-day lag cannot be achieved, the Design-Build Team shall provide a written request to the Engineer, explaining the reason for a duration over ten days. The Schedule Representative shall explain why a lag was used in the narrative.

(12) The Design-Build Team shall use scheduling software that adheres to the requirements found elsewhere in this Article to calculate the following data for each activity in the Baseline Schedule:

(a) Early Start
(b) Early Finish
(c) Late Start
(d) Late Finish
(e) Total Float
(f) Free Float

(13) The longest path shall be dictated by schedule logic and durations, not by the leveling of resources or cost information.

(14) The Design-Build Team shall submit a written narrative with the Baseline Schedule that explains the planned work sequence, the critical path, proposed project phasing, the activity calendars, maintenance of traffic, milestone dates, and the estimated payouts by month and by phase. In addition, the Design-Build Team shall explain in its written narrative how it has provided for procurement of materials, weather, permitting requirements, environmental requirements, coordination with other contractors, coordination with local municipalities, work to be performed in whole or in part by Department or other government agencies, work to be performed by the utility companies, and any other scheduling assumptions made by the Design-Build Team.

The Engineer will review the Baseline Schedule submitted by the Design-Build Team for compliance with the contract requirements. The Engineer may reject the Baseline Schedule if it does not adhere to the contract requirements or if it makes unreasonable demands on the Department or third parties on the project without their written acknowledgement or agreement to such demands or requirements. Examples of unreasonable demands might include, but is not limited to, the simultaneous review of numerous submittals, short durations for utilities to perform work, shutting down adjacent roadways, or limiting access to private land owners. The Engineer may reject a schedule that over-utilizes start-to-start and finish-to-finish relationships to connect predecessor and successor activities if, in the opinion of the Engineer, the use of these logic relationships obscures the relationships between activities. The Engineer may reject a schedule that over-utilizes lags, if in the opinion of the Engineer, lags are being used to replace necessary activities or obscuring how one activity relates to the next.

The Engineer will also review the values assigned to the activities for balance. The Engineer may reject the Baseline Schedule if, in the opinion of the Engineer, the values assigned to activities expected to be completed early in the project exceed the value assigned to the same or similar activities expected to finish late in the project, without explanation.

The Design-Build Team shall be responsible for the timely preparation of a Baseline Schedule that fully complies with the requirements of this Article and the contract. The Engineer may take action under Articles 108-7 of the *Standard Specifications* if the Design-Build Team has not prepared an acceptable Baseline Schedule within 180 days from the Availability Date.

(E) Schedule Updates

As the basis of its payment application request and as a requirement of this Article, the Design-Build Team shall submit electronically to the Engineer a regular Schedule Update to the CPM of Record using accepted scheduling practices. The Engineer will determine the frequency and date of the Schedule Updates - not to exceed two updates per month and to occur at least once within any 35-day period. The Design-Build Team shall continue to provide the Engineer Schedule Updates until the final schedule is approved with 100% completion of all activities and all the project work. The Design-Build Team shall submit a Schedule Update within seven calendar days of its data date. The Engineer shall review the payment application and provide a response to the Design-Build Team within seven calendar days of the submission. Upon the Engineer’s acceptance, the Schedule Update shall become the new CPM of Record, replacing the previous CPM of Record, and shall be considered used from its data date until the data date of the next schedule accepted by the Engineer.

The Design-Build Team shall incorporate the following information into the previous CPM of Record and submit this as its Schedule Update:

(1) An updated data date

(2) The actual start of any activity that started prior to the data date of the Schedule Update

(3) The actual finish of any activity that finished prior to the data date of the Schedule Update

(4) The new remaining duration of any activity that began, but did not finish prior to the data date of the Schedule Update

(5) The percent complete for every activity in the CPM Schedule - The Design-Build Team shall use both activity percent complete and resource percent complete for activities representing the purchase of materials, and shall identify the resource percent complete of activities representing the purchase of materials for undelivered; delivered or fabricated; or installed material as 0%, 95% or 100% complete, respectively.

