

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 11

PROPOSAL

DATE AND TIME OF BID OPENING: ~~MARCH 5, 2026 AT 2:00 PM~~

CONTRACT ID: DK00461

WBS ELEMENT NO.: 36249.5101

FEDERAL AID NO.: FEDERAL AID

COUNTY: WILKES COUNTY

MILES: 0.01

ROUTE NO.: SR 2355 (SPEEDWAY ROAD)

LOCATION: SPEEDWAY PUMP STATION UPGRADES ON SR 2355
(SPEEDWAY ROAD)

★ TYPE OF WORK: UTILITIES ★

NOTICE:

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

THIS IS A ROADWAY PROJECT.

BID BOND IS REQUIRED.

NAME OF BIDDER

ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. DK00461 IN WILKES COUNTY, NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **DK00461**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with the *2024 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete Contract No. **DK00461** in **Wilkes County**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2024* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

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

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

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

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



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

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

For preparing and submitting the bid electronically, refer to Article 102-8(B) of the *Standard Specifications*.

Bidders that bid electronically on Raleigh Central-Let projects will need a separate Digital Signature from the approved electronic bidding provider for Division Contracts.

ELECTRONIC ON-LINE BID:

1. Download entire proposal from Connect NCDOT website. Download the electronic submittal file from the approved electronic bidding provider website.
2. In accordance with Article 102-3 of the Standard Specifications, registration on the Interested Parties List is required unless SP1 G02 Interested Parties List Not Required provision is included in the proposal.
3. Prepare and submit the electronic submittal file using the approved electronic bidding provider software.
4. Electronic bidding software necessary for electronic bid preparation may be downloaded from the Bid Express website following the directions at: <https://connect.ncdot.gov/letting/Pages/Electronic-Bidding.aspx>.
5. Questions should be emailed 7 calendar days prior to the bid opening to **Bethany Elmore** at **belmore@ncdot.gov**. Contact with any other NCDOT personnel concerning this project is strictly prohibited, unless otherwise noted, and may result in bids being considered non-responsive.

PROJECT SPECIAL PROVISIONS**GENERAL****BOND REQUIREMENTS:**

(6-1-16)(Rev.1-16-24)

102-8, 102-10

SPD 01-420A

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

Contract Payment and Performance Bonds are required in accordance with Article 103-7 of the *Standard Specifications*.

HAUL ROADS:

(7-16-24)

105

SP1 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 Contractor shall notify the Engineer of any public road proposed for use as a haul road for the project.

BUILD AMERICA, BUY AMERICA (BABA):

(11-15-22)(Rev. 11-18-25)

106

SP1 G05 B

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 construction materials and manufactured products permanently incorporated into any Federal-aid projects shall comply with applicable federal requirements, including the Build America, Buy America (BABA) Act and implementing regulations in 2 CFR Part 184 and 23 CFR Part 635. For construction materials, all manufacturing processes must occur in the United States. For manufactured products, final assembly of the product must occur in the United States.

Before any construction materials or manufactured products are delivered to the project, the Contractor shall submit a notarized letter acknowledging their understanding of the BABA requirements for the specific contract. This acknowledgment is a project-level affirmation that the Contractor is responsible for ensuring that no construction material or manufactured product is permanently incorporated into the work without the required certification. This acknowledgment does not substitute for item-specific certifications from the manufacturer or supplier. The Department reserves the right to deny payment or recover payment for any item incorporated into the work without valid documentation.

Before any construction material or manufactured product is eligible for payment, the Contractor shall submit a certification from the manufacturer or supplier confirming compliance with the BABA Act and applicable regulations. A separate certification is required for each shipment or delivery and must clearly identify the items covered, linked to the associated bill of lading, invoice, or packing list.

The Contractor shall ensure that certifications from the manufacturer or supplier are obtained and submitted to the Engineer for all construction materials and manufactured products permanently incorporated into the work. Compliance with BABA requirements is the responsibility of the manufacturer or supplier. The Engineer will retain documentation for audit or inspection purposes.

CONTRACT TIME AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 12-18-07)

108

SP1 G10 A

The date of availability for this contract is **April 1, 2026**.

The completion date for this contract is **December 31, 2026**.

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

The liquidated damages for this contract are **One Thousand Dollars (\$ 1,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 01 AND LIQUIDATED DAMAGES:

(2-20-07)

108

SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **ANY ROAD** during the following time restrictions:

DAY AND TIME RESTRICTIONS

**7:00 AM UNTIL 9:00 AM
4:00 PM UNTIL 6:00 PM
MONDAY THROUGH FRIDAY**

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

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.
2. For **New Year's Day**, between the hours of **4:00 PM** December 31st and **9:00 AM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **9:00 AM** the following Tuesday.
3. For **Easter**, between the hours of **4:00 PM** Thursday and **9:00 AM** Monday.
4. For **Memorial Day**, between the hours of **4:00 PM** Friday and **9:00 AM** Tuesday.
5. For **Independence Day**, between the hours of **4:00 PM** the day before Independence Day and **9:00 AM** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **4:00 PM** the Thursday before Independence Day and **9:00 AM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **4:00 PM** Friday and **9:00 AM** Tuesday.
7. For **Thanksgiving Day**, between the hours of **4:00 PM** Tuesday and **9:00 AM** Monday.
8. For **Christmas**, between the hours of **4:00 PM** the Friday before the week of Christmas Day and **9:00 AM** the following Tuesday after the week of Christmas Day.

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

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

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

The liquidated damages are **One Thousand Dollars (\$ 1,000.00)** per hour.

NO MAJOR CONTRACT ITEMS:

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

104

SP1 G31

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

SPECIALTY ITEMS:

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

108-6

SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *Standard Specifications*).

Line #	Description
8-13	Fencing
15-32	Utility Construction
33-39	Erosion Control

FUEL PRICE ADJUSTMENT:

(11-15-05)(Rev. 1-16-24)

109-8

SP1 G43

Page 1-82, Article 109-8, FUEL PRICE ADJUSTMENTS, add the following:

The base index price for DIESEL #2 FUEL is \$ **2.4622** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29
Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Erosion Control Stone	Gal/Ton	0.55
Rip Rap, Class _____	Gal/Ton	0.55
Asphalt Concrete Base Course, Type _____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Intermediate Course, Type _____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Surface Course, Type _____	Gal/Ton	0.90 or 2.90
Open-Graded Asphalt Friction Course	Gal/Ton	0.90 or 2.90
Permeable Asphalt Drainage Course, Type _____	Gal/Ton	0.90 or 2.90
Sand Asphalt Surface Course, Type _____	Gal/Ton	0.90 or 2.90
Ultra-thin Bonded Wearing Course	Gal/Ton	0.90 or 2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
> 11" Portland Cement Concrete Pavement	Gal/SY	0.327
Concrete Shoulders Adjacent to > 11" Pavement	Gal/SY	0.327
9" to 11" Portland Cement Concrete Pavement	Gal/SY	0.272
Concrete Shoulders Adjacent to 9" to 11" Pavement	Gal/SY	0.272
< 9" Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to < 9" Pavement	Gal/SY	0.245

For the asphalt items noted in the chart as eligible for fuel adjustments, the bidder may include the *Fuel Usage Factor Adjustment Form* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form* is found at the following link:

<https://connect.ncdot.gov/letting/LetCentral/Fuel%20Usage%20Factor%20Adjustment%20Form%20-%20Starting%20Nov%202022%20Lettings.pdf>

Select either 2.90 Gal/Ton fuel factor or 0.90 Gal/Ton fuel factor for each asphalt line item on the *Fuel Usage Factor Adjustment Form*. The selected fuel factor for each asphalt item will remain in effect for the duration of the contract.

Failure to complete the *Fuel Usage Factor Adjustment Form* will result in using 2.90 gallons per ton as the Fuel Usage Factor for Diesel for the asphalt items noted above. The contractor will not be permitted to change the Fuel Usage Factor after the bids are submitted.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08)(Rev. 6-17-25)

108-2

SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

	<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2026	(7/01/25 - 6/30/26)	30% of Total Amount Bid
2027	(7/01/26 - 6/30/27)	70% of Total Amount Bid

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

DISADVANTAGED BUSINESS ENTERPRISE (DIVISIONS):

(10-16-07)(Rev. 10-21-25)

102-15(J)

SP1 G62

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 of bid 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 of bid 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 bidder confirming the Contractor's approved, committed DBE participation along with a listing of the committed DBE firms.

Manufacturer - A firm that owns (or leases) and operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor. A firm that makes minor modifications to the materials, supplies, articles, or equipment is not a manufacturer.

Regular Dealer - A firm that owns (or leases), and operates a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in sufficient quantities, 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, concrete or concrete products, gravel, stone, asphalt and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Any supplement of regular dealers' own distribution equipment shall be by a long-term operating lease and not on an ad hoc or contract-by-contract basis.

Distributor - A firm that engages in the regular sale or lease of the items specified by the contract. A distributor assumes responsibility for the items it purchases once they leave the point of origin (e.g., a manufacturer's facility), making it liable for any loss or damage not covered by the carrier's insurance.

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 Contractor 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. This form is for paper bid projects only.
<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>

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 of bid.
<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. This form is for paper bids only.
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20\(Federal\).docx](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 Regular Dealer/Distributor Affirmation Form – Form is used to make a preliminary counting determination for each DBE listed as a regular dealer or distributor to assess its eligibility for 60 or 40 percent credit, respectively of the cost of materials or supplies based on its demonstrated capacity and intent to perform as a regular dealer or distributor, as defined in section 49 CFR 26.55 under the contract at issue. A Contractor will submit the completed form with the Letter of Intent. <https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20Regular%20Dealer-Distributor%20Affirmation%20Form%20-%20USDOT%202024.pdf>

DBE Goal

There is NO goal for participation by Disadvantaged Business Enterprises for this contract.

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](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 of bid, bidders 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 of bid will be used toward the Department's overall race-neutral goal. Only those firms with current DBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of DBE participation in the appropriate section of the electronic submittal file.

- (1) Submit the names and addresses of DBE firms identified to participate in the contract. If the bidder uses the updated listing of DBE firms shown in the electronic submittal file, the bidder may use the dropdown menu to access the name and address of the DBE firm.
- (2) Submit the contract line numbers of work to be performed by each DBE firm. When no figures or firms are entered, the bidder will be considered to have no DBE participation.

- (3) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the DBE goal.

(B) Paper Bids

- (1) *If the DBE goal is more than zero,*
 - (a) Bidders, at the time the bid 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 bid to be considered responsive. Bidders shall indicate the total dollar value of the DBE participation for the contract.
 - (b) If bidders 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.** Bids submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
 - (c) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the DBE goal.
- (2) *If the DBE goal is zero,* entries on the *Listing of DBE Subcontractors* are not required, however any DBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

DBE Prime Contractor

When a certified DBE firm bids 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 bidder. In most cases, a DBE bidder 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 bidder and any other DBE subcontractors will count toward the DBE goal. The DBE bidder 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% and the DBE bidder will only perform 40% of the contract work, the prime will list itself at 40%, and the additional 5% 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 or B listed under *Listing of DBE Subcontractor* just as a non-DBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each DBE that will be used to meet the DBE goal of the contract, indicating the bidder'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 Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed DBE to be used toward the DBE goal, or if the form is incomplete (i.e. 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 Contractor shall submit evidence of good faith efforts, completed in its entirety, to the Engineer no later than 2:00 p.m. on the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Submission of Good Faith Effort

If the bidder fails to meet or exceed the DBE goal the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach the DBE goal.

One complete set and **0** copies of this information shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of 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 bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient DBE participation. Adequate good faith efforts also mean that the bidder 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 bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the 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 bidder must solicit this interest within at least 10 days prior to bid opening 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 bidder 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 (2nd and 3rd 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 bidder'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, so as 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 bidder 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 bidder'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 bidder of the responsibility to make good faith efforts. Bidding contractors 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 bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (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 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get DBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the DBE goal.

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

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the DBE goal.
- (2) The bidders' past performance in meeting the DBE goals.
- (3) The performance of other bidders in meeting the DBE goal. For example, when the apparent successful bidder fails to meet the DBE goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the DBE goal, but meets or exceeds the average DBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the 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 Engineer will notify the Contractor verbally and in writing of non-good faith. A Contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a

Contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the Engineer. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting 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 performed by the DBE and the actual payments to DBE firms by the Contractor.

(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 Contractor 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) Manufacturer, Regular Dealer, Distributor

A Contractor may count toward its DBE requirement 40 percent of its expenditures for materials or supplies (including transportation costs) from a DBE distributor, 60 percent of its expenditures for materials or supplies (including transportation costs) from a DBE regular dealer and 100 percent of such expenditures obtained from a DBE manufacturer.

A Contractor may count toward its DBE requirement the following expenditures to DBE firms that are not manufacturers, regular dealers or distributors:

- (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, regular dealer, nor a distributor count the entire amount of fees or commissions charged that the Department deems to be reasonable, including transportation charges for the delivery of materials or supplies. Do not count any portion of the cost of the materials and supplies themselves.

A Contractor will submit a completed *DBE Regular Dealer/Distributor Affirmation Form* with the Letter of Intent to the Engineer. The Engineer will forward to the State Contractor Utilization Engineer or DBE@ncdot.gov. The State Contractor Utilization Engineer will make a preliminary assessment as to whether a DBE supplier has the demonstrated capacity to perform a commercially useful function (CUF) on a contract-by-contract basis *prior* to its participation.

Commercially Useful Function

(A) DBE Utilization

The Contractor 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 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 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 Contractor 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 display clearly 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 Contractor 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 contractor shall not terminate the DBE subcontractor or any portion of its work for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another DBE subcontractor, a non-DBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the DBE subcontractor, with a copy to the Engineer of its intent to request to terminate a DBE subcontractor or any portion of its work, and the reason for the request. The Contractor must give the DBE subcontractor five (5) business days to respond to the Contractor'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 Contractor and

the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the DBE subcontractor.

A committed DBE subcontractor may only be terminated or any portion of its work after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. Good cause does not exist if the Contractor seeks to terminate a DBE or any portion of its work that it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE was engaged, or so that the Contractor can substitute another DBE or non-DBE contractor after contract award. 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 1200 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; and
- (j) Other documented good cause that compels the termination of the DBE subcontractor.

The Contractor 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 of bid 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 of bid 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 Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to 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 Contractor.
- (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 Contractor 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 but not the overall goal.
 - (i) If the DBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract. The Department may continue to count participation equal to the remaining work performed by the decertified firm which will count toward the contract goal requirement and overall goal.
 - (ii) If the DBE's ineligibility is caused solely by its acquisition by or merger with a non-DBE during the performance of the contract. The Department may not continue to count the portion of the decertified firm's performance on the contract remaining toward either the contract goal or the overall goal, even if the Contractor has executed a subcontract with the firm or the Department has executed a prime contract with the DBE that was later decertified.
 - (2) When a committed DBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named DBE firm, the Contractor 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).

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 Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months

Changes in the Work

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed DBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a DBE based upon the Contractor'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 Contractor 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 Contractor shall seek participation by DBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a DBE, the Contractor 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 Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

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

Reporting Disadvantaged Business Enterprise Participation

The Contractor 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 contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to 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 Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

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

Contractors 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 Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

Failure to Meet Contract Requirements

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

CERTIFICATION FOR FEDERAL-AID CONTRACTS:

(3-21-90)

SP1 G85

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.

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 prospective participant also agrees by submitting his or her bid or 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 subrecipients shall certify and disclose accordingly.

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:

(11-17-20)

SP01 G090

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

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19)(Rev. 3-17-26)

SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107, NC GS 15A-300, American Security Drone Act of 2023 (ASDA), Office of Management and Budget (OMB) Memorandum M-26-02, all FAA rules, regulations and policies and all NCDOT UAS Policies. The required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, as well as operating a UAS registered with the FAA.

All UAS operations shall be approved by the Engineer prior to beginning the operations.

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

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

EQUIPMENT IDLING GUIDELINES:

(1-19-21)

107

SP1 G096

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

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

1. Idling when queuing.

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

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

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:

(11-22-94)

108-5

SP1 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 is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

TWELVE MONTH GUARANTEE:

(7-15-03)

108

SP1 G145

- (A) The Contractor 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 Contractor will not be responsible for damage due to faulty design, 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 Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor'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 Contractor would be wholly responsible for under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision will not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bonds shall cover this guarantee for the project.

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.

PROJECT SPECIAL PROVISIONS**ROADWAY****BURNING RESTRICTIONS:**

(7-1-95)

200, 210, 215

SP2 R05

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

INCIDENTAL STONE BASE:

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

545

SP5 R28R

Description

Place incidental stone base on driveways, mailboxes, etc. immediately after paving and do not have the paving operations exceed stone base placement by more than one week without written permission of the Engineer.

Materials and Construction

Provide and place incidental stone base in accordance with Section 545 of the *Standard Specifications*.

Measurement and Payment

Incidental Stone Base will be measured and paid in accordance with Article 545-6 of the *Standard Specifications*.

VINYL COATED CHAIN LINK FENCE:

(1-1-02)(Rev. 6-17-25)

866

SP8 R101

Page 8-48, Article 866-4, MEASUREMENT AND PAYMENT, add the following paragraphs after line 35:

____ *Vinyl Coated Chain Link Fence*, ____" *Fabric* will be measured and paid in linear feet of fence measured in place from center of each post or gate post to center of end post or gate post exclusive of gate sections, that has been completed and accepted.

____ *Vinyl Coated Metal Line Posts for* ____" *Chain Link Fence* will be measured and paid in units of each for the several sizes and kinds of posts actually installed on the project. For extra length metal posts, the actual length of post in place in excess of the standard pay length for each post shall be measured in linear feet, and half of such length shall be converted to an equivalent number of standard length posts of the same size for which a pay item has been established. In converting to equivalent numbers of standard length posts, any fractional portion of a post

remaining from the division of a total number of linear feet by a standard post length shall be considered as equal to one post.

____ *Vinyl Coated Metal Terminal Posts for ____" Chain Link Fence* will be measured and paid in units of each for all end, corner and brace posts installed on the project.

____ *Vinyl Coated Metal Gate Posts for ____" Chain Link Fence, Double Gate* will be measured and paid in units of each for gateposts installed on the project.

____ *Vinyl Coated Metal Gate Posts for ____" Chain Link Fence, Single Gate* will be measured and paid in units of each for gate posts installed on the project.

____ *Vinyl Coated Double Gates, ____" High, ____' Wide, ____' Opening* will be measured and paid in units of each for the number of gates actually erected on the project. Double gates will be measured as one gate.

____ *Vinyl Coated Single Gates, ____" High, ____' Wide, ____' Opening* will be measured and paid in units of each for the number of gates actually erected on the project.

Page 8-49, Article 866-4, MEASUREMENT AND PAYMENT, add the following after line 1:

Pay Item	Pay Unit
____ Vinyl Coated Chain Link Fence, ____" Fabric	Linear Foot
____ Vinyl Coated Metal Line Posts for ____" Chain Link Fence	Each
____ Vinyl Coated Metal Terminal Posts for ____" Chain Link Fence	Each
____ Vinyl Coated Metal Gate Posts for ____" Chain Link Fence, Double Gate	Each
____ Vinyl Coated Metal Gate Posts for ____" Chain Link Fence, Single Gate	Each
____ Vinyl Coated Double Gates, ____" High, ____' Wide, ____' Opening	Each
____ Vinyl Coated Single Gates, ____" High, ____' Wide, ____' Opening	Each

WATTLE DEVICES:

(1-1-24)(Rev. 9-16-25)

1642

SP16 R10

Page 16-23, Subarticle 1642-2(B) Wattle, lines 10-12, delete and replace with the following:

(B) Wattle and Wattle Barrier

Wattles shall meet Table 1642-1.

TABLE 1642-1	
100% CURLED WOOD (EXCELSIOR) FIBERS - WATTLE	
Property	Property Value
Minimum Diameter	12 inches
Minimum Density	2.5 pcf +/- 10%
Net Material	Synthetic
Net Openings	1 inch x 1 inch
Net Configuration	Totally Encased
Minimum Weight	20 lb +/- 10% per 10 foot length

Coir Fiber Wattles shall meet Table 1642-2.

TABLE 1642-2	
100% COIR (COCONUT) FIBERS WATTLE	
Property	Property Value
Minimum Diameter	12 inches
Minimum Density	3.5 pcf +/- 10%
Net Material	Coir Fiber
Net Openings	2 inch x 2 inch
Net Strength	90 lb
Minimum Weight	2.6 pcf +/- 10%

Wattle Barriers shall meet Table 1642-3.

TABLE 1642-3	
100% CURLED WOOD (EXCELSIOR) FIBERS – WATTLE BARRIER	
Property	Property Value
Minimum Diameter	18 inches
Minimum Density	2.9 pcf +/- 10%
Net Material	Synthetic
Net Openings	1 inch x 1 inch
Net Configuration	Totally Encased
Minimum Weight	5 pcf +/- 10%

Coir Fiber Wattle Barriers shall meet Table 1642-4.

TABLE 1642-4	
100% COIR (COCONUT) FIBERS WATTLE BARRIER	
Property	Property Value
Minimum Diameter	18 inches
Minimum Density	5 pcf +/- 10%
Net Material	Coir Fiber
Net Openings	2 inch x 2 inch
Net Strength	90 lb
Minimum Weight	10 pcf +/- 10%

Pages 16-24 & 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, lines 42-47 & lines 1-2, delete and replace with the following:

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

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

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

Coir Fiber Wattle Barrier will be measured and paid as the actual number of linear feet of coir fiber wattle barrier installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Coir Fiber Wattle Barrier*.

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, delete and replace “ ___ Wattle Check” with “Wattle”.

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, delete and replace “ ___ Wattle Barrier” with “Wattle Barrier”.

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, add the following:

Pay Item	Pay Unit
Coir Fiber Wattle	Linear Foot
Coir Fiber Wattle Barrier	Linear Foot

STANDARD SPECIAL PROVISION
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

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

Z-2

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

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

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

STANDARD SPECIAL PROVISION
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11)

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:

<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. Of Seed</u>	<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. of Seed</u>
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)	Bermudagrass
Kobe Lespedeza	Browntop Millet
Korean Lespedeza	German Millet – Strain R
Weeping Lovegrass	Clover – Red/White/Crimson
Carpetgrass	

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	Japanese Millet
Crownvetch	Reed Canary Grass
Pensacola Bahiagrass	Zoysia
Creeping Red Fescue	

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)(Rev. 1-20-26)

Z-4

Revise the *2024 Standard Specifications* as follows:

Division 1

Page 1-36, Subarticle 104-12(B) Evaluation of Proposals, line 21, replace "Design-Build Unit" with "Alternative Delivery Unit".

Page 1-36, Subarticle 104-12(D) Preliminary Review, line 37, replace "Design-Build Unit" with "Alternative Delivery Unit".

Page 1-37, Subarticle 104-12(E) Final Proposal, line 3, replace "Design-Build Unit" with "Alternative Delivery Unit".

Page 1-37, Subarticle 104-12(F) Design-Build VEPs, line 36, replace "Design-Build Unit" with "Alternative Delivery Unit".

Page 1-38, Subarticle 104-12(G) Modifications, line 1, replace "Design-Build Unit" with "Alternative Delivery Unit".

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 6

Page 6-15, Article 610-1 DESCRIPTION, line 20, replace "The work includes" with "The work includes, but is not limited to,".

Page 6-15, Article 610-1 DESCRIPTION, line 22, replace "applying the tack coat as specified." with "applying the tack coat in accordance with Section 605.".

Page 6-30, Article 610-14 DENSITY ACCEPTANCE, line 39, replace "QC process." with "QC process in accordance with Section 609.".

Page 6-31, Article 610-16 MEASUREMENT AND PAYMENT, line 13, replace "*Hot Mix Asphalt Pavement*" with "*Asphalt Concrete _____ Course, Type _____*".

Page 6-50, Subarticle 661-4(A) Equipment, lines 4-7, replace the first two sentences of the seventh paragraph with the following:

When an erected fixed stringline is utilized for longitudinal profile and cross slope control furnish and erect the necessary guide line for the equipment.

Division 7

Page 7-18, Subarticle 710-10(A) General, lines 7-8, delete “for *Surface Testing Concrete Pavement*” from the last paragraph.

Division 8

Page 8-27, Article 846-1 DESCRIPTION, line 8, delete “4 inch” from the first paragraph.

Division 9

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

Division 10

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

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

Division 11

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

Division 15

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

Division 16

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

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

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

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, line 23, delete and replace “1.25” with “1-1/4”.

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, line 24, delete and replace “(1.25” with “, 1-1/4”.

STANDARD SPECIAL PROVISION**PLANT AND PEST QUARANTINES**

(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)

(3-18-03)(Rev. 3-18-25)

Z-04a

Within Quarantined Area

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

Originating in a Quarantined County

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

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or <https://www.ncagr.gov/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.

STANDARD SPECIAL PROVISION**TITLE VI AND NONDISCRIMINATION:**

(6-28-77)(Rev 1/16/2024)

Z-6

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

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

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

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

(a) Compliance with Regulations

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

(b) Nondiscrimination

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

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

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

(d) Information and Reports

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined

by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance:

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

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

(f) Incorporation of Provisions

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

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

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

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

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

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

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

2. Eligibility

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

3. Time Limits and Filing Options

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

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

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

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

4. Format for Complaints

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

5. Discrimination Complaint Form

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

6. Complaint Basis

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

TABLE 103-1 COMPLAINT BASIS			
Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. <i>(Executive Order 13166)</i>
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin <i>(Limited English Proficiency)</i>	Place of birth. Citizenship is not a factor. <i>(Discrimination based on language or a person's accent is also covered)</i>	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. <i>Note: Sex under this program does not include sexual orientation.</i>	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990
Religion (in the context of employment) <i>(Religion/ Creed in all aspects of any aviation or transit-related construction)</i>	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. <i>Note: Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.</i>	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. <i>(49 U.S.C. 5332(b); 49 U.S.C. 47123)</i>

(3) Pertinent Nondiscrimination Authorities

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

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

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

(4) Additional Title VI Assurances

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

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

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

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

(HABENDUM CLAUSE)

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

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

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

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

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

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

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

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

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

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

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

STANDARD SPECIAL PROVISION**MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS**

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 for 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%

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- 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 procurement 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**ON-THE-JOB TRAINING**

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

Z-10

Description

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

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

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

Minorities and Women

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

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

Training Classifications

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

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

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

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

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

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

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

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

Records and Reports

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

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

Trainee Interviews

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

Trainee Wages

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

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

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

Achieving or Failing to Meet Training Goals

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

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

Measurement and Payment

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

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20260086 01/02/2026 NC86

Z-086

Date: January 2, 2026

General Decision Number: NC20260086 01/02/2026 NC86

Superseded General Decision Numbers: NC20250086

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).

Modification Number
0

Publication Date
01/02/2026

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	

	Rates	Fringes
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	
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.

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>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor 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 the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS ADDENDUM

This CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS ADDENDUM (hereinafter “Addendum”) is entered into by and between the **North Carolina Department of Transportation**, an agency of the State of North Carolina, hereinafter referred to for purposes of this Addendum as “the State”; the **County of Wilkes**, a body politic and political subdivision of the State of North Carolina, hereinafter referred to for purposes of this Addendum as “the County”; and the **Town of North Wilkesboro**, a municipal corporation and political subdivision of the State of North Carolina, hereinafter referred to as “the Town.”

RECITALS

WHEREAS, the County has received, either as a Recipient or Subrecipient (as each such term is defined in Section I hereof) a payment from the Coronavirus State Fiscal Recovery Fund (“*State Fiscal Recovery Fund*”) or Coronavirus Local Fiscal Recovery Fund (“*Local Fiscal Recovery Fund*” and, together with the State Fiscal Recovery Fund, the “*Fiscal Recovery Funds*”) established pursuant to Sections 602 and 603, respectively, of the Social Security Act, as added by Section 9901 of the American Rescue Plan Act of 2021, Pub. L. No. 117-2 (“*ARPA*”); and

WHEREAS, the County intends to pay, in part or in whole, for the cost of the Contract (as defined in Section I hereof) using monies received from the Fiscal Recovery Funds; and

WHEREAS, in using such funds, the County must comply with the terms of ARPA, regulations issued by the U.S. Department of the Treasury governing the expenditure of monies distributed from the Fiscal Recovery Funds (including, without limitation, the Interim Final Rule (86 Fed. Reg. 26,786 (May 17, 2021) and Final Rule (87 Fed. Reg. 4,338 (Jan. 27, 2022))), the Award Terms and Conditions applicable to the Fiscal Recovery Funds, and such other guidance as the U.S. Department of the Treasury has issued or may issue governing the expenditure of monies distributed from the Fiscal Recovery Funds (collectively, the “*Regulatory Requirements*”); and

WHEREAS, pursuant to the Regulatory Requirements, the County must comply with the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200, other than such provisions as Treasury has determined or may determine are inapplicable to the Fiscal Recovery Funds; and

WHEREAS, pursuant to 2 C.F.R. § 200.327, the County must include within the Contract applicable provisions described in Appendix II to 2 C.F.R. Part 200, each of which is contained in this Addendum; and

WHEREAS, the County shall not enter into the Contract or make any distributions of funds to the State using monies from the Fiscal Recovery Funds absent the State’s agreement and adherence to each term and condition contained herein; and

WHEREAS, the Town is named as a party under the Contract and, while it is not anticipated that the Town will be the recipient or subrecipient of any Fiscal Recovery Funds and is being named in this Addendum solely by virtue of its capacity as a party to the Contract, the parties nonetheless desire that the Town be bound by all of the provisions hereunder applicable to the the State in the event the Administering Agency should determine that the Town is subject hereto;

NOW THEREFORE, the State, the County, and the Town do mutually agree as follows:

AGREEMENTS

- I. **Definitions.** Unless otherwise defined in this Addendum, capitalized terms used in this Addendum shall have the meanings ascribed thereto in this Section I.
- a) “*ARPA*” shall mean the American Rescue Plan Act of 2021, Pub. L. No. 117-2, as amended.
 - b) “*Administering Agency*” shall have the meaning specified in 41 C.F.R. § 60-1.3.
 - c) “*Applicant*” shall have the meaning specified in 41 C.F.R. § 60-1.3, which is provided here for ease of reference: (“An applicant for Federal assistance involving a construction contract, or other participant in a program involving a construction contract as determined by regulation of an administering agency. The term also includes such persons after they become recipients of such Federal assistance.”).
 - d) “*Construction Work*” shall have the meaning specified in 41 C.F.R. § 60-1.3, which is provided here for ease of reference: (“[T]he construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.”).
 - e) “*Contract*” shall mean the legal instrument by which the County, as a Recipient or Subrecipient, shall purchase from the State property or services needed to carry out a project or program under a Federal award, and of which this Addendum shall constitute an integral part, and more specifically, “*Contract*” shall refer to that Three-Party Agreement executed under even date herewith to which the State, the County, and the Town are parties and to which this Addendum is attached and included by reference.
 - f) “*Contractor*” shall mean the entity named as “the State” in this Addendum that has received a Contract from the County of Wilkes.
 - g) “*Federally Assisted Construction Contract*” shall have the meaning specified in 41 C.F.R. § 60-1.3, which is provided here for ease of reference: (“[A]ny agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the government of the United States of America for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work..”).
 - h) “*Government*” shall have the meaning specified in 41 C.F.R. § 60-1.3, which is provided here for ease of reference: (“[T]he government of the United States of America.”).
 - i) “*Laborer*” or “*Mechanic*” shall have the meaning specified in 29 C.F.R. § 5.2(m), which is provided here for ease of reference (“The term laborer or mechanic includes at least those workers duties are manual or physical in nature (including those workers who use tools or who are performing the work of a trade), as distinguished from mental or managerial. The term

laborer or mechanic includes apprentices, trainees, helpers, and, in the case of contracts subject to the Contract Work Hours and Safety Standards Act, watchmen or guards. The term does not apply to workers whose duties are primarily administrative, executive, or clerical, rather than manual. Persons employed in a bona fide executive, administrative, or professional capacity as defined in part 541 of [Title 40 of the United States Code] are not deemed to be laborers or mechanics. Working foremen who devote more than 20 percent of their time during a workweek to mechanic or laborer duties, and who do not meet the criteria of [Title 40 of the United States Code], are laborers and mechanics for the time so spent.”).

- j) “*Recipient*” shall mean an entity that receives a Federal award directly from a Federal awarding agency. The term does not include subrecipients or individuals that are beneficiaries of an award.
- k) “*Subcontract*” shall mean any agreement entered into by a Subcontractor to furnish supplies or services for the performance of this Contract or a Subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.
- l) “*Subcontractor*” shall mean an entity that receives a Subcontract.
- m) “*Subrecipient*” shall mean an entity that receives a subaward from a pass-through entity to carry out part of a Federal award; but does not include an individual that is a beneficiary of such award. A subrecipient may also be a recipient of other Federal awards directly from a Federal awarding agency.
- n) “*Tier*” shall have the meaning indicated in 2 C.F.R. Part 180 and illustrated in 2 C.F.R. Part 180, Appendix II.

II. **Equal Employment Opportunity**

- a) If this Contract is a Federally Assisted Construction Contract exceeding \$10,000, during the performance of this Contract, Contractor agrees as follows:
 - i. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: 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. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
 - ii. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for

employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

- iii. Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.
- iv. Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- v. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- vi. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- vii. In the event of Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or Federally Assisted Construction Contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- viii. Contractor will include the portion of the sentence immediately preceding paragraph (a)(i) of this Section II and the provisions of paragraphs (a)(i) through (a)(viii) in every Subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any Subcontract or purchase order as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

The County further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that since the County so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

- ix. The County agrees that it will assist and cooperate actively with the Administering Agency and the Secretary of Labor in obtaining the compliance of Contractors and Subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.
 - x. The County further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon Contractors and Subcontractors by the Administering Agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the County agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.
- b) If this Contract is not a Federally Assisted Construction Contract exceeding \$10,000, the provisions of Section I(a) of this Contract shall not apply.

III. Copeland "Anti-Kickback" Act

- a) Contractor and any Subcontractors performing work under the Contract shall comply with 18 U.S.C. § 874. The County shall report all suspected or reported violations to the U.S. Department of the Treasury.

IV. Contract Work Hours and Safety Standards Act

- a) *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.
- b) *Violation; Liability for Unpaid Wages; Liquidated Damages.* In the event of any violation of the clause set forth in Section [IV(a)] (Overtime Requirements) above, Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. 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 watchmen and guards, employed in violation of the clause set forth in Section [IV(a)] (Overtime Requirements) above, in the sum of \$27 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 Section [IV(a)] (Overtime Requirements) above.
- c) *Withholding for Unpaid Wages and Liquidated Damages.* The County shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by Contractor or Subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in Section [IV(b)] (Violation; Liability for Unpaid Wages; Liquidated Damages) of this section.
- d) *Subcontracts.* Contractor or Subcontractor shall insert in any Subcontract the clauses set forth in Sections IV(a) through IV(d) and also a clause requiring the Subcontractors to include these clauses in any lower tier Subcontracts. Contractor shall be responsible for compliance by any first tier Subcontractor or lower tier Subcontractor with the clauses set forth in Sections IV(a) through IV(d).
- e) *Payroll and Records.* Contractor or Subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the Contract for all Laborers and Mechanics, including guards and watchmen, working on the Contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Records to be maintained under this provision shall be made available by Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the Department of the Treasury and the U.S. Department of Labor, and Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

- f) *Exceptions.* None of the requirements of Section [IV] of this Addendum shall apply if this Contract is (1) a Contract for (i) transportation by land, air, or water; (ii) the transmission of intelligence, (iii) the purchase of supplies or materials or articles ordinarily available in the open market, or (iv) in an amount that is equal to or less than \$100,000.

V. **Rights to Inventions Made Under a Contract or Agreement**

- a) The Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use for "Government Purposes", any subject data or copyright described below. "Government Purposes," means use only for the direct purposes of the Government. Without the copyright owner's consent, the Government may not extend its Federal license to any other party.
- i. Any subject data developed under the Contract, whether or not a copyright has been obtained; and
 - ii. Any rights of copyright purchased by Contractor using Federal assistance funded in whole or in part by the Department of the Treasury.
- b) Unless the Department of the Treasury determines otherwise, a Contractor performing experimental, developmental, or research work required as part of this Contract agrees to permit the Department of the Treasury to make available to the public, either the Department of the Treasury's license in the copyright to any subject data developed in the course of the Contract, or a copy of the subject data first produced under the Contract for which a copyright has not been obtained. If the experimental, developmental, or research work, which is the subject of this Contract, is not completed for any reason whatsoever, all data developed under the Contract shall become subject data as defined herein and shall be delivered as the Federal Government may direct.
- c) Unless prohibited by North Carolina law, upon request by the Government, Contractor agrees to indemnify, save, and hold harmless the Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under the Contract. Contractor shall be required to indemnify the Government for any such liability arising out of the wrongful act of any employee, official, or agent of the Contractor.
- d) Nothing contained in this clause shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.
- e) Data developed by the Contractor and financed entirely without using Federal assistance provided by the Federal Government that has been incorporated into work required by the underlying Contract is exempt from the requirements herein, provided that the Contractor identifies those data in writing at the time of delivery of the Contract work. The Contractor

agrees to include these requirements in each Subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance.

- f) For the purposes of this Section V, “subject data” means “recorded information, whether or not copyrighted, and that is delivered or specified to be delivered as required by the Contract.” Examples of “subject data” include, but are not limited to computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information, but do not include financial reports, cost analyses or other similar information used for performance or administration of the Contract.”

VI. Clean Air Act and Federal Water Pollution Control Act

- a) *Clean Air Act.* Contractor agrees to comply with all applicable standards, orders and regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 *et seq.* Contractor agrees to report each violation to the County and understands and agrees that the County of Wilkes will, in turn, report each violation as required to the U.S. Department of the Treasury and the appropriate Environmental Protection Agency Regional Office. Contractor agrees to include these requirements in each Subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by the U.S. Department of the Treasury.
- b) *Federal Water Pollution Control Act.* Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 *et seq.* Contractor agrees to report each violation to the County of Wilkes and understands and agrees that the County will, in turn, report each violation as required to assure notification to the U.S. Department of the Treasury and the appropriate Environmental Protection Agency Regional Office. Contractor agrees to include these requirements in each Subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by the U.S. Department of the Treasury.

VII. Debarment and Suspension

- a) Due to its receipt of Fiscal Recovery Funds, the County is a participant in a nonprocurement transaction (defined at 2 C.F.R. § 180.970) that is a covered transaction pursuant to 2 C.F.R. § 180.210 and 31 C.F.R. § 19.210. Therefore, this Contract is a lower-tier covered transaction for purposes of 2 C.F.R. Part 180 and 31 C.F.R. Part 19 if (1) the amount of this Contract is greater than or equal to \$25,000 (2 C.F.R. § 180.220(b)(1); 31 C.F.R. § 19.220(b)(1)), (2) the Contract requires the consent of an official of the Department of the Treasury (2 C.F.R. § 180.220(b)(2); 31 C.F.R. § 19.220(b)(2)), or (3) this Contract is for federally-required audit services (2 C.F.R. § 180.220(b)(3); 31 C.F.R. § 19.220(b)(3)).
- b) **If this Contract is a covered transaction as set forth in Section [VII(a)] above, Contractor hereby certifies as of the date hereof that each of Contractor, Contractor’s principals (defined at 2 C.F.R. § 180.995), and the affiliates (defined at 2 C.F.R. § 180.905) of Contractor and Contractor’s principals are not excluded (defined at 2 C.F.R. § 180.935) and are not disqualified (defined at 2 C.F.R. § 180.935). If any of the foregoing persons**

are excluded or disqualified and the Secretary of the Treasury has not granted an exception pursuant to 31 C.F.R. § 19.120(a), (1) this Contract shall be void, (2) The County shall not make any payments of Federal financial assistance to Contractor, and (3) The County shall have no obligations to Contractor under this Contract.

- c) Contractor must comply with 2 C.F.R. Part 180, Subpart C, and 31 C.F.R. Part 19, and must include a requirement to comply with these regulations in any lower-tier covered transaction it enters into. This certification is a material representation of fact relied upon by the County and all liability arising from an erroneous representation shall be borne solely by Contractor
- d) If it is later determined that Contractor did not comply with 2 C.F.R. Part 180, Subpart C and 31 C.F.R. Part 19, in addition to remedies available to the County, the Government may pursue available remedies, including but not limited to suspension and/or debarment.

VIII. Byrd Anti-Lobbying Amendment

- a) Contractor certifies to the County, and Contractor shall cause each Tier below it to certify to the Tier directly above such Tier, that it has not used and will not use Federally appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Contractor shall, and shall cause each Tier below it, to disclose any lobbying with non-Federally appropriated funds that takes place in connection with obtaining any Federal award. Such disclosures (to be set forth on Standard Form-LLL contained in 31 C.F.R. Part 21, Appendix B) shall be forwarded from Tier to Tier up to the County who will in turn forward the certification(s) to the U.S. Department of the Treasury. Contractor shall cause the language of this Section [VIII(a)] to be included in all Subcontracts. This certification is a material representation of fact upon which the County has relied when entering into this Contract and all liability arising from an erroneous representation shall be borne solely by Contractor.
- b) **Contractors that bid or apply for a contract exceeding \$100,000 (including this Contract, if applicable) also must file with the County the Certification in Attachment 1 to this Addendum, which is attached hereto and incorporated herein.**
- c) **Contractor also shall cause any Subcontractors with a Subcontract (at any Tier) exceeding \$100,000 to file with their Tier above it the Certification in Attachment 1 to this Addendum, which is attached hereto and incorporated herein.**

IX. Procurement of Recovered Materials

- a) Section IX(b) shall apply if (1) this Contract involves the purchase of an item designated by the Environmental Protection Agency (“EPA”) in 40 C.F.R. Part 247 that exceeds \$10,000, or (2) the total value of such designated items acquired during the County’s preceding fiscal year exceeded \$10,000.