(6) The Design-Build Team shall use scheduling software that adheres to the requirements found elsewhere in this Article to calculate the following data for each of the remaining activities in the Schedule Update:

(a) Early Start
(b) Early Finish
(c) Late Start
(d) Late Finish
(e) Total Float
(f) Free Float

The Design-Build Team shall provide a narrative as part of the Schedule Update, in addition to any of the other requirements identified in Article 109-4(A) of this Standard Special Provision for partial payment requests. The Design-Build Team shall include in the Schedule Update narrative a description of the work performed during the update period; the status of any outstanding permits; the current critical path; any delays or disruptions experienced during the update period to Intermediate Contract Dates, Substantial Completion Date, and / or Final Completion Date; any foreseeable delays or disruptions; and any "Minor Revisions" made during the update period that have previously been accepted by the Engineer. A discussion of delays in the Schedule Update's narrative shall not constitute a written request for additional time or notice of intent to file a claim as required by the contract.

The Design-Build Team shall not incorporate any revisions into a Schedule Update unless the revisions are minor and have been previously accepted by the Engineer. The Schedule Update narrative shall include documentation of any revisions previously verbally approved by the Engineer.

If the Design-Build Team chooses to revise the CPM of Record, the revised schedule shall be submitted separately from and within seven calendar days of the Schedule Update. The revised CPM of Record shall have the same data date as the most recent CPM of Record and reflect the progress achieved up to that point in time.

The Engineer may reject a Schedule Update that 1) incorporates "Major Revisions" that were not previously accepted by the Engineer, 2) includes actual dates on or after the data date, and / or 3) records incomplete or incorrect information on the work progress.

(F) Revisions to the CPM of Record

In accordance with the requirements in this Article, the Design-Build Team shall revise the CPM of Record. With prior approval from the Engineer, the Design-Build Team may revise the CPM of Record for other circumstances.

A minor revision shall be defined as a revision that does not affect the critical path of the work on the project, does not affect work activities that may soon become critical, does not significantly affect third parties, does not significantly affect the Department, and / or does not increase or lower the dollar values assigned to the activities in the schedule. For minor revisions, the Schedule Representative shall contact the Engineer and explain the revision. If the Engineer determines that the revision is minor, the Engineer will verbally approve the revision. The Design-Build Team shall incorporate revisions verbally approved by the Engineer into the next Schedule Update, and include a summary of the changes, the approver's name and the approval date in the narrative. The Engineer's determination as to whether a revision is minor or major shall be final.

All revisions that are not minor revisions shall be defined as major revisions. For major revisions, the Design-Build Team shall submit to the Engineer a revised CPM Schedule that meets all the requirements of the Baseline Schedule and is updated to reflect current progress. The Design-Build Team shall submit all revised CPM Schedules within seven days of its data date unless otherwise agreed by the Engineer, in writing. The Design-Build Team shall include a narrative with the revised CPM Schedule describing each revision and the reason for each revision. Every revision that was made to the revised CPM Schedule shall be listed in the narrative. The Design-Build Team shall also include in the narrative any foreseeable problems that may need to be overcome when implementing the CPM Schedule revision. A discussion of delays and potential delays in the revised CPM Schedule narrative shall not constitute a written request for additional time or satisfy any requirement for written notice to file a claim as required by the contract.

If the Design-Build Team is re-allocating the dollar values assigned to activities, it shall include for the Engineer's review and approval a list of the activities affected by the revision, a list of any new activities added or deleted, and the difference in dollar value assigned to each activity. For changed work where the dollar value is disputed, the Design-Build Team shall assign dollar values to its work activities as directed by the Engineer, but shall include the designation "D-C" at the beginning of the activity's description for each activity affected by the change. For changes settled through a Supplemental Agreement, the Design-Build Team shall assign the agreed dollar amount among the new or existing activities, and shall include the designation SA# (where # represents the number of the Supplemental Agreement) at the beginning of the activity's description for each activity affected by the change.

Within seven calendar days of submittal, the Engineer shall accept or reject proposed CPM Schedule revision(s). Upon the Engineer's acceptance, the revised CPM Schedule shall become the CPM of Record, and shall be used from its data date until the data date of the next CPM Schedule revision accepted by the Engineer.

The Department will not pay additional costs for any revisions to the CPM Schedule regardless of what condition or change prompted the revision(s). The cost to create, revise,

and update the CPM Schedule shall be an administrative requirement included as part of the Design-Build Team's lump sum bid for the entire project. The Design-Build Team shall allocate sufficient resources to timely administer the CPM Schedule, including but not limited to all revisions, as required.