- b) In the performance of the Contract, Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired (1) competitively within a timeframe providing for compliance with the Contract performance schedule, (2) meeting Contract performance requirements; or (3) at a reasonable price. Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines website, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>. Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

X. Prohibition on Contracting for Covered Telecommunications Equipment or Services

- a) *Definitions*. Unless otherwise defined in this Contract, capitalized terms used in this Section IX shall have the meanings ascribed thereto in this Section IX(a):
- i. “*Backhaul*” means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones / towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).
 - ii. “*Covered Foreign Country*” means the People’s Republic of China.
 - iii. “*Covered Telecommunications Equipment or Services*” means: (a) telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities); (b) for the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities); (c) telecommunications or video surveillance services provided by such entities or using such equipment; or (d) telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a Covered Foreign Country.
 - iv. “*Critical Technology*” means (1) defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations; (2) items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled (i) pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or (ii) for reasons relating to regional stability or surreptitious listening; (3) specially designed and prepared nuclear equipment, parts and components, materials, software, and

technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities); (4) nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material); (5) select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or (6) emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

- v. “*Interconnection Arrangements*” means arrangements governing the physical connection of two or more networks to allow the use of another’s network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.
- vi. “*Roaming*” means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.
- vii. “*Substantial or Essential Component*” means any component necessary for the proper function or performance of a piece of equipment, system, or service.
- viii. “*Telecommunications Equipment or Services*” means telecommunications or video surveillance equipment or services, such as, but not limited to, mobile phones, land lines, internet, video surveillance, and cloud services.

b) *Prohibitions.*

- i. Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232 and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after August 13, 2020, from obtaining or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.
- ii. Unless an exception in Section X(c) applies, Contractor and any Subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds (including, without limitation, Fiscal Recovery Funds) received from a Federal government to:
 1. Procure or obtain any equipment, system, or services that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system, or as Critical Technology of any system;
 2. Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system, or as Critical Technology of any system;

3. Enter into, extend, or renew contracts with entities that use Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system, or as Critical Technology as part of any system; or
4. Provide, as part of its performance of this Contract, any Subcontract, or any other contractual instrument, any equipment, system, or service that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system or as Critical Technology as part of any system.

c) *Exceptions.*

- i. This clause does not prohibit Contractor or Subcontractors from providing—
 1. A service that connects to the facilities of a third-party, such as Backhaul, Roaming, or Interconnection Agreements; or
 2. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
- ii. By necessary implication and regulation, the prohibitions also do not apply to:
 1. Covered telecommunications equipment that:
 - a. Are not used as a Substantial or Essential Component of any system; and
 - b. Are not used as Critical Technology of any system.
 2. Other telecommunications equipment or services that are not considered Covered Telecommunications Equipment or Services.

d) *Reporting Requirement*

- i. In the event Contractor identifies covered Telecommunications Equipment or Services used as a Substantial or Essential Component of any system, or as Critical Technology as part of any system, during Contract performance, or Contractor is notified of such by a Subcontractor at any tier or by any other source, Contractor shall report the information in paragraph [(d)(2)] of this Section X to the County, unless elsewhere in this Contract are established procedures for reporting the information.
- ii. Contractor shall report the following information to the County pursuant to paragraph (d)(1) of this Section X:

1. Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
 2. Within 10 business days of submitting the information in paragraph (d)(2)(i) of this Section: any further available information about mitigation actions undertaken or recommended. In addition, Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.
- e) *Subcontractor*. Contractor shall cause to be inserted the substance of this Section X, including this paragraph (e), in all Subcontracts and other contractual instruments relating to the performance of this Contract.

XI. Domestic Preferences for Procurements

- a) As applicable, and to the extent consistent with law, Contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products or materials Produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other Manufactured Products. Contractor shall cause any Subcontractors to include the requirements of this Section XI in any Subcontracts.
- b) For purposes of this Section XI, the following terms shall mean:
 - i. “*Produced in the United States*” means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coating, occurred in the United States.
 - ii. “*Manufactured Products*” means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

XII. Solicitation of Minority and Women-Owned Business Enterprises

- a) If Contractor intends to let any Subcontracts, Contractor shall (1) place qualified small and minority businesses and women’s business enterprises on its solicitation lists; (2) assure that small and minority businesses, and women’s business enterprises are solicited whenever they are potential sources; (3) divide total requirements, when economically feasible, into smaller

tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises; (4) establish delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; (5) use the services and assistance, as appropriate, of the Small Business Administration, the Minority Business Development Agency of the Department of Commerce, and the North Carolina Office for Historically Underutilized Businesses.

- b) For the purposes of Section XII(a), an entity shall qualify (1) as a "minority business" or "women's business enterprise" if it is currently certified as a North Carolina "historically underutilized business" under N.C. Gen. Stat. § 143-128.4(a), and (2) as a "small business" if it is independently owned and operated and is qualified under the Small Business Administration criteria and size standards at 13 C.F.R. Part 21.

XIII. Access to Records

- a) Contractor agrees to provide the County of Wilkes, the U.S. Department of the Treasury, the Treasury Office of Inspector General, the Government Accountability Office, and the Comptroller General of the United States, or any of their authorized representatives access to any records (electronic and otherwise) of Contractor which are directly pertinent to this Contract to conduct audits or any other investigation. Contractor agrees to permit any of the foregoing parties to reproduce such records by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- b) Contractor agrees to retain all records covered by this Section XIII through December 31, 2031.

XIV. Conflicts of Interest: Gifts & Favors

- a) Contractor understands that (1) The County will use Fiscal Recovery Funds to pay for the cost of this Contract, and (2) the expenditure of Fiscal Recovery Funds is governed by the Wilkes County Conflict of Interest Policy for the Disbursement of Federal or State Funds, the Regulatory Requirements (including, without limitation, 2 C.F.R. § 200.318(c)(1)), and North Carolina law (including, without limitation, N.C. Gen. Stat. § 14-234(a)(1) and N.C. Gen. Stat. § 14-234.3(a)).
- b) Contractor certifies to the County that as of the date hereof, to the best of its knowledge after reasonable inquiry, no employee, officer, or agent of the County involved in the selection, award, or administration of this Contract (each, a "Covered Individual"), nor any member of a Covered Individual's immediate family, nor a Covered Individual's partner, nor an organization (including Contractor) which employs or is about to employ a Covered Individual, has a financial or other interest in or has received a tangible personal benefit from Contractor. Should Contractor obtain knowledge of any such interest or any tangible personal benefit described in the preceding sentence after the date hereof, Contractor shall promptly disclose the same to the County in writing.
- c) Contractor certifies to the County that it has not provided, nor offered to provide, any gratuities, favors, or anything of value to an officer, employee, or agent of the County. Should

Contractor obtain knowledge of the provision, or offer of any provision, of any gratuity, favor, or anything of value to an officer, employee, or agent described in the preceding sentence after the date hereof, Contractor shall promptly disclose the same to the County in writing.

XV. Assurances of Compliance with Title VI of the Civil Rights Act of 1964

- a) Contractor and any Subcontractor, or the successor, transferee, or assignee of Contractor or any Subcontractor, shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 C.F.R. Part 22, which are herein incorporated by reference and made a part of this Contract. Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 C.F.R. Part 22, and herein incorporated by reference and made a part of this Contract.

XVI. Other Non-Discrimination Statutes. Contractor acknowledges that the County is bound by and agrees, to the extent applicable to Contractor, to abide by the provisions contained in the federal statutes enumerated below, and any other federal statutes and regulations that may be applicable to the expenditure of Fiscal Recovery Funds:

- a) The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
- b) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;
- c) The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and
- d) Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto

XVII. Miscellaneous

- a) **Increasing Seat Belt Use in the United States.** Pursuant to Executive Order 13043, 62 Fed. Reg. 19216 (Apr. 18, 1997), The County encourages Contractor to adopt and enforce on-the-job seat belt policies and programs for its employees when operating company-owned, rented or personally owned vehicles.

- b) **Reducing Text Messaging While Driving.** Pursuant to Executive Order 13513, 74 Fed. Reg. 51225 (Oct. 6, 2009), The County of Wilkes encourages Contractor to adopt and enforce policies that ban text messaging while driving.

XVIII. Conflicts and Interpretation. To the extent that any portion of this Addendum conflicts with any term or condition of the Contract expressed outside of this Addendum, the terms of this Addendum shall govern.

CONTRACTOR:

By: _____
 Name: _____
 Title: _____

THE COUNTY OF WILKES:

By: _____
 Name: _____
 Title: _____

THE TOWN OF NORTH WILKESBORO:

By: _____
 Name: _____
 Title: _____

ATTACHMENT 1
TO
CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS ADDENDUM

APPENDIX A. 31 C.F.R. PART 21 – CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of the undersigned’s 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 an 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, or 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 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.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
4. 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 of the 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 Contractor, **North Carolina Department of Transportation**, certifies and affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor’s Authorized Official

Name and Title of Contractor’s Authorized Official

Date

ATTACHMENT 1
TO
CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS ADDENDUM

APPENDIX A. 31 C.F.R. PART 21 – CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of the undersigned’s knowledge and belief, that:

- 5. 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 an 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, or the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 6. 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 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.
- 7. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- 8. 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 of the 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 Contractor, **Town of North Wilkesboro**, certifies and affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor’s Authorized Official

Name and Title of Contractor’s Authorized Official

Date

PROJECT SPECIAL PROVISIONS
Utility Construction



12/8/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Where brand names and model numbers are specified in these Special Provisions or in the plans, the cited examples are used only to denote the quality standard of product desired and do not restrict bidders to a specific brand, make, or manufacturer. They are provided to set forth the general style, type, character, and quality of the product desired. Equivalent products will be acceptable.

The utility owner is the Town of North Wilkesboro. The contact person is the Public Utilities Director, David Poore, and he can be reached by phone at (336)-661-7129 ext. 3023.

The provisions contained within these Utilities Construction Project Special Provisions modify the *Standard Specifications* only for materials used and work performed constructing water or sewer facilities owned by the Town of North Wilkesboro.

Revise the 2024 *Standard Specifications* as follows:

Page 1-14, Sub-article 102-7 Subsurface Investigation Report, line 15:

Revise the sentence beginning “If a subsurface...” as follows:

Contractor shall perform reasonable geotechnical investigation, including but not limited to soil borings, as necessary to construct the work depicted in the plans and specs for work at the Town of North Wilkesboro’s existing Speedway Pump Station site. A minimum of one soil boring in the general location of the proposed wet well must be provided. Contractor shall provide a geotechnical engineering report prepared by a professional engineer detailing the findings of the field exploration and laboratory testing. The report shall include foundation recommendations for the proposed valve vault and wet well. The contract documents as designed include a foundation of compacted crushed #57 at the dimensions indicated on the plans. Any necessary foundation revisions shall be based solely on the findings and recommendations of the geotechnical report. Any proposed alternate foundation shall be submitted to the Department/Owner for review and

acceptance. Payment for alternate foundation work, as approved, will be addressed through a Supplemental Agreement. If other subsurface investigation reports are available for the project, an electronic copy is available on-line with the project letting files.

Measurement and Payment:

Payment for geotechnical investigation shall be lump sum and paid for under the contract price for "*Generic Grading Item, Geotechnical Investigation*". Such price and payments will be full compensation for all labor, materials, backfilling, locates, and any incidentals necessary to complete the work. Payment will be made under:

Pay Item:	Pay Unit:
Generic Grading Item, Geotechnical Investigation	Lump Sum

Page 10-65, Sub-article 1034-2 Plastic Pipe, (B) PVC Force Main Sewer Pipe, line 17:
Remove paragraph (1) between lines 17 and 25.

Page 10-65, Sub-article 1034-2 Plastic Pipe, (B) PVC Force Main Sewer Pipe, line 28:
Revise the sentence beginning with "Use pipe with..." as follows:

Use pipe with push-on type joints having bells made as an integral part of the pipe conforming to ASTM D3139. Provide restraint by mechanical means separate from the mechanical joint gasket sealing gland.

Page 10-66, Sub-article 1034-4 Ductile Iron Pipe, (B) Force Main Sewer Pipe, line 6:
Add the following at the end of the sentence:

Provide retainer glands for use with mechanical joint pipe and fittings.

Page 10-66, Sub-article 1036-3 Plastic Pipe, (A) PVC Pipe, line 24:
Remove paragraph (1) between lines 24 and 32.

Page 10-66, Sub-article 1036-3 Plastic Pipe, (A) PVC Pipe, line 34:
Revise the sentence beginning with "Use PVC pipe conforming to..." as follows:

Use PVC pipe conforming to AWWA C900 with a minimum DR of 21 and a minimum pressure class of 200 psi.

Page 10-66, Sub-article 1036-3 Plastic Pipe, (A) PVC Pipe, line 35:
Revise the sentence beginning with "Use pipe with..." as follows:

Use pipe with push-on type joints having bells made as an integral part of the pipe conforming to ASTM D3139. Provide restraint by mechanical means separate from the mechanical joint gasket sealing gland.

Page 10-67, Sub-article 1036-5 Ductile Iron Pipe and Fittings, line 10:
Add the following to the end of the sentence:

ANSI/AWWA C151/A21.51 with minimum pressure ratings of 350 psi, with asphalt coating and epoxy lining unless otherwise shown or specified.

Page 10-67, Sub-article 1036-5 Ductile Iron Pipe and Fittings, line 11:

Remove the sentence beginning “Use ductile iron fittings and specials...”

Revise the last sentence to read as follows:

Manufacture fittings with an epoxy lining in accordance with ANSI/AWWA C104/A21.4 and a minimum of 1 mil bituminous paint outside coating according to ANSI/AWWA C151/A21.51.

Page 10-67, Sub-article 1036-5 Ductile Iron Pipe and Fittings, line 14:

Revise the paragraph to read as follows:

Use either mechanical joints or push-on joints conforming to ANSI/AWWA C111/A21.11, with a minimum working pressure rating of 350 psi and a factor of safety of 2.

Page 14-1, Division 14, Lighting, line 3:

Insert the following paragraph before Section 1400 – Roadway Lighting:

Reference the Special Provisions for additional electrical specifications as related to the Town of North Wilkesboro (TNW) Speedway Pump Station upgrade portion of work. These additional electrical specifications shall govern in the event of any conflict with NCDOT Standard Specifications.

Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:

Add the following sentences:

The utility owner is the Town of North Wilkesboro (TNW). The contact person is David W. Poore, PE, CPESC, and he can be reached by phone at 336-928-5377 or 336-661-7129 ext. 3023.

Page 15-4, Sub-article 1505-3 Construction Methods, (C) Bedding, line 6:

Add the following sentences after the sentence ending in “...utility.”:

The width of the sewer line trench shall be no less than the outside diameter of the pipe plus sixteen inches and no greater than the outside diameter of the pipe plus 24 inches, or as directed by the Engineer. The bottom of the trench shall be accurately graded to provide uniform bearing for each section of the pipe.

Page 15-4, Sub-article 1505-3 Construction Methods, (C) Bedding, line 7:

Revise the sentence beginning “Provide at least 6 inches of...” as follows:

Provide compacted washed #57 stone from at least one half the outside diameter, but no less than 4 inches, under the barrel to 6 inches above the crown of the pipe. Shape the bottom of trench to fit the pipe. Compact bedding material completely in the pipe haunches. Provide recesses in the bedding to accommodate pipe joints.

Page 15-4, Sub-article 1505-3 Construction Methods, (D) Pipe Laying, line 21:

Add the following sentence at the end of the paragraph:

Installation shall conform to ASTM D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications and per local code.

Page 15-4, Sub-article 1505-3 Construction Methods, (E) Thrust Restraint, line 30:

Add the following sentence at the end of the paragraph:

Use 4,000 psi concrete fiber-reinforced for reaction blocking.

Page 15-4, Sub-article 1505-3 Construction Methods, (F) Backfilling, line 35:

Revise the paragraph to read as follows:

Class III backfill shall be compacted to 95 percent ASTM D-698 density with 8” lifts (max.). Use Class II backfill where unsuitable trench material is encountered. Class II backfill shall be compacted to 95 percent ASTM D-698 density with 6” lifts (max.). Crushed #57 stone shall be compacted to 100 percent ASTM D-698 with 6” lifts (max.).

Page 15-6, Sub-article 1510-2 Materials, line 1:

Revise the paragraph as follows:

Use plastic marking tape, minimum width of 2 inches and minimum thickness of 5 mils, with metalized foil core colored blue with “Caution Water Line Buried Below” or similar wording, permanently printed at 36-inch centers.

Page 15-6, Sub-article 1510-3 Construction Methods, (A) General, line 7:

Revise the sentence as follows:

Meet the installation standards of AWWA C600, ASTM D2774, AWWA Manual of Practice M23 and recommended practices of UNI-BELL Plastic Pipe Association for water line construction.

Page 15-6, Sub-article 1510-3 Construction Methods, (A) General, line 18:

Revise the sentence as follows:

Install water lines with a minimum of 48 inches of cover to finished grade unless otherwise directed or approved by the Engineer.

Page 15-6, Sub-article 1510-3 Construction Methods, (B) Testing and Sterilization line 36:

Revise the sentence as follows:

Clean water lines by flushing with water at a minimum velocity of 3 feet per second with 3.5 feet per second preferred. The minimum amount of water required to flush a main is 1 ½ times the capacity of the main.

c

Add the following:

Check valves 3 inches and larger shall be flanged joint end conforming to the 125 pound AN standard, iron body, bronze-mounted, horizontal swing-type check valves. Valve rating shall be 175 psi water working pressure and 350 psi hydrostatic test pressure. The valves shall have an extended hinge shaft and an outside weighted lever. The top of the valve shall have a bolted cover plate for access to interior parts. The valve disks shall be cast iron with bronze seating face. The valves shall have hardened, stainless steel hinge shaft and bushings provided with force feed lubrication between pins and bushings.

Resilient Seat Gate Valves

1. Resilient seat, wedge type gate valves shall be manufactured to meet all applicable requirements of AWWA C509. Valves 12-inches and smaller shall be bubble-tight at 200 psi water working pressure, tested in both directions.
2. Valve bodies shall be of cast iron and shall have non-rising threaded bronze stems acting through a bronze stem nut. Opening nuts shall be 2-inches square and shall open as specified above. All valves inside the station shall have flanged joint ends.
3. The wedge shall be of cast iron with resilient seating surfaces permanently bonded to the wedge in strict accordance with ASTM D429 or attached to the face of the wedge with stainless steel screws. Each valve shall have a smooth, unobstructed water way free from any sediment pockets.
4. The valve shall have low friction, torque-reduction thrust bearings. O-rings and gaskets shall be removable without taking the valve out of service.
5. The exterior and interior surfaces shall have a non-toxic epoxy coating.
6. Resilient seat gate valves shall be manufactured by Clow Corporation, Bensenville, IL; Mueller Co., Decatur, IL; Dresser Industries, Inc., Bradford, PA, or be an approved equal.

Eccentric Plug Valves

1. Non-lubricated eccentric plug valves shall have a cast-iron body in accordance with ASTM A126, Class B. The plug shall be of one-piece construction ductile iron in accordance with ASTM A536 65-45-12 or cast iron ASTM A126, Class B.
2. Plug facing shall be grease and/or petroleum resistant neoprene or Buna-N compound.
3. Shaft bearing bushings shall be permanently lubricated TFE or Delrin sleeve type stainless steel or bronze.

- 4. Valve seats are to be welded-in overlay of 90% nickel, with a minimum Brinell hardness of 200, (minimum 1/8 inches thick). Stem seal shall be nitrile butadiene packing or Buna-N dual U-cups per AWWA C504, Section 3.7.
- 5. Furnish actuator integral with valve. Include positive identification on actuator indicating valve position. Adjustable stop to set closing torque.
- 6. Plug valve port area shall be 100% of the equivalent full pipe area.
- 7. Plug valves less than 12-inches diameter shall be rated for 175 psi working pressure.

Measurement and Payment:

Generic Utility Item, Yard Hydrant will be measured and paid per each for the appropriate size and type as noted on the plans. Such price and payments will be full compensation for all labor, materials, and any incidentals necessary to complete the work.

Generic Utility Item, 6" Check Valve will be measured and paid per each for the appropriate size and type.

Pay Item:	Pay Unit:
Generic Utility Item, Yard Hydrant	Each
Generic Utility Item, 6" Check Valve	Each

Page 15-10, Section 1520 Sanitary Sewer. The Contractor's attention is directed to this section. The following special provisions will pertain to the "Sanitary Sewer Pump Station".

Measurement and Payment:

Sanitary Sewer Pump Station, Payment for installing the Pump Station shall be lump sum and paid for under the contract price for "Sanitary Sewer Pump Station". Such price and payments will be full compensation for all labor, materials, excavation, shoring, backfilling, and any incidentals necessary to complete the work. The Pump Station shall consist of two submersible pumps, electrical controls, level controls, pump installation and removal system, access hatches and frames, separate concrete valve vault, pipe, fittings, handrail, stairs, and all associated equipment and accessories required to make a complete system. Installation of the Pump Station will be measured and paid for under the contract price item "Sanitary Sewer Pump Station".

Pay Item:	Pay Unit:
Sanitary Sewer Pump Station	Lump Sum

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- 40 90 00 – Duplex Pump Control

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Section Includes:

1. The Contractor shall provide temporary light and power, water service and sanitary facilities for their operations at the site when necessary.
2. Requirements for temporary bypass pumping.

1.02 SYSTEM DESCRIPTION:

- A. The Contractor shall coordinate and install all temporary services in accordance with the requirements of the utility companies having jurisdiction and as required by applicable codes and regulations.
- B. At the completion of the work, or when the temporary services are no longer required, the facilities shall be restored to their original conditions.
- C. All costs associated with temporary facilities including, but not limited to, installation, utility company service charges, maintenance, relocation, and removal shall be borne by the Contractor at no additional cost to the Owner.
- D. The Contractor shall obtain temporary water service for construction purposes, sanitary facilities, fire protection, flushing, testing, and cleaning from the Owner's existing distribution system. The Contractor shall pay all charges associated with temporary water connection and for potable water used from the Owner's system under this Contract.
- E. To facilitate completion of inspection, cleaning or rehabilitation work the Contractor shall provide;
 1. Labor
 2. Materials
 3. Operation & Maintenance
 4. Supervision
- F. Interruption of sewage flow shall be avoided throughout the duration of the project. Contractor shall provide documentation of circumstances that would require service to be interrupted. Engineer and Owner shall approve interruption in service.
- G. The bypass flow shall be continuously monitored and metered.
- H. For each bypass set-up, a plug shall be provided at the bypass manhole (upstream location) and at the wet well or discharge manhole (downstream location) in the gravity sewer piping to isolate the work area from flow.
- I. Temporary bypass systems to be inspected daily, seven days a week, with inspection logs made available to Engineer and Owner as requested. Owner reserves the right to require more frequent inspections above the daily requirement.
- J. Temporary bypass system shall include an automatic notification system to notify the Contractor and Owner of system failures and status changes.

1.03 QUALITY ASSURANCE

- A. Contractor to provide qualifications for the bypass pumping including:
- B. A minimum of five (5) years in experience in operations that successfully utilized bypass pumping systems of equal or larger capacity to the system specified in this section.
- C. Submit references for at least five (5) previous projects that successfully utilized bypass pumping systems of equal or larger capacity to the system specified in this section.
- D. Qualifications shall be approved by the Owner and Engineer prior to any work on the site.

1.04 SUBMITTALS

- A. Bypass Pumping Plan:
 - 1. Shall provide for accessibility of pedestrians and vehicular traffic.
 - 2. Plan shall be approved prior to any activities on the project site.
- B. Bypass Pumping Drawings
 - 1. Drawings indicating the scheme and location of temporary sewer plugs and bypass discharge lines for the project site. The drawings shall indicate the method and location for discharging the bypass lines.
 - 2. Flow control plan shall include, but not be limited to, the following:
 - 3. Detailed procedures for handling wastewater flows.
 - 4. Schedule
 - 5. Location
 - 6. Listing of equipment and capacities
- C. Bypass pumping plan shall include:
 - 1. Staging areas for pumps
 - 2. Sewer plugging method and type of plug
 - 3. Number, size, depth, material, location, and method of installation of suction piping, including depth and size of suction manhole(s)
 - 4. Bypass pump sizes, capacity, number of each size to be onsite, and power requirements.
 - 5. Calculations of static lift, friction losses and flow velocity (pump curves showing pump-operation range for selection of bypass pumping pipe size.)
 - 6. Downstream discharge plan to include depth and size of discharge manhole(s)
 - 7. Thrust and restraint block sizes and locations
 - 8. Method of noise control for each pump
 - 9. Temporary pipe supports and anchoring required
 - 10. Plans for access to bypass pumping locations
 - 11. Schedule for installation of and maintenance of bypass pumping lines
 - 12. Plan indicating selection location of bypass pumping line locations
 - 13. Detailed plans of a redundant back up system that can handle equal flow as the primary system. Owner reserves the right to require the Contractor to store specific spare parts on site, or to be kept within a reasonable distance of the project site.

14. Method of operating, monitoring, and controlling primary and back-up pumps to include power source(s), instrumentation, alarms systems, etc. as required to eliminate the risk of spills.
15. Emergency response plan
16. Staffing plan with contact information for each person listed on the staffing plan.
17. Spillage prevention plan
18. Spillage cleanup plan
19. Odor control plan

PART 2 – PRODUCTS

2.01 NOISE RESTRICTIONS

- A. Pumps and other necessary equipment shall be equipped to keep the noise level below 69 dBA at 30 feet.

2.02 CAPACITY

- A. Estimated flows and heads shall be provided by Owner and Engineer at the request of the Contractor, in the event that bypassing is necessary. The Contractor is responsible for bypass pumping all actual flows to avoid any SSOs (Sanitary Sewer Overflows). One primary electric or diesel-powered pump shall be provided to handle the full flow volume at each location, with a diesel lag pump sized for the entire flow at each location. Pump shall operate using variable frequency drives. The primary back-up pumps shall operate via an automated start/stop controller with level transducers. When the lag pump operates, a 24-hour alarm system shall be used to notify the Contractor. Contractor shall arrive on site within 30 minutes of alarm being issued. The TDH of the existing system at each station will be provided upon request. Contractor shall calculate the required TDH of each bypass system based on the additional head loss in the bypass piping configuration of the system. Note that many of the pumps are connected to manifolded force mains, so discharge head may vary depending on which other pumps are operating simultaneously.

2.03 PIPING

- A. Temporary bypass piping shall be high density polyethylene pipe that complies with AWWA C906-15, DR 11, and has a working pressure of 160 psi. Minimum cell classification values shall be 345464C as referenced in ASTM D3350-21 – latest edition.
- B. Provide fittings molded or manufactured from a polyethylene compound having a cell classification equal to or exceeding the compound used in the pipe. All fittings shall be of the same manufacturer as the pipe being supplied.
- C. Use the butt fusion method for joining sections of polyethylene pipe into continuous lengths, per the manufacturer's instructions. The bypass piping should have no more than 5 welds per any 50-foot section of pipe.

- D. For bypass systems using 6” piping or smaller, the Contractor may submit hose in lieu of HDPE. For 6” piping systems and smaller, hose and fittings shall meet applicable pressure requirements per 2.3.A.

2.04 ELECTRICAL

- A. Electrical power shall be provided by Contractor. Lighting shall be provided in all spaces at all times where necessary for good and proper workmanship, for inspection, or for safety. Contractor shall pay for all power costs associated with the construction, including any costs for temporary power supply.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Prior to commencement of startup testing, the Engineer shall be given fourteen (14) days' written notice.
- B. The Contractor shall notify Owner immediately on discovery of any spill.
- C. The Contractor shall assist Owner as directed for spill reporting requirements.

3.02 PROTECTION

- A. The Contractor shall be responsible for all bypass flows.
- B. Contractor shall be responsible for prompt cleanup and disinfection of any spill as called for in bypass plan.
- C. Contractor shall compensate Owner for the cost of any fines levied as the result of a spill or unauthorized discharge.
- D. When the lag pump alarm system is activated, a three-tier alert system via telephone shall be used, with the first two calls going to the Contractor and the third call going to the Owner’s collection system supervisor.
- E. A trained and qualified attendant shall be assigned to operate this system at all times.

3.03 SOURCE QUALITY CONTROL

- A. Testing:
 - 1. All components of bypass system shall be given an operational test to check for excessive vibration, for leaks in piping or seals, and for correct operation of automatic control system and auxiliary equipment. Correct all deficiencies.
 - 2. Couple pump suction and discharge lines to a reservoir and have the pumps recirculate water for at least 1 HR under simulated service conditions.
 - 3. Adjust automatic control to start and stop pumps at approximate levels required by job conditions.

3.04 FIELD QUALITY CONTROL

A. Hydrostatic Pressure Test

1. Prior to operation, test each section of discharge piping with maximum pressure equal to 2.0 times the maximum operation pressure of the system or 50 psi, whichever is greater.
2. Test run shall last for two (2) hours.
3. The Contractor shall fill the line with water
4. The line shall be sealed on the discharge end.
5. The line may be put in service if after the two (2) hour period the pressure has been maintained and there are no observable leaks.
6. Notify Engineer and Owner forty-eight (48) hours prior to testing.

B. Inspection

1. Contractor shall inspect temporary bypass pumping and piping system at a minimum of every day.
2. Inspection Log: Keep log of inspections for each pumping location.

3.05 CLEAN-UP

A. The bypass pumping system shall be cleaned and drained prior to removal at the end of the project.

1. The Contractor shall alternate pigging and purging of the system to remove all material.

B. Disturbed areas.

1. Restore areas affected by pumping activities to equal or better than original conditions which existed prior to start of work.

3.06 SCHEDULING AND COORDINATION

A. The bypass system operation:

1. The Contractor shall notify the Engineer a minimum of 14 calendar days prior to initial start up and/or to any significant changes to the bypass system. This includes moving pumps and/or piping, installing, or removing plugs, starting a new bypass location, ceasing an existing bypass location, reestablishing gravity flow, etc.
2. In the event of an anticipated extreme weather condition (e.g. hurricane or other large precipitation generating event), the Owner may require that the bypass pumping system is temporarily disabled and normal flow reestablished. In that event, any manholes that are used by the Contractor as suction or discharge locations shall be reinstated to their original condition or better to prevent stormwater intrusion.
3. When bypass is being used to rehabilitate a pump station, installing new pumps & controls, bypass is to remain in-place and operational as a backup for one week, while new pumps & controls operate the rehabilitated station. If there are no malfunctions during the one-week period, bypass setup can be terminated.

END OF SECTION

SECTION 01 75 00

STARTUP AND TESTING FOR SEWER PUMP STATIONS

PART 1 – GENERAL

1.01 WORK INCLUDED:

- A. This Section covers the startup and testing services required for the pump station(s) during system startup as specified herein.

1.02 SYSTEM DESCRIPTION:

- A. The Contractor shall perform pump station startup to the satisfaction of the Engineer. Startup and testing shall not be initiated until all required certifications and other required documentation has been submitted, as described herein.
- B. The purpose of the startup test is to provide a final operational checkout of all equipment prior to beneficial use by the Owner. This shall include both manual and automatic operation as well as instrumentation and alarm operations and simulations.
- C. This startup and testing is not to be utilized as a general debugging of the system. All equipment shall be started, tested, balanced, and calibrated prior to conducting the startup and testing described in this specification section. All the following equipment, as applicable, shall be tested prior to performing the actual acceptance test:
 - 1. Pumps and Motors
 - 2. Telemetry Equipment
 - 3. Instrumentation and Alarms
 - 4. Liquid Level Controls
 - 5. Standby Generating System and Automatic Transfer Switch
 - 6. Miscellaneous Equipment - HVAC and Sump Pumps, etc.
- D. As most components of each pump station are interrelated, Substantial Completion of the project shall not be certified until successful completion of startup.

1.03 SEQUENCING:

- A. Startup, testing, operator training and other like services to be provided under the technical sections of the specifications are not to be performed during startup without written authorization from the Engineer.
- B. Full load standby generator testing shall be conducted and satisfactorily completed prior to the performance of startup testing.

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Submit the following to the Engineer for review a minimum of two (2) weeks prior to commencement of startup:
 - 1. Written certification by a representative of the manufacturer that each piece of equipment has been installed properly and is ready for operation.
 - 2. Written certification by a representative of the equipment manufacturer that all equipment requiring calibration has been properly calibrated.
 - 3. Written certification by a representative of the instrumentation control and telemetering system manufacturer that all systems are fully functional and operational.
 - 4. A schedule of the testing, including staffing, and specific testing and operation of individual equipment items.
 - 5. Submit a copy of the attached forms indicating that all required equipment is installed and has been operated and tested by the Contractor and the manufacturer's representative(s).
 - 6. Generator Load Bank test results with sound monitoring data.

- B. At the conclusion of the acceptance test, all information recorded during the test shall be forwarded to the Engineer in accordance with the specifications.

PART 2 – PRODUCTS

NOT APPLICABLE

PART 3 – EXECUTION

3.01 PREPARATION:

- A. Prior to commencement of testing, the Engineer shall be given fourteen (14) days' written notice.
- B. The Contractor shall complete final debugging prior to startup.
- C. All telemetry equipment shall be operational prior to testing.
- D. The testing shall be performed.

E. Part of the testing shall be accomplished on standby power.

3.02 TEST PROCEDURES:

- A. It is the responsibility of the Contractor to insure that all equipment is completely operational throughout the test; provide the Engineer with proper technical assistance as required to completely test all equipment and alarms; provide adequately trained personnel who can operate the pump station on an on/off basis so that the equipment is not damaged, whether the Engineer or Owner is present or not during that portion of the test.
- B. The Engineer shall during the test period direct the Contractor's supervision of the testing of all equipment, associated alarms and devices; to vary the operation of the equipment as necessary, and to pump as required.
- C. The Contractor shall provide a sufficient supply of water, at no additional cost to the Owner, to allow the pumps to operate during the entire test, so that the full range of pump operation is tested under varying incoming flows.
- D. All generator field tests shall be conducted in accordance with the appropriate technical specifications for Generators, if part of the contract requirements.
- E. The minimum duration of the testing shall be as shown below:

Grinder pumps (residential) – 1 hour

Pump Stations -

- Duplex grinders – 2 hours
- Submersible – 4 hours
- Packaged suction lift – 4 hours
- Non-package stations – 8 hours

Testing will be performed as long as is required for the Engineer to be satisfied that all equipment functions properly under expected conditions of service.

F. The Contractor shall be backcharged for all Contractor-requested visits made to the site by the Engineer for the purpose of startup and testing when the Engineer determines that testing may not proceed due to unavailability of needed Contractor/subcontractor/vendor personnel at the site or the Contractor's failure to have any equipment properly functional at the time of the Engineer's visit.

3.03 STOPPING OF TEST:

- A. The Engineer shall stop the testing for any of the following reasons:
 - 1. Failure of critical system, including:

- i. Pumps and Motors
- ii. Telemetry Equipment
- iii. Instrumentation
- iv. Standby Generating System and Automatic Transfer Switch

2. Failure of any of the above systems to operate on standby power.

B. If the test is stopped for any reason, the test shall be restarted from the beginning. The Contractor shall pay all costs associated with the Owner and Engineer supervising additional testing as required.

3.04 EXPENDABLES:

A. Unless otherwise indicated, the General Contractor shall be responsible for providing all fuel during construction and providing a full tank of fuel oil if applicable at no additional cost to the Owner, at beneficial occupancy.

END OF SECTION

Project: 36249.5101

UC-17

County: WILKES

START-UP REPORT

DATE/TIME: _____

INSPECTOR(S): _____

JOB NAME: _____

STATION NAME: _____

LOCATION: _____ ENGINEER: _____

CONTRACTOR: _____

SUB-CONTRACTOR(s): _____

PEOPLE PRESENT AT THE START-UP:

_____	_____
_____	_____
_____	_____
_____	_____

DESCRIBE STATION LAYOUT: _____

LIQUID BEING PUMPED: _____

COMMENTS: _____

Prepared By: _____
Contractor:

Date: _____

Startup Witnessed by: _____
Engineer:

Date: _____

Project: 36249.5101

UC-18

County: WILKES

MOTOR No. _____

MANUFACTURER: _____

MODEL NUMBER: _____ SERIAL NUMBER: _____

VOLTAGE: _____ PHASE: _____ AMPS: _____

HORSEPOWER: _____ HERTZ: _____

CONDITION OF CABLE JACKET: GOOD: _____ FAIR: _____ POOR: _____

GROUND RESISTANCE? _____

SUPPLY VOLTAGE: L1:L2 _____ L2:L3 _____ L3:L1 _____

AMPERAGE PUMP MOTOR: (BLACK) L1: _____ (RED)L2: _____ (WHITE)L3: _____

PUMP # _____

MANUFACTURER: _____

MODEL NUMBER: _____ SERIAL NUMBER: _____

GPM: _____ TDH: _____ SIZE: _____

GAUGE READINGS: SUCTION PRESSURE (ft/psi): _____
DISCHARGE PRESSURE (ft/psi): _____

RUNNING TIME METER (hours): _____

CONDITION OF EQUIPMENT: GOOD _____ FAIR: _____ POOR: _____

FLOW TEST: START LEVEL: _____ FINISH LEVEL: _____

TIME SPAN: _____ GALLONS/INCH: _____

GALLONS/MIN: _____ PRESSURE: _____

SHUT-OFF PSI: _____ DISCHARGE LINE FULL? _____

VIBRATION

MOTOR: UPPER BEARING: _____ (inches/sec)
LOWER BEARING: _____ (inches/sec)

PUMP: UPPER BEARING: _____ (inches/sec)
LOWER BEARING: _____ (inches/sec)

Prepared by Contractor's Representative: _____ Date: _____

Project: 36249.5101

UC-19

County: WILKES

PUMP CONTROL PANEL

MANUFACTURER: _____

MODEL NUMBER: _____ SERIAL NUMBER: _____

TYPE: _____ AMP RATING: _____

OVERLOAD TYPE: _____

SIZE: _____ AMP RATING: _____

DO PROTECTIVE DEVICES COMPLY WITH PUMP MOTOR AMP RATING? _____

MOTOR STARTERS/VFD: _____

ARE WIRES LABELED (TAGGED)? _____

ALARMS:

HIGH WATER: _____ PUMP FAIL: _____

LOWWATER: _____ MOISTURE: _____

TEMPERATURE: _____ OTHER: _____

TYPE: _____

Prepared by Contractor's Representative: _____ Date: _____

Project: 36249.5101

UC-20

County: WILKES

MOTOR CONTROL CENTER (MCC) (IF APPLICABLE)

MANUFACTURER: _____ SERIAL NUMBER: _____

MAIN: _____

DESCRIBE LAYOUT: _____

DRAWING LAYOUT OF MCC:

Prepared by Contractor's Representative: _____ Date: _____

Project: 36249.5101

UC-21

County: WILKES

LIQUID LEVEL CONTROLS

MANUFACTURER: _____

MODEL NUMBER: _____ SERIAL NUMBER: _____

FLOAT SWITCHES: _____

IF FLOATS, DESCRIBE OPERATION: _____

IF BUBBLER SYSTEM, DESCRIBE OPERATION: _____

LEVEL CONTROL COMPRESSOR:

MANUFACTURER: _____

MODEL: _____ SERIAL NUMBER: _____

TANK: _____

DRAIN: _____

COMMENTS: _____

Prepared by Contractor's Representative: _____ Date: _____

Project: 36249.5101

UC-22

County: WILKES

STAND-BY GENERATOR (IF APPLICABLE)

ENGINE

MANUFACTURER: _____

MODEL: _____ SERIAL NUMBER: _____

GENERATOR

MANUFACTURER: _____

MODEL: _____ SERIAL NUMBER: _____ RATING: _____

AUTOMATIC TRANSFER SWITCH

MANUFACTURER: _____

MODEL: _____ SERIAL NUMBER: _____

CHECK THE FOLLOWING WHEN RUNNING (be sure to note units):

RPM:	_____	
VOLTS(AC):	_____	(VOLTS)
AMPS (AC):	_____	(AMPS)
FREQUENCY:	_____	(HERTZ)
OIL TEMP:	_____	(DEGREES
OIL PRESSURE:	_____	
WATER TEMP:	_____	(DEGREES
RUN TIME:	_____	(HOURS)

LEAKS OR UNUSUAL ACTIVITY? EXPLAIN: _____

COMMENTS: _____

Prepared by Contractor's Representative: _____ Date: _____

MISCELLANEOUS EQUIPMENT

FLOW METER

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: AMP: _____ VOLT: _____

HEATER

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: AMP: _____ VOLT: _____

VENTILATION SYSTEM

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: AMP: _____ VOLT: _____

DEHUMIDIFIER

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: AMP: _____ VOLT: _____

SUMP PUMP

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: GPM: _____ TDH: _____
HP: _____ AMP: _____ VOLT: _____

OTHER

MANUFACTURER: _____
MODEL NUMBER: _____ SERIAL NUMBER: _____
RATING: AMP: _____ VOLT: _____

COMMENTS: _____

Prepared by Contractor's Representative: _____ Date: _

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.01 DESCRIPTION

This section contains requirements for training the Owner's personnel, by persons retained by the Contractor specifically for the purpose, in the proper operation and maintenance of the equipment and systems installed under this contract.

1.02 QUALITY ASSURANCE

Where required by the detailed specifications, the Contractor shall provide on-the-job training of the Owner's personnel. The training sessions shall be conducted by qualified, experienced, factory-trained representatives of the various equipment manufacturers. Training shall include instruction in both operation and maintenance of the subject equipment.

1.03 SUBMITTALS

The following information shall be submitted to the Engineer in accordance with the provisions of the specifications. The material shall be reviewed and accepted by the Engineer as a condition precedent to receiving progress payments in excess of 50 percent of the contract amount and not less than 3 weeks prior to the provision of training.

Lessons plans for each training session to be conducted by the manufacturer's representatives. In addition, training manuals, handouts, visual aids, and other reference materials shall be included.

Subject of each training session, identity and qualifications of individuals to be conducting the training, and tentative date and time of each training session.

PART 2 - PRODUCTS

2.01 GENERAL

Where specified, the Contractor shall conduct training sessions for the Owner's personnel to instruct the staff on the proper operation, care, and maintenance of the equipment and systems installed under this contract. Training shall take place at the site of the work and under the conditions specified in the following paragraphs. Approved operation and

maintenance manuals shall be available at least 30 days prior to the date scheduled for the individual training session.

2.02 LOCATION

Training sessions shall take place at the site of the work, or at Owner's offices if approved by Owner.

2.03 LESSON PLANS

Formal written lesson plans shall be prepared for each training session. Lesson plans shall contain an outline of the material to be presented along with a description of visual aids to be utilized during the session. Each plan shall contain a time allocation for each subject.

One complete set of originals of the lesson plans, training manuals, handouts, visual aids, and reference material shall be the property of the Owner and shall be suitably bound for proper organization and easy reproduction. The Contractor shall furnish ten copies of necessary training manuals, handouts, visual aids and reference materials at least one week prior to each training session.

2.04 FORMAT AND CONTENT

Each training session shall be comprised of time spent both in the classroom and at the specific location of the subject equipment or system. As a minimum, training session shall cover the following subjects for each item of equipment or system:

- A. Familiarization
 - 1. Review catalog, parts lists, drawings, etc., which have been previously provided for the plant files and operation and maintenance manuals.
 - 2. Check out the installation of the specific equipment items.
 - 3. Demonstrate the unit and indicate how all parts of the specifications are met.
 - 4. Answer questions.
- B. Safety
 - 1. Using material previously provided, review safety references.
 - 2. Discuss proper precautions around equipment.
- C. Operation
 - 1. Using material previously provided, review reference literature.
 - 2. Explain all modes of operation (including emergency).
 - 3. Check out Owner's personnel on proper use of the equipment.
- D. Preventive Maintenance
 - 1. Using material previously provided, review preventive maintenance (PM) lists including:
 - i. Reference material

- ii. Daily, weekly, monthly, quarterly, semiannual, and annual jobs.
2. Show how to perform PM jobs.
3. Show Owner's personnel what to look for as indicators of equipment problems.
- E. Corrective Maintenance
 1. List possible problems.
 2. Discuss repairs point out special problems.
 3. Open up equipment and demonstrate procedures, where practical.
- F. Parts
 1. Show how to use previously provided parts list and order parts.
 2. Check over spare parts available. Make recommendations regarding additional parts that should be available.
- G. Local Representatives
 1. Where to order parts: name, address, telephone.
 2. Service problems:
 - i. Who to call.
 - ii. How to get emergency help.
- H. Operation and Maintenance Manuals
 1. Review any other material submitted.
 2. Update material, as required.