The Engineer will accept CPM Schedule revisions that appear to accurately reflect the Design-Build Team's current plan for completing the work on the project. The Engineer may accept a revised CPM Schedule that indicates the project is currently expected to finish earlier or later than required by the contract. However, the Engineer's acceptance of the Design-Build Teams' schedules does not relieve the Design-Build Team from its obligations to perform under the contract terms including but not limited to completion of the work within the contract time; or as granting, rejecting, or in any way acting on the Design-Build Team's requests for adjustment to the date(s) for completion of the work.

The Engineer may reject any CPM Schedule revision that 1) does not, in the opinion of the Engineer, accurately reflect the Design-Build Team's current plan of construction; 2) requires additional and / or revised actions on the part of third parties or the Department; 3) changes the dollar value assigned to an activity, unless the Design-Build Team has correctly allocated this amount into new activities for additional detail; 4) materially alters the projected payout of the project; and / or 5) submitted more than seven calendar days after its data date, unless the Engineer had previously agreed to waive this requirement.

(G) Use of the CPM of Record to Assess Project Delays

If the Design-Build Team submits a written request for an extension to the contract time in accordance with Article 108-10 of this Standard Special Provision, the Engineer will rely upon the CPM of Record in effect at the time the delay is recognized or occurs, whichever is sooner, to assess the effects of changes and revisions or other potential causes of delay to the Scheduled Completion Date(s).

For purposes of calculating and withholding anticipated liquidated damages, as identified in the *Standard Specifications*, and as may be amended by this Standard Special Provision, the Engineer will rely on the Scheduled Completion Date(s) identified in the CPM of Record.

Page 1-64, delete Article 108-3 and replace with the following:

108-3 PRECONSTRUCTION AND PRE-DESIGN CONFERENCES

The selected Design-Build Team shall meet with the Engineer for a pre-design conference concerning the design phase of the work. This conference shall be held prior to the commencement of work, as it is determined according to Article 108-1, and will be scheduled by the Engineer. At the predesign conference, the Design-Build Team shall furnish authorized signature forms and a list of all proposed subcontractors associated with the project design.

A preconstruction conference shall be held at least ten working days before construction activity begins. This second conference, concerning the construction phase, shall also be scheduled by the Engineer. The Design-Build Team shall give the Engineer a minimum of 45 days written

notice before the Design-Build Team plans to begin construction activities. This will allow the Engineer time for any environmental agency representatives involved in the permitting process, as well as any other pertinent entities, to be scheduled to attend the preconstruction conference. If the Design-Build Team is responsible for utilities in accordance with Article 105-8 and the Request for Proposals, the Design-Build Team shall be responsible for coordinating with the Engineer in scheduling the utility owners attendance and for notifying the utility owners. The Design-Build Team shall also be responsible for coordinating with the Engineer in scheduling the attendance of subcontractors and others deemed appropriate, and for notifying them.

At the preconstruction conference, a list of any proposed subcontractors and major material suppliers associated with the construction of the project will be submitted.

If the contract has a DBE or WBE / MBE requirement, the Design-Build Team shall submit a Monitoring Spreadsheet for the DBE Open-Ended Performance Plan (OEPP) within thirty (30) days of construction.

In accordance with Article 1101-1 and the Request for Proposals, the Design-Build Team shall submit Transportation Management Plans, including but not limited to Temporary Traffic Control Plans. The Design-Build Team shall designate an employee who is competent and experienced in transportation management to implement and monitor the Transportation Management Plans. The qualifications of the designated employee must be satisfactory to the Engineer.

The Design-Build Team shall submit a Safety Plan and designate an employee as the Safety Supervisor.

Both plans shall be submitted at the preconstruction conference and must be satisfactory to the Engineer. Should the design plan include activities that would place personnel on the work site, Temporary Traffic Control Plans and a Safety Plan for those activities shall be submitted at the predesign conference.

During the preconstruction conference, the Engineer will designate a Department employee or employees who will be responsible to see that the Transportation Management Plans, including but not limited to the Temporary Traffic Control Plans, and any alterations thereto are implemented and monitored to the end that traffic is carried through the work in an effective manner. If approved by the Engineer, the Design-Build Team may designate one employee to be responsible for both the Temporary Traffic Control Plans and the Safety Plan. The Design-Build Team shall not designate its superintendent as the responsible person for either the Temporary Traffic Control Plans or the Safety Plan, unless approved by the Engineer.

If the project requires the Design-Build Team or State personnel work from falsework, within shoring, or in any other hazardous area, the Design-Build Team shall submit, as part of the Design-Build Team's Safety Plan, specific measures that will be used to ensure worker safety.