PART 3 – EXECUTION

Training shall be conducted in conjunction with the operational testing and commissioning periods. Classes shall be scheduled such that classroom sessions are interspersed with field instruction in logical sequence. The Contractor shall arrange to have the training conducted on consecutive days, with no more than six hours of classes scheduled for any one day. Concurrent classes shall not be allowed.

Acceptable operation and maintenance manuals for the specific equipment shall be provided to the Owner prior to the start of any training.

The following services shall be provided for each item of equipment or system as required in individual specification sections. Additional services shall be provided, where specifically required in individual specification sections:

- A. As a minimum classroom equipment training for operations personnel will include:
 1. Using slides and drawings, discuss the equipment's specific location in the pump station and an operational overview.
 2. Purpose and pump station function of the equipment.
 3. A working knowledge of the operating theory of the equipment.
 4. Start-up, shutdown, normal operation, and emergency operating procedures, including a discussion on system integration and electrical interlocks, if any.
 5. Identify and discuss safety items and procedures.
 6. Routine preventative maintenance, including specific details on lubrication and maintenance of corrosion protection of the equipment and ancillary components.

7. Operator detection, without test instruments, of specific equipment trouble symptoms.
 8. Required equipment exercise procedures and intervals.
 9. Routine disassembly and assembly of equipment if applicable (as judged by the Owner on a case-by-case basis) for purposes such as operator inspection of equipment.
- B. As a minimum, hands-on equipment training for operations personnel will include:
1. Identify location of equipment and review the purpose.
 2. Identifying piping and flow options.
 3. Identifying valves and their purpose.
 4. Identifying instrumentation:
 5. Location of primary element.
 6. Location of instrument readout.
 7. Discuss purpose, basic operation, and information interpretation.
 8. Discuss, demonstrate, and perform standard operating procedures and round checks.
 9. Discuss and perform the preventative maintenance activities.
 10. Discuss and perform start-up and shutdown procedures.
 11. Perform the required equipment exercise procedures.
 12. Perform routine disassembly and assembly of equipment if applicable.
 13. Identify and review safety items and perform safety procedures, if feasible.
- C. Classroom equipment training for the maintenance and repair personnel will include:
1. Theory of operation.
 2. Description and function of equipment.
 3. Start-up and shutdown procedures.
 4. Normal and major repair procedures.
 5. Equipment inspection and troubleshooting procedures including the use of applicable test instruments and the "pass" and "no pass" test instrument readings.
 6. Routine and long-term calibration procedures.
 7. Safety procedures.
 8. Preventative maintenance such as lubrication; normal maintenance such as belt, seal, and bearing replacement; and up to major repairs such as replacement of major equipment part(s) with the use of special tools, bridge cranes, welding jigs, etc.
- D. Hands-on equipment training for maintenance and repair personnel shall include:
1. Locate and identify equipment components.
 2. Review the equipment function and theory of operation.
 3. Review normal repair procedures.
 4. Perform start-up and shutdown procedures.
 5. Review and perform the safety procedures.
 6. Perform Owner approved practice maintenance and repair job(s), including mechanical and electrical adjustments and calibration, and troubleshooting equipment problems.

END OF SECTION

SECTION 01 91 00

COMMISSIONING

PART 1 - GENERAL

1.01 DESCRIPTION

This section contains requirements for the Contractor's performance during the commissioning of the structures, equipment and systems constructed and installed during the course of this contract. All commissioning work, as described in this section, shall be performed by the Contractor.

1.02 QUALITY ASSURANCE

A. CLEANUP:

Following completion of the startup testing period, the Contractor shall remove, clean, and replace all permanent and temporary filters and strainers in all pipeline systems; dewater and clean all sumps; and dewater all process units for final inspection as a condition precedent to commissioning.

B. COMMISSIONING TEAM:

The Contractor shall assemble a commissioning team under the direction of an individual duly authorized to commit the Contractor's personnel and resources to respond to requests for assistance on the part of the Engineer or, through the Engineer, the Owner. The commissioning team shall consist of representatives of the Contractor's mechanical, electrical, and instrumentation subcontractors, and others as appropriate. The commissioning team shall be available at the site of the work during normal working hours (8 hours a day, 5 days a week, Saturdays, Sundays, and legal holidays excepted) and shall be available within two hours' notice at all other times upon notice by telephone. The commissioning team shall at all times be equipped and ready to provide for emergency repairs, adjustments, and corrections to the equipment and systems installed and modified as a part of this contract.

1.03 SUBMITTALS

The following information shall be submitted to the Engineer in accordance with the provisions of these Specifications.

Detailed plans for commissioning each process unit and each system constructed or modified as a part of the work performed under this contract.

The Contractor's plan for providing a commissioning team shall be complete with a daytime staffing plan and names, qualifications, and telephone numbers of those assigned to off-hour standby duty.

PART 2 - PRODUCTS

Working with representatives of the Owner and the Engineer, the Contractor shall develop and produce a detailed, written plan for the startup and initial operation, under actual operating conditions, of the equipment and systems installed and constructed under this contract. The document, after acceptance by the Engineer, shall serve as the guidance manual for the commissioning process.

PART 3 - EXECUTION

After completion of the equipment and startup testing, where required, and agreement on the part of the Engineer that the systems did meet all test requirements, commissioning will begin. The commissioning period for each modified or new unit process system shall be 4 weeks. The Contractor shall remove all temporary piping, bulkheads, controls and other alterations to the permanent systems that may have been needed during the startup testing and shall perform the tasks necessary to make the improvements constructed under this contract fully operational. The Engineer shall confirm in writing the date(s) that the system is ready for commissioning and on which actual commissioning activities commence. Activities conducted prior to such written confirmation shall not constitute commissioning.

The Owner's operation and maintenance personnel will be responsible for operation of the systems to be commissioned. The portion of the work to be commissioned shall be fully operational, performing all functions for which it was designed.

The Contractor shall be available at all times during commissioning periods to provide immediate assistance in case of failure of any portion of the system being constructed. At the end of the commissioning period and when all corrections required by the Engineer to assure a reliable and completely operational facility are complete, the Engineer shall issue a completion certificate. Each system shall have been issued a completion certificate as a condition precedent to the final acceptance of the work of this contract.

During the commissioning period, the Owner shall be responsible for all normal operational costs and the Contractor shall bear the costs of all necessary repairs or replacements, including labor and materials, required to keep the pump station operational. During construction, prior to commissioning, the Contractor shall be responsible for the entire project and all equipment.

END OF SECTION

SECTION 01 92 13

OPERATION AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.01 SCOPE OF WORK:

- A. This section includes procedural requirements for compiling and submitting operation and maintenance data required to complete the project.

1.02 FORMAT:

- A. Prepare data in form of an instructional manual.
- B. Binders: Commercial quality, 8 ½- x 11-inch three-ring binders with hardback, washable, plastic covers; two inch maximum ring size. When multiple binders are used, correlate data into related, consistent groupings. Provide a table of contents in each binder.
- C. Cover: Identify each binder cover and spine with typed or printed title OPERATION AND MAINTENANCE INSTRUCTION; list title of Project facility; identify subject matter of contents.
- D. Arrange contents by systems under section numbers and sequence of Table of Contents.
- E. Provide tabbed flyleaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data - on 20-pound paper.
- G. Drawings: Provide with reinforced punched, binder tab. Bind in with text; fold larger drawings to size of text pages.
- H. Submit certification that the data and drawings provided pertain exactly to the model, size, and series product and equipment installed in the work.
- I. All documents will be electronically scannable.
- J. All products, systems, and drawings must be cross-referenced with tag ID numbers.
- K. The manual for each piece of equipment shall be a separate document with the following specific requirement:

- 1. Contents:

Table of Contents and Index

Brief description of each system and components

Starting and stopping procedures

Special operating instructions

Routine maintenance procedures

Manufacturer's printed operating and maintenance instructions, parts list, illustrations, and diagrams

One copy of each wiring diagram

One copy of each approved shop drawing and each Contractor's coordination and layout drawing

List of spare parts, manufacturer's price, and recommended quantity

Name, address and telephone number of local service representatives.

1.03 QUALITY ASSURANCE:

- A. Prepare instructions and data by personnel experienced in maintenance and operations of described products.

1.04 CONTENTS, EACH VOLUME (BINDER):

- A. Table of Contents: Provide title of Contract, schedule of products and systems, indexed to content of the volume. A listing of all relevant tag ID numbers for each volume shall be placed immediately after the Table of Contents.
- B. For each product or systems: List names, addresses, and telephone numbers of subcontractors and suppliers, including local source of suppliers and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- E. Text: As required to supplement product data, provide logical sequence of instructions for each procedure incorporating manufacturer's instructions.
- F. Warranties, Guarantees, and Bonds: Bind copy of each

G. See O&M Manual Review Checklist at end of this specification section.

1.05 MANUAL FOR MATERIALS AND FINISHES:

- A. Building Products, Applied Materials, and Finishes: Include product data with catalog number, size composition, and color and texture designations. Provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual product specification sections.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- B. Data submitted on all equipment shall include complete maintenance instructions (including preventive and corrective maintenance) and parts lists in sufficient detail to facilitate ordering replacements.
- C. All products, systems, equipment, electrical wiring, instrumentation wiring, personnel protection systems wiring, presented in this manual will have tag numbers corresponding to contract drawings and specifications. In the event, numbers do not exist; the Engineer will specify a series of numbers.
- D. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications.
- E. Include color-coded wiring diagrams as installed.
- F. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequence. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter and any special operating instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required. Cross-reference lubricants to products offered by at least three major lubricant suppliers.

- H. Include manufacturer's printed operation and maintenance instructions.
 - I. Include sequence of operation by controls manufacturer.
 - J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - K. Provide control diagrams by controls manufacturer as installed.
 - L. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
 - M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
 - N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 - O. Include test and balancing reports, calibration data, alignment records, and other information.
 - P. Additional Requirements: as specified in individual product specification sections.
 - Q. Provide a listing in table of Contents for design data with tabbed flysheet and space for insertion of data.
 - R. Incorporation of all Physical Checkout information obtained through the field-testing and correction phases of the Work. Input must be specific to the actions and information obtained during those phases.
- 1.07 SUBMITTALS:

Submit draft and final copies of operation and maintenance manuals to Engineer for review and approval.

Project: 36249.5101

UC-34

County: WILKES

PART 2 – PRODUCTS

NOT APPLICABLE.

PART 3 – EXECUTION

NOT APPLICABLE.

END OF SECTION

SECTION 26 00 00

ELECTRICAL GENERAL REQUIREMENTS

RELATED DOCUMENTS:

The General Provisions of the Contract, including the General Conditions, Supplementary Conditions, and General Requirements, shall apply to all work described or implied in Division 26 of these Specifications as well as to all work shown on the applicable Drawings.

PART 1 - GENERAL

1.01 APPLICATIONS:

This section including the Related Documents paragraph shall be considered part of all sections in Division 26 of these Specifications. The term "Contractor" shall refer to the Electrical Contractor in Division 26, but shall also refer to the responsibility of the General Contractor's assignment of work. The term "Contract Documents" shall refer to these Specifications and/or the applicable Design Drawings.

1.02 DESCRIPTION OF WORK:

The Contractor shall furnish, perform, or otherwise provide all labor including, but not limited to, all necessary planning, purchasing, transporting, storing, installing, testing, certain cutting and patching as elsewhere outlined, trenching (including excavation, backfill, and compaction), coordination, field verification, equipment (installation and safety), supplies, and materials necessary for the correct installation of complete electrical systems as described or implied by the Contract Documents in strict accordance with Local, State, and National Codes, and in accordance with the requirements of the Town of North Wilkesboro. Such Codes may not be repeated in the Contract Documents but are expected to be common knowledge of qualified Bidders.

The successful performance of this work will require preparation and continuous maintenance of an interlocking and overlapping procedure of procurement, temporary connection, and phased installation of portions of the electrical system. The Contractor shall schedule all required material, workmen, and required inspections to maintain the project schedule.

In addition to the scope of electrical work specifically detailed in the plans and specifications, the scope of work includes but is not necessarily limited to;

- temporary construction electrical services,
- temporary project lighting,
- required access doors,
- seismic supports,
- commissioning support
- miscellaneous metal fabrication for equipment and conduit supports, and
- housekeeping pads (or functional equivalent).

The electrical subcontractor may also be referred to in this specification as electrical contractor. The electrical contractor may also be referred to in this specification as “this contractor”, “contractor”, Contractor, or “Division 26 contractor”.

It is understood that while drawings shall be followed as closely as circumstances will permit, the Contractor is held responsible for the installation of the system according to the true intent and meaning of the drawings. Anything not entirely clear in the Contract Documents will be fully explained if application is made to the Architect in accordance with the General Conditions and Supplements thereto. However, should conditions arise where, in the judgment of the Contractor, certain changes will be advisable, the Contractor shall communicate with the Architect and secure his review of these changes before proceeding with the work, provided they are of a major nature.

All referenced manufacturer’s requirements and specifications and nationally recognized and accepted standards and specifications shall be the latest edition unless specified otherwise and shall be used as they are applicable for products and craftsmanship incorporated in the Contract Drawings and this Section only. The references to these standards and specifications do not imply acceptance of any and all products described in the standards and specifications.

1.03 APPLICABLE REGULATIONS:

The installation shall comply with the applicable rules of the National Electrical Code and rules and regulations of the State Building Code. In no case shall the materials and workmanship fail to meet the minimum requirements of the National Electrical Code. Refer to Division 1 for seismic category.

The requirements of the Power Company governing services and connections, interruptions of power and metering provisions shall be part of Division 26 – Electrical Work.

An electrical inspection certificate shall be issued by the inspection authority having jurisdiction before work is to be approved for final payment.

The electrical systems for this project, including all wiring, outlets, fixtures and equipment shall be anchored and installed to withstand seismic disturbances of a magnitude characteristic to the Seismic Performance Category.

1.04 CONTRACT DOCUMENTS:

The Specifications and the applicable design Drawings shall be considered Complementary, one to the other. All workmanship, methods, and/or materials described or implied by one and not described or implied by the other shall be furnished, performed, or otherwise provided just as if it had appeared in both sets of documents. If instances occur in which there are conflicts between these Specifications and the applicable design Drawings, then the Contractor shall notify the Designer prior to submitting a bid for a written clarification of the item. Otherwise, the more stringent requirement, as determined by the Designer, shall be used in the work.

The Contract Documents are diagrammatic and are not intended to include every detail of construction, materials, methods, and equipment. They indicate the total result to be achieved by an assemblage of various systems.

The Contract Documents require the Contractor to provide certain Shop Drawings which shall indicate the fabrication, assembly, installation, and/or erection of a particular system's components. Although the Contract Documents may provide detailed information on certain areas of the design, they shall not be considered a substitute for any required Shop Drawings, field installation drawings, Code required practices, or applicable standards of the industry as noted elsewhere.

Locations designated for outlets, switches, equipment, etc., are approximate and shall be verified by instruction in the Contract Documents. Where instructions or notes are insufficient to convey the intent of the design, consult the Designer.

Only qualified, certified, properly trained, and licensed personnel shall be used by the Contractor to perform this work. No portion of the work shall be performed by individuals whose training, licensing, or certification is not acceptable to the Designer, the Owner, or the Authority having jurisdiction. The Contractor and/or his personnel shall not perform any work which violates an applicable Code. The Contractor's Bid shall include all required work necessary to completely install the electrical systems as directed or implied by the Contract Documents in complete accordance with all applicable Codes. Discrepancies between the Contract Documents and applicable Codes shall be brought to the attention of the Designer prior to bid.

1.05 ADDITIONAL REQUIREMENTS:

Each Bidder shall visit the site of this Contract and shall thoroughly familiarize himself with all existing field conditions and the proposed work as described or implied by the Contract Documents. During the course of his site visit, the Bidder shall verify every aspect of the proposed work and the existing field conditions in the areas of construction and demolition which will affect his work. The Contractor shall receive no compensation or reimbursement for additional expenses he incurs due to failure to make a thorough investigation of the existing facilities, including rerouting around existing obstructions.

Installation studies shall be made to coordinate the electrical work with the work of all other trades, with work by the Owner, and with work under other Contracts. All work shall be replanned. Any conflicts or interferences which cannot be resolved shall be referred to the Designer prior to installation of the equipment.

Secure approved Shop Drawings from all required disciplines and verify final electrical characteristics before roughing power feeds to any equipment. When electrical data on approved Shop Drawings differs from contemplated design, notify the Designer.

Damage from interference caused by inadequate coordination by the Contractor shall be rectified at no additional cost to the Owner.

The Contractor shall keep the construction site clean of all waste materials and rubbish caused by his work or employees. Upon completion of the work, the Contractor shall remove from the site all remaining debris, waste, unused materials, and equipment.

The Contractor shall repair, at no cost to the Owner, all damage done by himself or his employees.

The Contractor shall provide experienced, qualified, and responsible supervision for all work. A thoroughly competent foreman shall be in charge of the work in progress at all times. If, in the judgment of the Designer, the foreman is not performing his duties satisfactorily, the Contractor shall immediately replace him upon receipt of a letter of request from the Designer. Once a satisfactory foreman has been assigned to the work, he shall not be withdrawn by the Contractor without the written consent of the Designer.

The Contractor shall guarantee the materials and workmanship against defect due to faulty materials, faulty workmanship, or negligence in installation procedures for a period of twelve (12) months following the Final Acceptance of the work. Should in the opinion of the Engineer and during the guarantee period, reasonable doubt exist as to the proper functioning of any work installed under this contract, the right is reserved for the Engineer to perform any test(s) deemed practical to determine whether such work is functioning properly and performing at required capacity. If such test(s) show proper functioning, the cost of the test(s) and Engineer's services will be paid by the Owner. If the test(s) indicate a deficiency in the work, the cost of the test(s) and Engineer's services will be paid by the Contractor and the Contractor shall make good any deficiencies shown to the full satisfaction of the Engineer. Refer to General Conditions for guarantee. Where items of equipment or materials carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material.

Where extended guarantees are called for in the Contract Documents, furnish three copies to be inserted in the Operation and Maintenance Manuals.

All preventative maintenance and normal service will be performed by the Owner's maintenance personnel after Final Acceptance of the work. This service shall not alter the Contractor's guarantee of the work in any way.

Extended guarantees and proposals for service Contracts will be stated under detailed item specifications elsewhere in Division 26.

1.06 CUTTING AND PATCHING:

For cutting and patching of interior to properly install work under Division 26, the Contractor shall act as follows and in accordance with applicable Supplementary General Conditions, etc. as elsewhere contained in the Contract Documents:

1. See Supplementary General Conditions for cutting and patching requirements.

2. Materials and labor shall be as elsewhere outlined under Supplementary General Conditions or as specifically noted.
3. Cutting devices, as applied under Division 26, shall be rotating type. "Impact" type cutting devices shall not be utilized unless specifically permitted by the Owner and the Designer. Cutting processes shall not generate airborne smoke, dust, or debris which may cause disruption to Hospital operations. "Wet" process cutting may be required for certain operations.
4. Fire seals provided under Division 26 for conduits, wireways, cable troughs, etc., shall be or approved equal, selected for each specific application. All such penetrations shall be sealed in accordance with the latest edition of the UL Fire Resistance Directory and shall include any required hardware, brackets, etc. All sleeves required for Division 26 work shall be provided under Division 26.

Patch work shall comply with the applicable sections of the Contract Documents and shall match the existing finishes.

1.07 APPLICABLE CODES:

The work shall be in accordance with the latest editions of the following Codes and Regulations as a minimum:

ANSI C2	National Electrical Safety Code
ANSI C73	Dimensions of Attachment Plugs and Receptacles
NECA	Standards for Installation
NEMA	Standards for Materials and Products
NFPA 30	Flammable and Liquid Combustible Code
NFPA 70	National Electrical Code
NFPA 72	National Fire Alarm Code
NFPA 99	Standard for Health Care Facilities
NFPA 101	Life Safety Code

Standards of Underwriters Laboratories, Inc. (UL)

All applicable Local and State Codes.

Other codes and regulations as listed in individual Specification Sections.

1.08 SUBMITTALS:

The following information shall be submitted in four (4) copies to the Designer by the Contractor within 10 days after the date of contract award and notice to begin work:

Schedule of Materials Manufacturers

Schedule of Equipment Manufacturers
List of Subcontractors

Within 30 days after the contract award and notice to proceed, the Contractor shall forward to the Designer for his review catalog cuts, brochures, shop drawings, field installation drawings, diagrams, certifications, test reports, warranties, guarantees, etc., which adequately describe the materials and equipment the Contractor intends to use. The Contractor shall forward any additional information requested by the Designer which, in the opinion of the Designer, is required to further describe the quality, function, and suitability of the materials or equipment for this work. Partial submittals will not be accepted

The Architect/Engineer shall be notified immediately – in writing, of delivery scheduling of the material not ordered for immediate shipment. The first payment estimate will not be approved until the Architect/Engineer is satisfied that all material is ordered and delivery scheduled so that there will be no delay to the job because of getting material. The contractor may be required to remove and replace at his own expense an material installed before approval.

1.09 GENERAL:

Any material or equipment failing to comply with the Contract Documents shall be rejected. The Contractor shall submit for review only those products which meet or exceed the requirements of the Contract Documents, and shall certify to the Designer that such review has been performed.

The Designer will provide a reasonable review of Submittals for Contract conformance. However, review of a submittal by the Designer shall not release the Contractor from his responsibility to correct errors or omissions which may be included in the Submittal, or for correction of deviations from the Contract Document requirements.

Proposed deviation from the Contract Documents shall be specifically noted in writing by the Contractor and included with the applicable Submittal. It shall be understood and agreed by all parties that the requirements of the Contract Documents shall not be changed without specific written statements by the Designer to the Contractor. Payment will not be authorized for deviations which are not fully documented in writing. Refer questions to the Designer prior to purchase of equipment.

1.10 CATALOG CUTS:

Submit catalog cuts or brochures for all materials and equipment.

1.11 SHOP DRAWINGS:

Submit shop drawings for the following equipment as applicable:

Panelboards
Transformers

Special Systems
Lighting fixtures (where the brochure does not describe dimensions)
Controls
Other equipment as noted in each Section of Division 26.

1.12 COORDINATION DRAWINGS:

Review all plans. Prepare and submit detailed coordination drawings of entire facility. Submit field coordination drawings in cooperation with all trades employed for the project. Include, as applicable, lighting fixtures, site utilities, switchboards, cable trays, conduit larger than 1 inch diameter, ductbanks, medium voltage switches, medium voltage switchgear, transformers, manholes, handholes, etc. Plans shall be of a scale adequate to show required work. Minimum scale to be $\frac{1}{4}'' = 1' - 0''$ for non-site plans. Submit the required number of hard copies as required in project specifications.

1.13 FIELD INSTALLATION DRAWINGS:

Submit field installation drawings for the following equipment as applicable:

Lighting fixtures (where special installation is required)
Any structures or supports constructed to support Division 26 work.
Other equipment as noted in each Section of Division 26.

1.14 SUBMITTAL CONTENTS:

All information submitted for review shall be identified by name of job, Contractor, equipment number and appropriate Specification Sections. Information on the Submittal not relevant to the item submitted shall be marked out.

Submittal shall indicate in writing that the product is U.L. listed for the intended use. "Applications" for U.L. listing shall not be considered as the equivalent of the actual listing.

Submittals shall include, but shall not be limited to, performance data, statement of compliance with applicable codes, standards (including U.L.) and characteristics, all dimensions and sizes, utility connection point locations and sizes, any other information as described in other sections of the Contract Documents, and any similar information required to show compliance with the Contract Documents.

Contractor shall indicate on each Shop Drawing Submittal that he has checked that the Submittal complies with the Contract Documents by affixing a stamp indicating the following: Date, specification page and section, drawing note indicating that manufacturer is as specified and signature of person reviewing shop drawing. Submittals shall be made by the Contractor only. Submittals not bearing the Contractor's approval stamp will be returned without review.

1.15 SAMPLES:

Provide samples to the Designer as necessary to define the proposed material installations.

Samples will be returned with Shop Drawings for storage at the job site by the Contractor. Samples shall be accessible to the Designer. Contractor shall be responsible for storage and security of returned sample.

1.16 OPERATION AND MAINTENANCE MANUALS:

Provide Operation and Maintenance Manuals for all electrical equipment and products specified in the Contract Documents.

Submit four (4) copies of Operation and Maintenance Manuals unless otherwise indicated or specified.

Exterior of binders shall be clearly marked as to content and volume number. Binders shall not be more than 3/4 full and shall be designed to lay flat when opened.

Operation and Maintenance Manuals shall include the following:

- Hardback three ring loose-leaf binder with reinforced holes in sheets and drawings neatly folded and not extending beyond the edge of the binder.
- Title sheet with job name, and the names, addresses, and phone numbers of the Contractor, all Subcontractors and Suppliers.
- Table of Contents.
- A signed copy of acknowledgement of instruction to the Owner or the Owner's authorized representative for all electrical and control systems provided.
- Typewritten operating instructions for the Owner's personnel describing how to operate and maintain each piece of equipment. This material shall be arranged for quick access to specific problems.
- Approved shop drawings, submittal data, and parts and maintenance booklet for each item of material and equipment furnished under Division 26. Final drawings shall include all dimensions.
- Record electrical drawings.
- Copies of final inspection certificates.
- Guarantees and warranties including extended guarantees and warranties.

1.17 RECORD DRAWINGS:

Provide one complete set of Contract Drawings in clean, undamaged condition indicating all significant changes from the work as shown. Record Drawing set shall be presented on reproducible mylar sheets. Use multiple pencil colors to aid in the distinction between work of separate electrical systems. In general, record substantive installation of electrical work which previously is either not shown or is field modified. This work shall include the following:

- Indicate mains and branches of wiring systems, with switchgear, panelboards, and control devices located and numbered. Locate devices requiring maintenance.
- Indicate changes in equipment ratings and locations.
- Indicate scope of each Change Order, noting Change Order Number for Project.

Refer to General Provisions and Division 1 for additional requirements pertaining to record documents.

PART 2 - PRODUCTS

All materials and equipment shall be new, except where specifically shown or specified elsewhere as relocated or reused under this Contract. Systems shall be provided complete, and each system as a whole and in all its parts shall function correctly up to the specified capacity. Should a new system, or any new part of a system, fail to meet performance requirements, then necessary replacements, alterations, or repairs as required by the Designer shall be made to bring performance up to specified requirements. All building construction and damages to finishes by such replacements, alterations, or repairs shall be restored to prior conditions at no additional cost to the Owner. This work shall be as approved by the Designer's Representative.

All electrical components, devices, and accessories shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

Where multiple items of the same equipment or materials are required, they shall be the product of a single Manufacturer for this Project.

Before the Contractor orders any equipment, the physical size of all equipment supplied shall be checked for proper fit in the spaces allotted in the Contract Documents, with NEC and Manufacturer required working clearances provided to the satisfaction of Code Authority and Manufacturer. Refer questions to the Designer. Consideration of internal access for selected equipment shall also be satisfied.

Inserts, pipe sleeves, supports, and anchoring of electrical equipment shall be provided as specified herein. Where such items are to be set or embedded in concrete, masonry or similar work, the items shall be furnished and layout made at the proper time for the setting

or embedment of those items so as to cause no delay in the work. Coordinate installing large equipment requiring positioning before closing in the building.

PART 3 - EXECUTION

Where the requirements of the Contract Documents are in excess of the requirements of any Codes, standards, or regulations, then the requirements of the Contract Documents shall govern.

In no case shall the installation of any material or piece of equipment by the Contractor fail to meet the minimum requirements of the National Electrical Code.

The Contractor shall install all equipment so that all Code required and Manufacturer recommended servicing clearances are maintained. He shall be responsible for the proper arrangement and installation of all equipment within any designated space. Should the Contractor determine that a departure from the Contract Documents is necessary, he shall submit to the Designer, for approval, detailed drawings of his proposed changes with his written reasons for the changes. No changes shall be implemented by the Contractor without the issuance of the required Bulletin Drawings or clarifications.

Electrical equipment shall be protected from the weather, in particular dripping or splashing water, at all times during shipment, storage, and construction. Manufacturer's recommendations with regard to storage and protection shall be followed. Should any apparatus be subjected to possible damage by water, it shall be thoroughly dried and put through a dielectric test, at the expense of the Contractor, to ascertain the suitability of the apparatus, or it shall be replaced without additional cost to the Owner.

Inspect all electrical equipment and materials prior to installation. Damaged equipment and materials shall not be installed or placed in service. Replace or repair to new condition and test damaged equipment in compliance with industry standards at no additional cost to the Owner. Equipment required for any such testing shall be provided by the Contractor.

Equipment requiring electrical service shall not be energized or placed in service until all interested parties have been duly notified and are present or have waived their right to be present. Where equipment to be placed in service involves service or connection from another Contractor or the Owner, the Contractor shall notify the Owner in writing when the equipment will be ready. The Owner shall be notified as far in advance as possible of the date the various items of equipment will be complete.

Plywood material shall not be used as a backboard for mounting panelboards, disconnects, motor starters, or dry type transformers. Provide "cast in place" type inserts or install expansion type anchor bolts. Electrical equipment shall not be mounted directly to dry wall for support without additional channels as anchors. Channels shall be anchored to the floor and structure above. Panelboards and terminal cabinets shall be provided with structural framing located within drywall partitions.

If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.

Install all materials and components level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated. Install equipment to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.

Give Right of Way to raceways and piping systems installed at a required slope.

Work which, in the opinion of the Designer, does not meet the minimum standards of quality required shall be replaced by the Contractor at no additional cost to the Owner.

All required permits shall be provided by the Contractor, and all inspections shall be scheduled by the Contractor. The Contractor shall obtain and pay all costs for an inspection certificate issued by the Authorities having jurisdiction over the work. The inspection certificate shall be received by the Designer before work will be approved for final payment.

The Contractor shall replace defective materials, equipment, or workmanship without cost to the Owner within the stipulated guarantee period.

The Contractor shall maintain an up-to-date set of drawings and specifications of all trades on the Project, including, but not limited to, Architectural, Structural, Civil, Plumbing, Mechanical, Electrical and, where provided, Interior Design.

Finish surfaces over excavations outside the building shall match new grades and/or existing surfaces. The Contractor shall be responsible for any backfilling and for matching new grades and/or existing surface. This work shall include reseeding of any existing grassed areas.

Wherever any work pierces waterproofing, it shall be installed in a manner to maintain the integrity of the waterproofing. Coordinate roofing materials which pierce roof for compatibility with membrane or other roof types with General Contractor.

3.01 ACCESS TO BUILDING EQUIPMENT:

In all operations under this Contract, the Contractor shall maintain convenient and open access during operations to provide maintenance of all necessary facilities. Special attention shall be given to storage of materials, unfettered access of aisles and access space, work on existing electrical installations, etc.

END OF SECTION

SECTION 26 05 00

ELECTRICAL WIRING AND CONNECTIONS FOR EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

This work includes the power wiring and electrical connection of all systems, equipment, and devices specified under other Divisions of these Specifications and/or provided by the Owner as indicated on the Contract Documents.

Provide all labor, raceway, conductors, outlets, switches, miscellaneous material, devices, and equipment necessary to complete the connection of equipment to the electrical power source.

Determine proper locations for rough-in to all items of equipment by reference to manufacturer's shop drawings.

Provide disconnect switch as required for each item of equipment where not specifically required by specifications of other Divisions of the work with installation under Division 26. Starters and disconnect switches, both individually mounted or in motor control centers, shall be furnished by Division 26 unless noted otherwise. Division 26 shall mount and wire all starters and disconnects regardless of furnishing Division. Control wiring is by the Electrical Contractor unless specifically noted.

Proper NEMA enclosures shall be supplied for installation environment.

1.02 POINT OF FINAL CONNECTION:

The point of final connection shall be either the motor terminal housing or an integral junction box (as appropriate) on the equipment served. If no junction box is provided, the Electrical Contractor shall provide an appropriate junction box located adjacent to the equipment. In each case, the Electrical Contractor shall provide all electrical conductors and appropriate raceway, where necessary, of sufficient length to make the final connection to the device electrical input terminals.

Do not scale drawings for rough-in requirements.

For equipment served by cord and plug, the receptacle symbol shown shall be considered the point of final electrical connection for that respective piece of equipment. The contractor shall install a cord and matching attachment cap for such equipment if none is furnished with equipment.

For Owner furnished equipment, the Electrical Contractor shall provide all final electrical connections to the equipment.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.01 INSTALLATION:

The Electrical Contractor shall provide all power wiring to the point of final connection for all equipment regardless of supplying contractor, unless specifically noted or shown otherwise on the drawings.

Where motor controls, remote starter units or line voltage control units are furnished by others, the Electrical Contractor shall mount the device and provide power wiring through the device and to the point of final connection.

All direct connections to transformers, rotating equipment, and vibrating equipment shall be made with liquid tight flexible metal conduit.

The Electrical Contractor shall provide the correct size and type fuse for each fused disconnect switch. The electrical contractor shall coordinate the fuse size with the MOCP of the served equipment.

END OF SECTION

SECTION 26 05 01

WORK TO ACCOMMODATE ELECTRICAL CONSTRUCTION PHASING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

The work includes the following items necessary to provide for use of a portion of the new or renovated facility as outlined below. These items may be of temporary nature, and shall be removed upon cutover to permanent facilities.

1.02 RENOVATION OPTIONS:

The work may include the items necessary to provide for use of a portion of the existing and/or new facility as outlined elsewhere in the Contract Documents. These items may be of temporary nature, and shall be removed upon cutover to permanent facilities. In addition, power and signal services to all other areas of the facility shall not be affected by work under this Contract.

Where necessary work must occur in areas which are to be maintained in service for the facility, the following items shall be adhered to:

1. Certify that the Owner has been notified in advance as to duration and extent of work, and that his agreement has been given.
2. Work shall be performed at nighttime or other times which Owner states will not conflict with his uses.
3. Coordination with General Contractor to insure maintenance of reliable and continuous electric power to all portions of the facility.
4. Providing 2 week minimum notice of proposed date, extent and duration of unavoidable electric power interruptions. Concurrence of date, time, and duration of the proposed power interruptions shall be secured in writing by the Contractor prior to outages. In general, it shall be assumed that scheduled power outages may occur only during weekday nighttime hours and on Saturday/Sunday selected periods. Duration of outages shall be held to a minimum, with Contractor's staffing as necessary, and all possible preliminary work performed.
5. The Owner reserves the right to cancel planned shutdown and cutover procedures in event of unplanned emergency facility activities, and such cancellation shall not incur additional compensation penalty provided the facility gives the Contractor four hours prior notice.

6. Temporary wiring shall be provided hereunder, per NEC requirements to maintain necessary services. Coordinate carefully with Owner's Representative to insure proper performance hereunder.

PART 2 – PRODUCTS

NOT APPLICABLE

PART 3 – EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 26 05 19

CONDUCTORS, 600 VOLT INSULATION

RELATED DOCUMENTS:

Refer to other applicable Sections for requirements for special purpose cables and conductors used as part of Special Systems.

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

Provide all labor, materials, and equipment necessary to properly install all conductors and cables rated 600 volts.

1.02 DELIVERY, STORAGE, AND HANDLING:

Deliver in new standard coils or reels with approved tag indicating length, size, type, insulation, and manufacturer's name. Store protected from the weather and physical damage. Do not install damaged materials.

1.03 QUALITY ASSURANCE:

Conductor manufacturer shall be Cablec, Essex, General Cable, Rome, Southwire, Pirelli, or Triangle.

Connector manufacturer shall be American Insulated Wire Corporation, Amp, Burndy, Ideal, OZ/Gedney, Scotch, 3M, or Thomas and Betts.

1.04 SIZES:

All sizes shall be given in American Wire Gauge (AWG) or in thousand circular mils (kcmil).

Branch circuit wire sizes shall be increased to avoid excessive voltage drop as follows:

Nominal 120 Volt Circuits: Increase one wire size for each 75 feet or portion thereof in excess of 50 feet between the panelboard and the first outlet.

Nominal 277 Volt Circuits: Increase one wire size for each 150 feet or portion thereof in excess of 125 feet between the panelboard and the first outlet.

For control and signal circuits above 50 VAC, conductors shall be #14 AWG minimum size, Type XHHW or THWN-THNN as permitted by NFPA 70, within voltage drop limits, increased to #12 AWG as necessary for proper operation.

For control and signal circuits 50 VAC and below, conductors, at the Contractor's option, may be #16 AWG, 300 volt rated, PVC insulated, except where specifically noted otherwise in Contract Documents.

1.05 SUBMITTALS

Submit manufacturer's printed data on products showing compliance with the specifications. Submit written procedure and equipment to be used to comply with pulling tensions requirement detailed in this specification section.

PART 2 - PRODUCTS

2.01 MATERIAL:

Building wire and cable shall be soft, drawn, 98% conductivity copper. All conductors #8 and larger shall be stranded unless otherwise noted. All conductors #10 and smaller shall be solid unless otherwise noted. Aluminum conductors are not acceptable.

2.02 INSULATION:

All conductors shall be 600 volt type THWN unless noted otherwise, rated 90° C dry.

Conductors installed within fluorescent fixture channels shall be Type THHN or XHHW, rated 90° C dry. Conductors for all other light fixtures shall have temperature ratings as required to meet the U.L. listing of the fixture; however, in no case shall the temperature rating be less than 90° Centigrade. Remove incorrect insulation types in new work.

For conductors installed as apart of isolated power systems, dielectric constant shall be 3.5 or less and 20,000 megohms per 1,000 ft. of insulation minimum. A letter of certification from Vendor shall be submitted for forwarding to Owner by the A/E.

2.03 COLOR CODING AND MARKING:

All conductors for grounded power and light systems shall be color-coded in accordance with the following table. Verify with Local NEC Inspection Authority prior to securing materials:

Conductor	Under 250V	250V and Up	Isolated
Phase A	Black	Brown	Orange (Line 1)
Phase B	Red	Orange	Brown (Line 2)
Phase C	Blue	Yellow	Yellow (Line 3)
Neutral(grounded)	White	Natural Gray	-N/A-
Ground (grounding)	Green	Green	Green

Neutral conductor shall have stripe or marking when required by NEC 200.6.

Grounding conductors shall be identified per NEC 250.119.

Conductors passing through boxes containing other circuits shall be identified by vinyl-cloth self-adhesive markers. Markers shall be of manufactured type for this use, of wrap-around types. These shall be either pre-numbered or write-on types with clear plastic cover. Numbering shall indicate circuit designation.

2.04 SPLICES:

All connectors shall be rated for 600 volts, shall have a mechanical strength and insulation equal or superior to the conductor, and shall be taped.

Splicing of #8 AWG or larger conductors shall be made with mechanical connectors covered by rubber tape, friction tape, and plastic tape. At the Contractor's option, solderless mechanical type connectors with insulated covers may be used.

Splicing of branch circuit conductors to leads from a light fixture shall be made with connectors rated 90° Centigrade equal to Ideal "Wire-Nuts".

Splicing of #10 AWG and smaller solid conductors shall be made with wire or wing nuts, and shall be suitable for applied insulation. Wire nuts shall be Ideal "Wire-Nuts", 3M Co. "Scotchlok", or T & B "Piggy" connectors. "Sta-Kon" or other permanent type crimp connector shall not be used.

2.05 TERMINATIONS:

#8 AWG and larger cables shall terminate in "indent type" hex-screw, or bolt-clamp type bronze lugs approved equal to Burndy or O-Z. Cast type lugs shall have machined contact surfaces. #250 kcmil and larger sizes shall have 2 clamping elements or compression indents.

The use of combination copper/aluminum lugs (except where inbuilt in a circuit breaker or switch devices) is not acceptable. Submit samples of proposed cast type lug proposed for use for approval of A/E. Pressed metal copper lugs, and prohibited material units will be cause for rejection of work. All contact surfaces shall have a "ground" (machined) finish and shall be equal to Burndy Co. products of a cast type.

The Contractor shall transmit these requirements to panel and switchboard manufacturers. Nonconforming items shall be replaced.

Terminations for motors with No. 10 AWG or smaller conductors shall be a spring type pressure connector. Terminations for motors requiring No. 8 AWG and larger terminations shall be taped connections of spade lugs of motor leads to looped input conductors, using machine bolt and nut arrangement.

All lugs/terminations 100 amperes or less shall be rated for a minimum of 75 degrees Centigrade.

2.06 TAPING:

The taping of mechanical type connectors shall require 2 layers of rubber tape, 2 layers of friction tape, and 1 layer of plastic tape.

Electrical insulating tape shall be Scotch no. 88 or 99, or approved equal. Installed splices shall have equal or better mechanical strength than the factory applied insulation.

PART 3 - EXECUTION

3.01 GENERAL:

All conductors shall be installed in raceway.

Where conductors in multi-circuit lighting circuit, fused at 20 amperes or less, and where conductors are connected to different phases, home runs may include a common shared neutral conductor for each set of two or three phase conductors. Where phase conductors are increased in size due to any design factor, the neutral conductor shall be sized for the worse case unbalanced load. Not more than three circuits, with a common neutral conductor, shall be installed in a single conduit except as indicated.

Non-lighting branch circuits shall not be permitted to share a neutral conductor. Not more than three circuits, each on a different phase shall be installed in a single conduit, except as indicated. Conductors in a shared conduit shall be derated in accordance with NEC Article 310.16.

Conductor sizes indicated on circuit homeruns or in panelboard schedules shall be installed over the entire length of the circuit unless noted otherwise on the drawings, or as specified herein for long runs.

Conductors shall be continuous and not spliced where located within conduit. Splices shall occur only within troughs, wireways, junction boxes, outlet boxes, or equipment enclosures where sufficient additional room is provided for all splices.

Allow adequate conductor lengths in all junction boxes, electrical equipment, pull boxes and terminal cabinets. All termination of conductors in which conductor is in tension will be rejected and shall be replaced with conductors of adequate length. This requirement shall include the providing by the Contractor of sleeve type vertical cable supports in vertical raceway installations provided in pullboxes at proper vertical spacings.

Before installing raceways and pulling wire to any mechanical equipment, verify electrical characteristics with final submittal on equipment to assure proper number and AWG of conductors (such as multiple speed motors, different motor starter arrangements, etc.).