The Design-Build Team shall also submit a program for erosion control and pollution prevention on all projects involving clearing and grubbing, earthwork, structural work, or other construction, when such work is likely to create erosion or pollution problems.

If the Design-Build Team fails to provide the required submissions, the Engineer may order the preconstruction conference suspended until such time as they are furnished. Work shall not begin until the preconstruction conference has been concluded and the Safety Plan has been approved, unless authorized by the Engineer. The Design-Build Team shall not be entitled to additional compensation or an extension of contract time resulting from any delays due to such a suspension.

The Design-Build Team shall designate a qualified employee as Quality Control Manager. The Quality Control Manager shall be responsible for implementing and monitoring the quality control requirements of the project.

Page 1-64, Article 108-4, add the following sentence to the end of this article:

The Design-Build Team shall record the proceedings of these conferences and distribute the final minutes of the conferences to all attendees.

Page 1-65, Article 108-6, replace "40%" with "30%" in the 1st paragraph.

Page 1-66, Article 108-6, replace "35%" with "25%" in the 2nd paragraph.

Pages 1-67, delete Article 108-8 and replace with the following:

108-8 FAILURE TO MAINTAIN SATISFACTORY PROGRESS

The Engineer will check the Design-Build Team's progress at the time each partial pay request is received. The Design-Build Team's progress may be considered as unsatisfactory if, according to the Progress Schedule, the projected finish date for all work exceeds the scheduled finish date by more than 10%.

When the Design-Build Team's progress is found to be unsatisfactory as described above, the Engineer may make written demand of the Design-Build Team to state in writing the reason for the unsatisfactory progress and produce such supporting data as the Engineer may require or the Design-Build Team may desire to submit. The Engineer will consider the justifications submitted by the Design-Build Team and extensions of the completion date that have or may be allowed in accordance with Subarticle 108-10(B) and as modified herein.

When the Design-Build Team cannot satisfactorily justify the unsatisfactory progress the Engineer may invoke one or more of the following sanctions:

1. Withhold anticipated liquidated damages from amounts currently due or which become due.

2. Remove the Design-Build Team and individual managing firms of the Design-Build Team and / or prequalified design firms from the Department's Prequalified Bidders List.

When any of the above sanctions have been invoked, they shall remain in effect until rescinded by the Engineer.

Page 1-69, delete Article 108-10 and replace with the following:

108-10 CONTRACT TIME AND INTERMEDIATE CONTRACT TIME

(A) General

The contract time will be as defined in Section 101. No extensions to the completion date will be authorized except as allowed by this Article. No modifications in the date of availability will be made for any reason whatsoever.

Intermediate contract time, as defined in Section 101, will be that as allowed in the contract to complete a part, portion or phase of the total work covered in the contract. Intermediate completion dates and intermediate completion times set forth in the contract may be extended on the same basis as completion dates and as described in this Article.

When the liquidated damages stipulated in the contract are to be on an hourly basis, extensions, as described in this Article, will be considered on an hourly basis.

The Engineer will rely upon the CPM of Record in effect at the time the delay is recognized or occurs, whichever is earlier, to assess the effects of changes and revisions or other potential causes of delay to the scheduled completion date(s)

The Engineer will use the CPM of Record and the following guidelines to assess delays to the project:

1) The controlling operation of the work shall be the first activity on the critical path of the CPM of Record.

2) The Engineer will not grant a time extension for delays that result from schedule revisions of any sort, unless the revisions are necessary to mitigate unforeseeable and otherwise excusable delay, are required to incorporate changes to the work agreed to by the Engineer, or the revisions are expressly requested by the Engineer.

3) The Design-Build Team shall create the CPM of Record and shall be responsible for the accuracy and reliability of the CPM of Record. The Engineer will not grant a time extension for delays that result from improper planning, incorrect sequences, scheduling errors, scheduling omissions, missing work portions in the CPM of Record, or any other cause related to the Design-Build Team's failure to properly manage and / or schedule the work or the work of others. The Engineer will not consider a request for additional time from the Design-Build Team that relies on the assumption that the CPM of Record is inaccurate or erroneous.

4) When there are two or more causes for a critical delay, or in the case that two paths or activities are concurrently critical, the Engineer will only grant a time extension if all the causes for the critical delay are determined to be excusable per 108-10(B), in the Department's sole discretion.