A calibrated torque wrench shall be used for all bolt tightening. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.02 VERTICAL RISERS:

Provide vertical cable riser supports per Article 300.19 in NFPA 70. Cable supports shall be O-Z/Gedney Type "S" or equal. These shall be located in accessible pullboxes of adequate size. Provide for adequate structural connection of cable supports to pullbox, which will transfer cable weight to building.

3.03 PULLING:

No wire shall be pulled until the conduit system is complete from pull point to pull point and major equipment terminating conduits have been fixed in position.

Mechanical pulling devices shall not be used on conductors sized #8 and smaller. Pulling means which might damage the raceway shall not be used.

Use only powdered soapstone or other pulling lubricant acceptable to the Architect/Engineer. Compound or lubricant shall not cause the conductor or insulation to deteriorate.

All conductors to be installed in a common raceway shall be pulled together. The manufacturer's recommended pulling tensions shall not be exceeded. The contractor shall monitor pulling tension on all pulls utilizing mechanical pullers. If maximum tension is exceeded, the pull shall be halted, cause of problem investigated and repaired prior to resumption of pull.

Bending radius of insulated wire or cable shall not be less than the minimum recommended by the manufacturer.

Where coaxial type conductors are installed, special requirements shall apply as outlined under that specific system detail specifications.

END OF SECTION

SECTION 26 05 26

GROUNDING

PART 1 - GENERAL

1.01 SUMMARY:

This Section includes grounding of electrical systems and equipment. Grounding requirements specified in this Section may be supplemented by special requirements of systems described in other Sections.

1.02 DESCRIPTION OF WORK:

Provide a grounding conductor in all branch circuit wiring and feeder installations.

All branch circuits in this project shall be run in metal conduit, unless specifically noted elsewhere as type MI cable.

1.03 MINIMUM STANDARDS:

NFPA 70 Articles 250 (2023 Edition).
NFPA 99

1.04 CONVENTION OF CONTRACT DOCUMENTS:

All circuits shall include a service or equipment grounding conductor unless noted otherwise on the drawings. Cross marks shown on conduit lines do not account for grounding conductors.

1.05 QUALITY ASSURANCE:

Prior to any work being performed at the site, the existing ground resistance shall be measured. The ground resistance shall be measured after the asphalt at the existing parking lot has been stripped and prior to any excavation of the building site. Ground resistance shall be measured using the Wenners 4-pin method per IEEE 81-1983. Provide a written report of all findings to the Engineer.

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use. Comply with UL 467.

Manufacturers of grounding connectors and clamps shall be Burndy or Thomas and Betts. Thermite types may be used for exterior cable interconnections and connections to driven grounding electrodes.

1.06 SUBMITTALS:

Submit catalog cuts of each type of connector, clamp, or rod used.

Submit ground resistance report findings.

PART 2 - PRODUCTS

2.01 CONDUCTORS:

All conductors for grounding of service, equipment, and bonding jumpers shall be copper material with type THW insulation and shall be sized in accordance with the applicable portions of Articles 250 of the National Electrical Code. Exception shall be increased AWG where shown on Contract Documents. Equipment Grounding Conductors shall be insulated with green-colored insulation or marked with green tape if EGC is a larger conductor.

2.02 CONNECTIONS:

All ground connections that are buried or in otherwise inaccessible locations shall be welded exothermically. The weld shall provide a connection which shall not corrode or loosen and which shall be equal or larger in size than the conductors joined together. The connection shall have the same current carrying capacity as the largest conductor. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.

Connections in accessible locations shall be bolted. Connections to building steel columns (where accessible) shall be with cast copper alloy clamp-type lugs thru-bolted to the building structural steel. Metal rust proofing shall be removed at grounding contact surfaces, for 0 ohms by digital Vm.

All grounding connectors shall be in accordance with U.L. 467 and U.L. listed for use with rods, conductors, reinforcing bars, etc., as appropriate. Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

Connectors and devices used in the grounding systems shall be fabricated of copper or bronze materials, and properly applied for their intended use. Specified items of designated manufacturers indicate required criteria and equal products may be provided if approved. All connectors and devices shall be compatible with the surfaces being bonded and shall not cause galvanic corrosion by dissimilar metals. Materials in items not listed herein shall be of equal quality to the following specified items:

- Lugs: substantial construction of cast copper or cast bronze, with "ground" (micro-flat) surfaces equal to Burndy QA-B Series or T&B equal. Light weight and "competitive" devices shall not be used.

- Grounding and bonding bushings: Malleable iron, Thomas and Betts (T&B), or equal.
- Piping clamps: T&B or equal.
- Grounding screw and pigtail: Raco No. 983 or equal.

PART 3 - EXECUTION

3.01 GENERAL:

Install grounding bus in all existing panelboards of renovated areas for connection of new grounding conductors, connected to an approved ground point.

3.02 BONDING:

Install ground bushings on all conduits entering enclosures where the continuity of grounding is broken between the conduit and enclosure (i.e. conduit stub-up into a motor control center enclosure). Provide bond jumper from the ground bushing to the equipment ground bus sized per NEC Table 250.66.

Grounding provisions shall include double locknuts on all heavywall conduits.

Grounding type receptacles shall be grounded with an equipment grounding conductor, sized per NEC, but not smaller than #12 AWG, routed with the branch circuit and connected to the equipment ground bus provided in the branch circuit panelboard. The equipment ground conductor shall also be bonded to the outlet box in which the receptacle is mounted.

Common Ground Bonding with Lightning Protection System: Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.

3.03 GROUNDING FOR LIGHTING FIXTURES SHALL BE AS FOLLOWS:

All new and removed/reinstalled fixtures in building interior and exterior fixtures shall be provided with a green grounding conductor solidly connected to unit. Individual fixture grounds shall be with lug to fixture body, generally located at point of electrical connection to the fixture unit.

All suspended fixtures and those supplied through flexible metallic conduit shall have green ground conductor from outlet box to fixture. Cord connected fixtures shall contain a separate green ground conductor.

3.04 TRANSFORMER GROUNDING:

Grounding of transformers and enclosures of 120/208V and 277/480V "separately derived systems" shall be to the nearest grounding electrode, grounded structural steel (when accessible), effectively grounded metal water pipe, or other approved electrodes when the former are not available. Neutral and ground conductors on the secondary side of the transformer shall be bonded at the transformer only, not at the overcurrent protection point.

3.05 COMMISSIONING RESPONSIBILITIES – ELECTRICAL CONTRACTOR:

Electrical commissioning requirements, as it pertains to this section, shall be included in the quoted prices.

END OF SECTION

SECTION 26 05 33

RACEWAY

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

Provide all labor, materials, and equipment necessary to properly install all raceways. All underground conduit is to be PVC coated GRS Plasti-Bond.

1.02 DELIVERY, STORAGE, AND HANDLING:

Provide color-coded end-cap thread protectors on exposed threads of threaded metal conduit.

Handle conduit and tubing carefully to prevent bending, end damage, and finish damage.

Store inside and protect from weather where possible. When stored outside elevate above grade and enclose with watertight wrapping.

1.03 QUALITY ASSURANCE:

Manufacturers shall be limited to those firms who have been regularly engaged in the manufacture of quality raceway components for not less than 5 years.

All components for a non-metallic raceway system (including elbows, connectors, etc.) shall be from the same manufacturer.

1.04 COORDINATION:

Coordinate layout and installation of raceways, boxes, enclosures, cabinets, and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.04 APPLICATION:

All raceways shall be Type RMC (Rigid Metal Conduit) except as otherwise allowed in these specifications.

Use of non-metallic raceway shall not be allowed on this project unless specifically indicated on the plans

1.05 RESTRICTIONS:

All raceways except for individually connected flexible lengths to recessed light fixtures shall be of 3/4 inch minimum size. Individual flexible connections to light fixtures shall be no less than 3/8 inch in size and no longer than 6 feet. In no case shall any conduit be filled to over 40 percent of its cross-sectional area.

Liquid-tight flexible metal conduit shall be used for final connection to all motors, transformers, and other rotating or vibrating equipment. Maximum length shall be 48", minimum length shall be 12". Flexible metal conduit shall be used for final connections to lighting fixtures concealed in dry areas only. Maximum length shall be 6'.

Raceways shall not be installed in concrete floor slabs without the prior approval of the A/E. All below grade conduits shall be shown and dimensioned on coordination drawings. Exposed raceway shall be arranged in a neat fashion.

PART 2 - PRODUCTS

2.01 GENERAL:

For each electrical raceway system, provide a complete assembly with fittings including, but not necessarily limited to, connectors, nipples, couplings, elbows, expansion fittings, and other components and accessories as needed to form a complete system.

2.02 CONSTRUCTION:

RMC conduit shall be hot dipped galvanized after fabrication to include uniform zinc coating both inside and outside, including all threads on conduit and fittings. RMC shall conform to ANSI C80.1 and UL-6. IMC shall conform to Federal Specification WW-C-581-E and UL-1242.

Flexible Metallic Conduit shall be zinc coated, single steel strip type, conforming to UL-1.

Liquid-tight Flexible Metallic Conduit shall be constructed of a flexible, interlocked galvanized single steel strip core covered by a polyvinyl chloride jacket. Conduit shall be UA or EF series as manufactured by Anaconda Co., or approved equal.

2.03 CONDUIT FITTINGS:

RMC fittings shall be threaded, galvanized, and shall comply with ANSI C80.4. Do not use threadless fittings.

Flexible steel conduit fittings shall be steel alloy, zinc coated with insulated throat. Fittings which are set screw type, cast, squeeze type, or clamp type shall not be used. Fittings shall be equal to T&B "Tite-Bite" series.

Expansion fittings shall be of the same material as the raceway.

Liquid-tight flexible conduit fittings shall be steel alloy, zinc coated with molded nylon compression ring and insulated throat. Fittings shall have liquid-tight beveled thread, gland nut design with ground core and sealing ring. Fittings shall be equal to T&B 5300 series.

Insulated bushings for RMC raceway terminations shall be phenolic and U.L. listed for 150 degrees C minimum.

PART 3 - EXECUTION

3.01 GENERAL:

Install all conduit and tubing products as indicated and in accordance with the manufacturer's written instructions, the requirements of NFPA 70, NEMA publication "Standard of Installation", and recognized industry practices to insure that products perform their respective intended functions.

The entire system including raceways installed above suspended ceilings shall be carefully and neatly installed with all work run true and parallel or perpendicular to walls, floors, and ceilings. Where bends, turns, or offsets are required, they shall be made with a conduit bending machine or other tool designed specifically for bending conduit. Raceways routed in groups shall present a neat and orderly appearance. This arrangement shall be maintained throughout the entire length including all bends, turns, and offsets. Raceways damaged before or during installation shall be replaced.

3.02 SUPPORTS:

Raceways not concealed in slabs or walls shall be securely anchored at regular intervals in accordance with NFPA 70. Use only galvanized pipe straps, wall brackets, or ceiling trapezes anchored with toggle bolts, expansion bolts, metal screws, or wood screws as appropriate.

Ceiling trapezes shall be supported by quarter inch minimum diameter threaded rods securely attached to the structure.

Raceways shall not be supported from the finished ceiling or from other equipment.

Straps and hangers shall be as recommended by the raceway manufacturer. All supports shall comply with the seismic requirements.

3.03 INSTALLATION:

Raceway sections shall not be heated with torches. Power-operated bending machines shall be used on metallic raceway sections greater than 1 inch.

The ends of raceways shall be plugged immediately after installation and shall remain so until the installation of conductors.

Conductors shall not be installed in raceways until the raceway is completely installed, free of any foreign matter, and dried.

Horizontal raceways shall not be installed above or below water and steam piping. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes.

Install pull boxes in all runs having more than 360 degrees total bending (all directions combined) or in runs more than 100 feet long. Separate lengths with pull or junction boxes where necessary to comply with these requirements. Specialized conduit systems such as security, data, etc. shall comply with the requirements of this section as well as any additional requirements of the specific system specification.

All locknuts shall be of a type that shall cut into the metal enclosure. Provide double locknuts (one inside, one outside) on all feeder and motor raceways plus insulated bushing on insulated throat.

Terminations of RMC on sheet steel enclosures shall be made with double locknuts (one inside, one outside) and insulated bushings.

Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.

Join raceways with fittings designed and approved for that purpose and make joints tight. Use insulating bushings or insulated throat connectors to protect conductors.

Raceways which enter threaded openings in equipment enclosures, boxes, etc., shall have at least 5 full threads engaged.

Protect stub-ups from damage where conduits rise through floor slabs. Arrange so curved portions of bends are not visible above the finished slab.

For stub-up connections, extend conduits through concrete floor for connection to freestanding equipment. Install with an adjustable top or coupling threaded inside for plugs set flush with finished floor. Extend conductors to equipment with rigid steel conduit; FMC may be used 6 inches (150 mm) above the floor. Install screwdriver-operated, threaded plugs flush with floor for future equipment connections.

Raceway penetrations shall be made only at perpendicular angles to the penetrated surface. In no case shall conduit which is run along exterior walls penetrate insulation or vapor barriers.

Provide seals on raceways installed in hazardous areas. Location of seals shall comply with NFPA 70. Also provide seals on raceways subject to condensation.

Provide watertight joints on all underground (and concrete-encased underground) raceways using appropriate tape applied in half width spiral wraps.

Field cuts, threads, and tool marks in rigid steel conduit shall be treated to prevent rusting by appropriate application of zinc base protective coating such as "Zinc-It" or "Cold-Galv" after wire brushing the area to be treated.

Provide nylon pull cords not less than 3/16 inches in diameter with not less than 200-lb (90-kg) tensile strength in all empty raceways over 10 feet in length. Identify system for which raceway is intended by tagging both ends of cord. Leave at least 12 inches (300 mm) of slack at each end of pull cord.

Provide a continuous insulated grounding conductor in every raceway. The grounding conductor shall be connected at each end of the raceway in accordance with Article 250 of the National Electrical Code.

3.04 CONDUITS IN STRUCTURAL SLABS:

Refer questions to the A/E.

3.05 SUBMITTALS:

Submit catalog cut of every type of raceway, fitting, and coupling.

END OF SECTION

SECTION 26 24 00

PANELBOARDS – BRANCH TYPE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

Provide all labor, materials, and equipment necessary to properly install panelboards as scheduled on the drawings and as required by this section.

1.02 PRODUCT DELIVERY, STORAGE AND HANDLING:

Handle panelboards and enclosures carefully to prevent damage. Store equipment indoors and protect from weather. Deliver cans and internal assemblies sufficiently in advance of installation period as necessary to prevent delay of work.

1.03 SUBMITTALS:

Submittals shall include all manufacturer's data on each panelboard and enclosure. Provide catalog cuts on panelboard accessories and overcurrent devices installed in the panelboard showing compliance with specifications. Also provide dimensioned drawings showing an accurate layout of the panelboard and all devices in the panelboard, including but not limited to circuit breakers, ground fault circuit interrupters, and accessories.

PART 2 – PRODUCTS

2.01 MANUFACTURERS:

Manufacturers offering standard products subject to compliance with project specifications.

Acceptable manufacturers shall be limited to Siemens, Square D, Cutler Hammer, or approved equal.

2.02 CONSTRUCTION:

Box:

Material: Unpainted galvanized code gauge steel furnished without knockouts.

Size: All panels shall be 20" wide x 5 3/4" deep with a 4" gutter space on all sides.

Interior mounting studs: At least 4.

Manufacturers nameplate and box identification number shall be on box.

Bussing:

Material: Copper material only. Aluminum material shall not be acceptable.

Tap arrangement: Phase sequence type, permitting a two or three pole breaker to be installed at any location.

Plating: All current carrying parts.

Phase Bussing: Full height without reduction.

Neutral Bussing: Isolated, full size, unless otherwise noted. Suitable lug for each outgoing circuit requiring neutral connection.

Ground Bus: Provide for each panelboard, complete with suitable lug for incoming feeder and each outgoing circuit requiring ground connection. Lugs shall be provided for #8AWG and larger size conductors.

All bolts used to connect current carrying parts together shall be accessible for tightening from the front of the panel. Bolts shall be of compatible material, plated.

Wiring Terminals:

Feeders: (Main Lugs) Copper devices shall be provided.

Compression or set-screw type, bolted to bus. Cast type lugs shall have ground and finished bolt surfaces.

Provide multiple lugs for multiple conductors. Compression lugs shall be approved equal to Burndy in weight and quality.

All lug sizes shall be compatible with conductor sizes. Lugs shall be rated for 75°C.

Spaces:

Space provisions or spaces for future breakers shall be located at the bottom of the panel and be fully bussed complete with all necessary mounting hardware less the breaker.

Interior:

Factory assembled with switching and protective devices, wire connectors, etc.

Interiors shall be so designed that switching and protective devices can be replaced without disturbing adjacent units and without removing the main bus connectors and shall be so designed that circuits may be changed without machining, drilling or tapping.

Trim:

Trims shall be hinged door-in-door type with screw attached deadfronts. Opening of standard door shall reveal breakers and deadfront, and opening of hinged trim shall reveal deadfront and wiring connections.

Material: Code gauge steel.

Flush Panels: 3/4" minimum overlap all around.

Surface Panels: Same width and height as box.

Mountable by screwdriver without need for special tools.

Adjustable indicating trim clamps shall be concealed inside door.

Doors: shall cover all device handles. Provide directory holder with clear plastic plate and metal frame on inside surface of door.

Hinges: concealed 5-knuckle, steel.

Over 48" in height: Shall have auxiliary fasteners at top and bottom of door in addition to flush latch (3-point).

Latches: Flush, not protruding beyond front of door, spring loaded.

Locks: Equip latches with flush, 5-pin cylinder type locks. All locks shall be keyed alike.

2.03 FINISH:

Except for box, all exterior and interior steel surfaces properly cleaned and finished with industry standard gray baked enamel paint over a rust-inhibiting phosphatized primer coating approved by the paint manufacturer. Panelboards located in finished spaces shall have finish suitable for field painting.

2.04 CIRCUIT BREAKERS:

Main Breakers:

Main breakers shall be individually mounted separate from branch breakers.

Covered by a metal plate, except for operating handle.

Branch Breakers:

Connection to Bus: Bolt-on. 22,000 AIC minimum, increased as shown- Type NQOD.
65,000 AIC minimum- Type NF.

Thermal-magnetic, molded case, with inverse time-current overload and instantaneous magnetic tripping, unless otherwise shown. Breakers shall be calibrated for 40 degrees C or shall be ambient compensating.

Quick-make, quick-break, with tripped indication clearly shown by breaker handle taking a position between ON and OFF.

Multi-pole breakers shall have a common internal trip. Handle ties between single pole breakers are not acceptable.

Single pole 15 and 20 ampere circuit breakers shall be rated for switching duty and shall be labeled as "SWD".

Ground Fault Circuit Interrupters (GFI):

Provide UL Class (5 milliamp sensitivity) ground fault circuit protection on 120 VAC branch circuits as indicated in panel schedules. This protection shall be an integral part of the branch circuit breaker which also provides overload and short circuit protection for branch circuit wiring. Tripping of a branch circuit breaker containing ground fault circuit interruption shall not disturb the feeder circuit to the panelboard. Provide separate neutral for circuits on GFI breakers.

Ratings:

Panelboards shall be provided as scheduled. Voltage, bus capacity, and phase shall be as shown.

Interrupting Capacity:

The minimum interrupting capacity of the panelboard assembly shall be 22,000 A.I.C. for 208/120 volt and 65,000 for 480/277.

PART 3 - EXECUTION

3.01 INSTALLATION:

Install all panelboards and panelboard enclosures in accordance with the manufacturer's written instructions, NECA's "Standard of Installation", the applicable requirements of the National Electrical Code, and recognized industry practices.

Proper working clearances shall be maintained at every panelboard location. The working space in front of a panelboard meet NEC requirements for the application.

All enclosures shall be firmly anchored to walls and supporting structures (where used) using appropriate hardware. Provide supporting (unistrut type) channels on walls constructed of gypsum board or where otherwise necessary to provide a mechanically secure and permanent installation. Enclosures shall be installed so that the top is 6'-6" above finished floor. Where the size of the enclosure is such that the top cannot be installed at 6'-6", the top of the enclosure shall be kept as low as possible.

Clean the interior of each panelboard before installing conductors. At all times, keep the interior trim and exterior surfaces of the panelboard free of rust and debris. Repaint finishes if necessary.

Coordinate all raceways and conductors with their respective panelboards so that all connections and conductor routing present an orderly appearance. Conductors in the panelboards shall be laced and arranged in an orderly manner.

Circuit directory cards shall be accurately and neatly completed using a typewriter, except that "SPARES" and "SPACES" shall be indicated in pencil in neat block letters to accommodate future revision. Room names and numbers shall be as directed by the Owner's staff - designations on plans are for construction use only.

Collect all keys upon delivery of panelboards. Store keys on one ring to be kept by project superintendent. Forward key ring with keys to Owner upon substantial completion.

END OF SECTION

SECTION 26 24 16

LOW VOLTAGE DISTRIBUTION PANELBOARDS

RELATED DOCUMENTS:

Drawings

General provisions of the CONTRACT

General and Supplementary Conditions of the CONTRACT

Division 1 Specification Sections

IEEE C37.81 – 1989: Seismic Considerations

NFPA 70 - 2023: National Electric Code

NEMA PB 1 – Panelboards

UL 50 - Enclosures for Electrical Equipment

UL 67 - Panelboards

PART 1 - GENERAL

1.01 SUMMARY:

This specification, applicable sections of related documents, and associated drawings describe power distribution panelboards constructed to NEMA PB-1 standards.

Furnish and install distribution panelboards as specified herein and where shown on the associated drawings.

1.02 SUBMITTALS:

Submit manufacturer's printed data on equipment showing compliance with the specification(s).