5) The critical path is dynamic. The Engineer will assess the critical path on each day of an alleged delay. Only delays to the critical path will be eligible for consideration of a time extension.

6) The Engineer will use the CPM of Record in effect at the time of the delay to assess project delays after the occurrence. The Engineer will not use rejected schedules, later approved schedules, or new schedules, including "impacted" or "collapsed schedules,"

7) Float belongs to the project and shall be shared between the Design-Build Team and the Department on a first-come, first-served basis until it is depleted. Float shall not be for the exclusive use or benefit of either the NCDOT or the Design-Build Team.

(A) Completion Date, Substantial Completion Date, Intermediate Completion Date and Intermediate Completion Time Extensions

Only delays to activities which affect the completion date(s), Substantial Completion Date, intermediate contract date(s) and / or intermediate completion time(s) shall be considered for an extension of contract time. No extensions will be granted until a delay occurs which impacts the project's critical path, consumes all available float, and / or extends the work beyond the contract completion dates(s), intermediate completion date(s), and / or intermediate completion time(s). Any extension to the completion date(s), intermediate completion date(s), and / or intermediate completion time(s) will be based on the number of calendar days the contract completion date(s), intermediate completion date(s), and / or intermediate completion time(s) is impacted as determined by the Engineer's analysis. No extension of the contract completion date(s), intermediate completion date(s), and / or intermediate completion time(s) will be allowed for any reason except as provided for below:

1) If the Design-Build Team's current controlling operation(s) are delayed by circumstances originating from work required under the contract and beyond the Design-Build Team's control, and without the Design-Build Team's fault or negligence, the Design-Build Team may, at any time prior to payment of the final estimate, make a written request to the Engineer for an extension of the contract completion date(s), intermediate completion date(s), and / or intermediated completion time(s). This request shall include the following:

    a)The circumstances resulting in the alleged delay and documentation of said circumstances as may be required by the Engineer
    b) The controlling operation(s) alleged to have been delayed
    c)The calendar dates or calendar dates and times on which the controlling operation(s) were delayed

d) The number of calendar days or hours by which the Design-Build Team is requesting the contract completion date(s), intermediate completion date(s) and / or intermediate completion time(s) to be extended

If the Engineer determines that the controlling operation(s) were delayed because of circumstances beyond the control of, and without the Design-Build Team's fault or negligence, and that the Design-Build Team has pursued the work in accordance with Article 108-1 of the *Standard Specifications,* the Engineer may extend the contract completion date(s), intermediate completion date(s), and / or the intermediated completion time(s), unless otherwise precluded by other contract provisions.

The Engineer will consider an extension in the completion date(s), Substantial Completion Date, intermediate completion date(s), and / or intermediate completion time(s) involving an intermediate contract time of more than 96 hours if the Design-Build Team's current controlling operation(s) is delayed in excess of 40 percent of the total contract time (days), as defined in Section 101 of the *Standard Specification*, or the total intermediate contract time (hours), as defined in Section 101 of the *Standard Specification*; due to weather or conditions resulting from weather. Only the delay time in excess of this percentage shall be considered for an extension. No other consideration will be given for extensions in the completion date(s), intermediate completion date(s), and / or intermediate completion time(s) due to delays caused by weather.

Where the intermediate contract time is 96 hours or less, no consideration whatsoever will be given for an extension in the intermediate contract time due to weather or conditions resulting from weather.

2) If the Engineer ordered changes in the work from that originally contemplated in the contract and those changes result in a reduction in quantities, elimination of items, additional work and / or extra work the Engineer will allow an extension in the contract completion date(s), Substantial Completion Date, intermediate completion date(s), and / or intermediate completion time(s) as the Engineer may deem warranted by such changes. Pursuit of the work with adequate forces and equipment and efficiency of the Design-Build Team's operations will be considered by the Engineer in determining an extension in the contract completion date(s), Substantial Completion Date, intermediate completion date(s), and / or intermediate completion time(s). It shall be, however, the Design-Build Team's responsibility to show just cause for an extension in the contract completion date(s), Substantial Completion Date, intermediate completion date(s), and / or intermediate completion time(s) due to the aforesaid conditions.

The Design-Build Team's plea that insufficient contract time (days), intermediate contract time (days), and / or intermediate contract time (hours) was specified in the contract shall not be considered as a valid reason for an extension in the completion date, Substantial Completion Date, intermediate completion date, and / or intermediate completion time.

When all work on the project is totally complete, with the exception of an item or items on which work is precluded by seasonal limitations set forth in the contract, the Engineer may, provided that the Design-Build Team has diligently pursued the work with adequate forces and equipment,

waive the assessment of liquidated damages during the period of time from the date all work other than an item(s) precluded by seasonal limitations was completed until the seasonal limitations expiration date. The Design-Build Team shall make the request to waive the assessment of liquidated damages in writing prior to the requested waiver beginning date. The non-assessment of liquidated damages during the aforesaid period shall not operate to waive any other liquidated damages that may be assessable or any other contract terms.

Pages 1-70, delete Subarticle 108-10(B)(1) in its entirety.

Page 1-74, delete Subarticle 108-13(D)(2) in its entirety.

SECTION 109
MEASUREMENT AND PAYMENT

Page 1-75, Article 109-2, delete the last sentence of the 1st paragraph and replace with the following:

Payment to the Design-Build Team will be made only for the work completed, certified and accepted in accordance with the terms of the contract.

Pages 1-80, delete Subarticle 109-4(A) and replace with the following:

109-4 PARTIAL PAYMENTS

(A) General

Partial payments will be based upon the Engineer's review of the Design-Build Team's payment requests. The Design-Build Team will prepare a payment request at least once each month on the date established by the Engineer. Partial payments may be made twice each month if in the judgement of the Engineer the amount of work performed is sufficient to warrant such payment. No partial payment will be made when the total value of work performed since the last partial payment, excluding mobilization, amounts to less than $10,000.00. Partial payments will be approximate only and will be subject to correction in the final estimate and payment.

The Design-Build Team shall use the most recent CPM of Record to estimate the value of the work performed and will submit this estimate as its payment request to the Engineer. The Design-Build Team shall submit the estimate of the value of Work performed and the Progressed CPM Schedule for each partial payment request.

Failure to submit either part of the partial payment request will result in the Engineer withholding payment. With each payment request, the Design-Build Team shall certify that is has reviewed the Cost-Loaded CPM, that the payment request presents an accurate assessment of the level of completion of each work activity for which payment is being sought, and that the dollar value assigned to each work activity is reasonable and

consistent with the dollar values assigned to all other work activities. The Engineer will only accept payment requests that have been certified by the Design-Build Team.

The Design-Build Team will maintain and update the Cost-Loaded CPM as further described in Article 108-2 of this Special Provision.

If an Interim Schedule was submitted in accordance with Article 108-2 of this Standard Special Provision and this Schedule was accepted by the Engineer, the Design-Build Team may estimate the value of the work performed using the Interim Schedule for the first 120 days after the Notice of Proceed. After 120 days, the Engineer will not process partial payment requests until the Design-Build Team develops a Baseline Cost-Loaded CPM and the Engineer accepts this schedule.

If the Design Build Team did not submit an Interim Schedule acceptable to the Engineer, The Department will issue payments for the mobilization costs (reference Article 800-2 of the Standard Specifications and the Project Special Provision, Mobilization), but will not otherwise process partial payment requests until the Design-Build Team submits an Baseline Cost-Loaded CPM and this CPM is accepted by the Engineer. The Design-Build Team's failure to develop an acceptable, Baseline Cost-Loaded CPM may result in the Engineer withholding payment.

Interest will not be paid to the Design-Build Team on payments that are withheld in accordance with the requirements of this Special Provision or any other provision of the contract. The Design-Build Team is not entitled to payment, damages, or any other form of compensation due to the withholding of partial payments in accordance with the requirements of this Special Provision or any other provision of the contract.

The Engineer will withhold an amount sufficient to cover anticipated liquidated damages as determined by the Engineer.

Page 1-81, Subarticle 109-5(D), delete the 4th and 5th paragraphs and replace with the following:

Partial payments will not be made on seed or any living or perishable plant materials.

Partial payment requests shall not be submitted by the Design-Build Team until those items requested have corresponding signed and sealed RFC Plans accepted by the Department.

Pages 1-83, Article 109-10, add the following as bullets (E), (F) and (G) under the 1st paragraph.

(E) As-Built Plans

(F) All documents required elsewhere in this RFP

(G) Documents or guarantees to support any warranty provided by the Design Build Team

ITEMIZED PROPOSAL FOR CONTRACT NO. C205112

County: CLEVELAND, GASTON

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			CONTRACT ITEMS			
0001	0000996000-N	SP	DESIGN AND CONSTRUCTION	Lump Sum	L.S.	

1303/Jun11/Q1/D996000/E1

Total Amount Of Bid For Entire Project :

FUEL USAGE FACTOR CHART AND ESTIMATE OF QUANTITIES

Description of Work	Units	Fuel Usage Factor Diesel #2	Estimate of Quantities
Unclassified Excavation	Gal / CY	0.29	CY
Borrow Excavation	Gal / CY	0.29	CY
Class IV Subgrade Stabilization	Gal / Ton	0.55	Tons
Aggregate Base Course	Gal / Ton	0.55	Tons
Sub-Ballast	Gal / Ton	0.55	Tons
Erosion Control Stone	Gal / Ton	0.55	Tons
Rip Rap	Gal / Ton	0.55	Tons
Aggregate for Cement Treated Base Course	Gal / Ton	0.55	Tons
Portland Cement for Cement Treated Base Course	Gal / Ton	0.55	Tons
* Asphalt Concrete Base Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Asphalt Concrete Intermediate Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Asphalt Concrete Surface Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Open-Graded Asphalt Friction Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Permeable Asphalt Drainage Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Sand Asphalt Surface Course, Type SA-1	Gal / Ton	_____ 0.90 _____ 2.90	Tons
* Ultra-Thin Bonded Wearing Course	Gal / Ton	_____ 0.90 _____ 2.90	Tons
Portland Cement Concrete Pavement	Gal / SY		
Through Lanes and Shoulders (> 11")		0.327	SY
Through Lanes and Shoulders (9" to 11")		0.272	SY
Through Lanes and Shoulders (<9")		0.245	SY
** Structural Concrete (Cast-in-Place Only)	Gal / CY	0.98	CY

* Select 0.90 **OR** 2.90

** Structural Concrete shall be defined as cast-in-place Class A or Class AA concrete used in the construction of major structures for various work items identified in Division 4 of the *Standard Specifications*.

☐ The above quantities represent the estimate of total quantities for each item, as pertaining to Fuel Price Adjustments, for the design proposed in the Technical Proposal submitted under separate cover.

Or

☐ The Design-Build Team elects not to pursue reimbursement for Fuel Price Adjustments on this project.

The information submitted on this sheet is claimed as a "Trade Secret" in accordance with the requirements of G.S. 66-152(3) until such time as the Price Proposal is opened.

_____ _____

Signature, Title Dated

_____

Print Name, Title

(Submit a copy of this sheet in a separate sealed package with the outer wrapping clearly marked "Fuel Price Adjustment" and deliver with the Technical and Price Proposal.)

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

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

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

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

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

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

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

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

COST OF CONSTRUCTION WORK ONLY $ _____

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

** Dollar Volume of DBE Subcontractor $ _____

Percentage of Total Construction Cost _____ %

(Including Right of Way Acquisition Services)

** - Must have entry even if figure to be entered is zero.

** - *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.

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

CORPORATION

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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 _____

Signature of **Secretary, Assistant Secretary**

Select appropriate title

_____

Print or type Signer's name

By _____

Signature of **President, Vice President, Assistant Vice President**

Select appropriate title

_____

Print or type Signer's name

CORPORATE SEAL

NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

PARTNERSHIP

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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

By

_____ _____
Signature of Witness or Attest Signature of Contractor

_____ _____
Print or type Signer's Name Print or type Signer's Name

If Corporation, affix Corporate Seal and

(3) _____
Name of Contractor

_____
Address as prequalified

By

_____ _____
Signature of Witness or Attest Signature of Contractor

_____ _____
Print or type Signer's Name Print or type Signer's Name

If Corporation, affix Corporate Seal and

(4) _____
Name of Contractor

_____
Address as prequalified

By

_____ _____
Signature of Witness or Attest Signature of Contractor

_____ _____
Print or type Signer's Name Print or type Signer's Name

If Corporation, affix Corporate Seal

CORPORATE SEAL(S)

NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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 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, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States 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 prequalified bidder 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 Individual 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.

Contract No.: **C 205112**

County: **Cleveland & Gaston Counties**

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

_____
Contract Officer

_____
Date

Execution of Contract and Bonds
Approved as to Form:

_____
Attorney General

Signature Sheet (Bid - Acceptance by Department)