Submit detailed dimensional data showing the overall panelboard dimensions, interior mounting dimensions, and wiring gutter dimensions. The location of the main, branches, and solid neutral shall be clearly shown. In addition, the drawing shall illustrate one line diagrams with applicable voltage systems.

Submit one set of published I_p and I^2t let-through curves per breaker size and rating.

1.03 PRODUCT CERTIFICATES:

Submit manufacturer's signed certificate indicating compliance with performance requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

Manufacturers offering standard products subject to compliance with project specifications.

Acceptable manufacturers shall be limited to Siemens, Square D, Cutler Hammer, or approved equal.

2.02 GENERAL:

Construction and provisions for field anchoring shall be adequate for the project seismic design parameters. Construction shall meet or exceed the seismic requirements of IEEE C37.81 - 1989

The lineup shall provide adequate wire bending space for main and feeder circuit breakers using up to 4/0 copper wire.

All steel parts, except galvanized, are to be factory painted with the manufacturer's standard color. Provide one (1) one pint container of touch-up paint for the entire lot of panelboards supplied under this section.

UL Labeled and Listed for the intended application.

2.03 TYPE 1 ENCLOSURES:

Boxes shall be galvanized steel constructed in accordance with UL 50 requirements.

Boxes shall have removable blank end walls and interior mounting studs. Interior support bracket shall be provided for ease of interior installation.

Type 1 Trim Fronts shall meet strength and rigidity requirements per UL 50 standards.

Trim front shall be 4-piece with door in surface mount. Trim front door shall have rounded corners and edges free of burrs. A clear plastic directory cardholder shall be mounted on the inside of the door.

Locks shall be cylindrical tumbler type with larger enclosures requiring sliding vault locks with 3-point latching. All lock assemblies shall be keyed alike. One (1) key shall be provided with each lock.

Each panelboard is to be labeled with a plastic nameplate as detailed in other specification sections. Label shall indicate panel ID as shown on the single line drawing, voltage, and source.

2.04 INTERIOR:

Shall be rated 600 Vac or 250 Vdc maximum. Current rating to be as noted on the single line. Panelboard bus current ratings shall be determined by heat-rise tests conducted in accordance with UL 67 along its entire length.

Bussing shall be braced to withstand 65,000 RMS symmetrical amperes. Bus bars shall be supported and insulated glass reinforced polyester insulators laminated between phases. The molded polyester insulators shall support and provide phase isolation to the entire length of bus.

Panelboards shall be suitable for use as Service Equipment when application requirements comply with UL 67 and NEC Articles 230-F and -G. Provisions and equipment to bond the neutral in the field shall be supplied loose.

The bussing shall be arranged with sequentially phased branch distribution. Panelboard bussing shall be plated copper.

Interior trim shall be of dead-front construction to shield user from all energized parts. Main lug interiors shall be field convertible for top or bottom incoming feed.

A solidly bonded copper equipment ground bar shall be provided. Where indicated on the plans, provide an additional copper isolated/insulated ground bar.

Provide a fully rated plated copper neutral bus. A gutter-mounted neutral will not be acceptable.

Nameplates shall contain system information and catalog number or factory order number. Interior wiring diagram, neutral wiring diagram, UL Listed label, and Short Circuit Current Rating shall be displayed on the interior. Leveling provisions shall be provided for flush mounted applications.

2.05 LOW VOLTAGE CIRCUIT BREAKERS:

Low voltage power circuit breakers shall be suitable for the required instantaneous rating without the use of current limiting fuses.

Circuit breakers equipped with line terminal jaws shall not require additional external mounting hardware. Circuit breakers shall be held in mounted position by a self-contained bracket secured to the mounting pan by fasteners. Circuit breakers of different frame sizes shall be capable of being mounted across from each other.

Line-side circuit breaker connections are to be jaw type.

Circuit breakers identified as "SPARE" and/ or "FUTURE" shall be provided as indicated on the plans.

Circuit breakers identified as "SPACE" shall be fully equipped for future devices of the size indicated, including all appropriate connectors and mounting hardware.

Equip each panelboard with the breakers indicated on the plans. Circuit breakers shall be molded case with integral thermal and instantaneous magnetic trip in each pole.

Circuit breakers shall be rated as indicated on the plans.

PART 3 – EXECUTION

Review purchase order for major equipment. Identify those items which are to be supplied and/ or field assembled prior to start of construction.

Review all plans.

Coordinate delivery, unloading, storage, and installation of all equipment.

Verify that the order is complete and free of shipping damage.

Sequence the site delivery and off loading with the construction schedule. Shim as required to achieve a straight level installation.

Protect the equipment from construction dirt and dust during construction. CONTRACTOR shall protect the equipment from moisture and condensation.

3.01 QUALITY CONTROL:

Verify that the installation is complete and that all safety interlocks and controls function as intended.

Commissioning and initial testing shall be under the supervision of a factory trained/ authorized technician.

The installation shall be warranted for one full year parts and labor from the date of final acceptance.

Provide operating/ maintenance manuals to the OWNER. The manuals shall provide complete operating instructions, recommended preventative maintenance procedures,

required maintenance, and repair part listings. The number of copies shall be as required by the project specifications.

Provide on site training of designated OWNER staff. Training shall cover safe operation and maintenance of the installed systems.

Perform commissioning responsibility of electrical contractor as detailed elsewhere in the specification.

3.02 COMMISSIONING RESPONSIBILITIES – ELECTRICAL CONTRACTOR:

Electrical commissioning requirements, as it pertains to this section, shall be included in the quoted prices.

END OF SECTION

SECTION 26 28 16

SAFETY AND DISCONNECT SWITCHES

RELATED DOCUMENTS:

Drawings

General provisions of the CONTRACT

General and Supplementary Conditions of the CONTRACT

Division 1 Specification Sections

IEEE C37.81 – 1989: Seismic Considerations

NFPA 70 - 2002: National Electric Code

The requirements of Section 26 00 00 govern the work specified in this section.

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK:

This Section includes disconnects and safety switches as shown.

1.02 SUBMITTALS:

Product Data: Submit manufacturer's technical data for items specified showing compliance with specifications.

PART 2 – PRODUCTS

2.01 MANUFACTURER:

Manufacturers offering standard products subject to compliance with project specifications.

Acceptable manufacturers shall be limited to Siemens, Square D, Cutler Hammer, or approved equal.

2.02 MATERIALS:

Safety and Disconnect Switches: Heavy duty, quick-make, quick-break, with rejection fuse holders, motor rated.

Terminal Lugs shall be rated 75 Deg C.

Product and Manufacturer: Square D Type H, or equal.

Description:

Where neutral wires are used in the feeder, provide with a solid neutral bus.

Provide with a ground bus.

Provide fused and non-fused type disconnect switches as indicated on the drawings.

Where fused disconnect switches are shown, provide dual-element fuses unless otherwise noted. For equipment provided by other trades, provide fuse sizes and types as recommended by manufacturer of equipment.

For non-motor circuits 600 amperes or less, provide Class RK1 fuses

For motor circuits 600 amperes of less provide Class RK5 fuses.

Enclosures:

Indoors: NEMA 1 enclosures unless otherwise indicated.

Outdoors: NEMA 3R raintight.

Wet Areas: NEMA 4x watertight.

Finish: Standard baked gray enamel finish over rust inhibiting phosphate primer.

Accessories: Provide integral fuse pullers for fusible switches.

Mounting Hardware: Provide rigid steel (galvanized for exterior use) mounting stands, brackets, plates, hardware and accessories for a complete installation.

Ratings: Disconnects and fuses shall be UL Listed and labeled for use on systems with 200,000 RMS symmetrical amperes available short circuit.

Motor Rating: Where installed in motor circuits disconnect switches shall be horsepower rated.

2.03 IDENTIFICATION:

All safety and disconnect switches shall have an engraved nameplate indicating the equipment it services and the panel transformer and/or circuit which feeds it.

PART 3 – EXECUTION

3.01 INSTALLATION:

Ensure that locations and clearances for disconnect switches meet all applicable sections of the NEC.

Disconnect switches shall be securely mounted.

Comply with manufacturer's instructions and recommendations.

3.02 SPARES:

Provide six spare fuses of each type and rating used.

END OF SECTION

SECTION 33 32 13.13

SUBMERSIBLE PUMP STATIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers the duplex submersible pump station to be furnished and installed at the site indicated on the Drawings. The station shall be complete with all equipment specified herein, installed in precast concrete wetwell with an adjacent valve vault.

The existing pump station shall be totally or partially demolished and abandoned in place as determined by Engineer and/or depicted on design drawings.

1.02 SYSTEM DESCRIPTION:

- A. The system shall consist of two submersible pumps, electrical controls, level controls, pump installation and removal system, duplex access hatch and frame, separate concrete valve vault, pipe, fittings, valves, and all associated equipment and accessories required to make a complete system.
- B. Control of pump shall be automatic using a switch actuated by change in wet well level. All equipment in each pump station shall operate automatically with provision for manual override.
- C. Equipment and accessories not specifically described herein shall be the manufacturer's standard catalog products unless otherwise approved by the Engineer.

1.03 QUALITY ASSURANCE:

- A. All equipment shall conform to the following criteria:
 - 1. Equipment shall be the manufacturer's standard products presently in commercial production.
 - 2. Conform to Hydraulic Institute Standards.
 - 3. Conform to requirements for materials, installation and equipment approvals of state, local, Underwriter's Laboratories, Inc., or other applicable codes, whether or not called for on the drawings or in the specifications.
 - 4. Workmanship shall be first class in all respects.

5. Base the use of unspecified materials on their continuous and successful employment under similar conditions, as called for in this section.

B. Manufacturer's Qualifications

1. The manufacturer shall provide the supervisory service of a factory trained engineer, who is specifically trained on type of equipment supplied, for a period of not less than two 8-hour days to provide initial startup of each pump station and to instruct the Owner's operating personnel in the operation and maintenance of the equipment provided.

C. Factory Tests

1. The pumps, motors, and controls shall be given an operational test in accordance with the standards of the Hydraulic Institute. Recordings of the test shall substantiate the correct performance of the equipment at the design head, capacity, speed and horsepower as herein specified.

- D. Field acceptance tests shall be performed as specified in Part 3 Execution.

1.04 REFERENCES:

- A. The following standards form a part of this specification:

American National Standard Institute (ANSI)

ANSI	A21.10	Standard for Gray-Iron and Ductile Iron Fittings Fitting, 3-in. through 38-in. for Water and Other Liquids.
ANSI	A21.11	Standard for Rubber-Gasket Joints for Ductile Cast-Iron and Gray-Iron Pressure Pipe and Fittings.
ANSI	A21.15	Standard for Flanged Cast-Iron and Ductile-Iron Pipe with Threaded Flanges.
ANSI	A21.51	Ductile-Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.

ASTM International (ASTM)

ASTM	A48	Specifications for Gray-Iron Castings.
ASTM	A53	Specifications for Pipe, Steel, Black and Hot-dipped, Zinc Coated, Welded and Seamless.

ASTM D429 Rubber Property - Adhesion to Rigid Substrates

ASTM D1785 Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.

National Electric Code (NEC)

NEC Code National Electrical Code.

National Electrical Manufacturers Association (NEMA)

NEMA Standard as Specified.

American Water Works Association (AWWA)

AWWA C509 Standard for Resilient-Seated Gate Valves, 3 through 12 NPS, for Water and Sewer Systems

1.05 SUBMITTALS:

A. Shop Drawings and Product Data

1. Shop drawings including manufacturer's data sheets, showing illustrated cuts of the item(s) with scale details, sizes, dimensions, capacities, performance characteristics, wiring diagrams, controls, and other pertinent information shall be submitted to the Engineer for review. If more than one size or type is shown, the proposed items shall be clearly indicated.
2. Provide descriptive literature, bulletins, and/or catalog cuts for each item of equipment.
3. Provide data on the characteristics and performance of all pumps and motors. Pump data shall include guaranteed performance curves, based on actual shop tests of similar units, which show that they meet the specified requirements for head, capacity, efficiency, allowable NPSH, and horsepower. Curves shall be submitted on 8-1/2-inch by 11-inch sheets.
4. Provide a complete total bill of materials for all equipment.

B. Design Data

1. Provide complete shop drawings of the pump station wetwell for review.

2. Provide structural design calculations for the pump station wetwell, for record purposes only including a buoyancy analysis which demonstrates that the pumping station structure (with internal piping and equipment) is stable against buoyant forces produced by groundwater. The structural calculations shall be prepared and stamped by the Registered Professional Engineer in the state of North Carolina.
 3. Provide concrete design mix data and concrete test cylinders reports from an approved concrete testing laboratory certifying that the concrete used in the structure conforms with the strength requirements specified in the NCDOT Standard Specifications for Roads and Structures and its Supplemental Conditions.
 4. Provide complete wiring diagrams and schematics of all controllers, control panels, control devices, and operators stations furnished under this Section.
 5. Provide complete wiring diagrams and schematics of all power and control systems including connections to work of other Sections.
- C. Submit details on all items required in other specification Sections which are to be supplied and installed.
- D. In the event that it is impossible to conform with certain details of the specifications due to different manufacturing techniques, describe completely all nonconforming aspects.
- 1.06 DELIVERY, STORAGE, AND HANDLING:
- A. Ship equipment and material complete except where partial disassembly is required by transportation regulations or for protection of components.
 - B. Receive, store, and safeguard all equipment and materials at the job site.
- 1.07 WARRANTY:
- A. The Contractor shall be responsible for obtaining the manufacturer's warranty, providing that the pump station shall be of quality construction, free from defects in material and workmanship. This warranty shall include specific details described below.
 - B. Overall Pump Station
 1. The equipment, apparatus, and parts furnished shall be warranted for a period of twelve (12) months, excepting only those items that are normally consumed in service, such as oil, grease, packing, gaskets, O-rings, etc. The pump station manufacturer shall be solely responsible for the warranty of the station and all components.

2. Components failing to perform as specified by the Engineer, or as represented by the manufacturer, or proven defective in service during the warranty period, shall be replaced, repaired, or satisfactorily modified by the manufacturer without cost of parts or labor to the Owner. The warranty period shall start on the date of Substantial Completion of the project.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PUMP MANUFACTURERS:

- A. Fairbanks Nijhuis, a Pentair Company

2.02 PUMPS:

- A. Pumps shall be submersible type, single stage, solids handling centrifugal pumps, as indicated on the Drawings and specified herein. Each pump shall be capable of pumping continuously at the conditions indicated.
- B. Pump Casing shall be made of high tensile close-grained cast iron.
- C. Each pump shall be arranged to automatically clamp the pump discharge to the discharge connection when lowered along guides.
- D. Discharge connection shall be cast iron, rigidly bolted to floor with stainless steel cinch anchors; machined to receive yoke and face of the pump discharge; discharge connection also shall hold the lower ends of the guides.
- E. Shaft seals shall consist of two mechanical seals mounted in tandem, with an oil chamber between the seals. The rotating faces of the seals shall be carbon and the stationary faces shall be ceramic.
- F. Provide moisture sensing probes in oil filled seal chamber.
- G. Submersible motor windings shall be open type with Class F insulation.
- H. The motor shall be protected from excessive temperature by a built-in automatic overload protection. The heat sensor thermostats embedded in the motor windings shall open when the temperature in motor rises to over 220°F and automatically reset when the temperature drops to safe limit. The overload shall be connected in series with the starter coil so that the starter is tripped if the overload opens. The motor starter shall be equipped with overload heaters so all normal overloads are protected by external heater block.

- I. Motors shall be of sufficient horsepower for operation anywhere on the pump head-capacity curve without overloading, with a 1.15 service factor based on the nameplate rating.
- J. Motor ball bearings shall be designed for minimum B-10 life of 30,000 hours.
- K. Power and Control Cables: Each pump shall be furnished with sufficient flexible power and control cable to reach from the pump to the electrical enclosure indicated. Cable leads shall be epoxy sealed at motor connection.
- L. Design each pump shaft with ample provision to compensate for pump thrust and for overhung load on impeller. Shafts to be stainless steel.
- M. Solids handling pump impellers shall be cast iron, enclosed, symmetrical, balanced type with vanes or blades, having a wide suction that will easily pass a minimum of a 3-in. sphere. Make impeller vanes free from sharp edges and make waterways with smooth contours and well-rounded entrances. Impeller shall be driven by stainless steel shaft key and held in place by a streamlined stainless steel locknut, or by an equally efficient method permitting easy removal of impeller.
- N. Replaceable wear rings on impeller and casing shall be provided for submersible pumps.
- O. Provide stainless steel cable to raise or lower pump. The chain shall be sized according to the pump weight.

2.03 PUMPS AND MOTORS SCHEDULE:

	<u>Speedway Pump Station</u>
Number of pumps	2
Design capacity, GPM	350
Design TDH, Feet	127'
Design efficiency %Min.	53%
Max speed, RPM	1770
Max. Horsepower	40
Operate Satisfactorily To TDH of:	152'
Type of pump	Submersible, Solids Handling
Motor volts/phase	

2.04 MATERIALS:

- A. Iron Castings, Shapes and Bars: ASTM A48 of suitable class for intended purpose.
- B. Other Materials: Applicable ASTM specifications unless otherwise specified.

2.05 LIFT-OUT SYSTEM:

- A. Lift-out system shall be self-sealing with a simple up and down motion required to remove and reinstall pump in the basin.
- B. All components of the lift-out system shall be made of corrosion-resistant materials.
- C. Lift-out system shall be adjustable so that perfect vertical alignment can be obtained.
- E. All stationary components of the lift-out system shall be securely attached to the wetwell structure.

2.06 WETWELL AND VALVE VAULT:

- A. Furnish and install the precast wetwell and valve vault as shown on the drawings and specified herein.
- B. The rectangular access hatches shall be designed to withstand HS-20 loading.

2.07 STEEL ACCESS HATCH:

- A. Steel access hatch shall be sized so that the pumping units may be removed and replaced, the exact dimensions to suit the units furnished.
- B. Steel access hatch shall be equal to the following specifications.

Door leaf shall be 1/4-inch stainless steel diamond pattern plate designed to withstand an HS-20 live load. The channel frame shall be 1/4-inch steel with an anchor flange around the perimeter. Door(s) shall be equipped with stainless steel hinges, spring operator for easy operation, and an automatic hold-open arm with release handle. A locking device with padlock and lid shall be provided. Hardware shall be stainless steel. Installation shall be in accordance with the manufacturer's instructions. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.

2.08 CONTROLS:

- A. Six float switches shall be suspended from a detachable bracket fastened inside the wetwell to the access frame. They shall be suspended at the proper depths to control the following levels:
 - 1. High High water level (alarm and both pumps "ON")
 - 2. High water level (alarm and both pumps "ON")
 - 3. Start Lag Pump level

4. Start Lead Pump level
 5. Stop Pumps level
 6. Low water level (alarm and both pumps "OFF")
- B. Duplex Pump Control Panel in a NEMA 1 enclosure shall be provided for remote mounting in the Service Cabinet. The Duplex Pump Controller shall include:
- Hand-off-auto selector switch (each pump)
 - Red run indicating light (each pump)
 - Lead pump indicating light
 - ALTERNATE-HOLD selector switch
 - Amber alarm indicating lights
 - Alarm reset push button
 - Alarm silence push button
 - Alarm Test-off-automatic selector switch
 - Non-reset elapsed time meter (each pump)
 - Molded case circuit breaker for control power circuit
 - Motor circuit protector (each pump)
 - Magnetic motor starter (each pump), reduced voltage, autotransformer, closed-transition type, 65% tap
 - All necessary control relays and circuitry
 - 0-10 second adjustable time delay to prevent simultaneous pump starting
- The pump controller shall be of solid state design and the control voltage to the wetwell shall be the intrinsically safe type to prevent the possibility of arcing in the wetwell. A hinged lockable door shall protect the controls from unauthorized access.
- C. An automatic alternator shall be provided to reverse the sequence of operation on completion of each pumping cycle. The automatic alternator shall be designed so that failure of the alternator will allow at least one pump to continue operating and allow the follow pump to operate should the lead pump fail to start.
- D. Alarm indicating lights and contacts shall be provided for the following alarm conditions:
1. Motor Overload (each pump)
 2. Seal Leak (each pump)
 3. Wet Well High Water Level
 4. Wet Well Low Water Level
 5. Control Power Failure (with 0-30 second time delay)

Alarms shall lock-in and remain energized until both cleared and manually reset.

- E. A NEMA 4X and 7 Cast Aluminum Junction Box shall be provided for mounting in the wetwell. All cord connectors to float switches and motors shall be watertight, strain relief type. Conduit feed connector to the junction box shall include explosion proof seal "y." Float switch wiring shall be in a separate conduit.
- F. All switches and indicating lights shall be labeled. A wiring diagram shall be provided with all wires color coded and numbered.

2.09 PIPING AND VALVES:

- A. The pump station manufacturer shall supply all pipe, fittings and valves within and between the wetwell and valve pit to a point one foot outside the valve pit wall.
- B. Pipe and Fittings
 - 1. Ductile iron pipe inside the station structures shall be flanged end Class 125.
 - 2. PVC pipe and fittings shall be flanged schedule 80, meeting the applicable requirements of ASTM D1785.
- C. Check Valves
 - 1. Check valves 3 inches and larger shall be flanged joint end conforming to the 125 pound AN standard, iron body, bronze-mounted, horizontal swing-type check valves. Valve rating shall be 175 psi water working pressure and 350 psi hydrostatic test pressure. The valves shall have an extended hinge shaft and an outside weighted lever. The top of the valve shall have a bolted cover plate for access to interior parts. The valve disks shall be cast iron with bronze seating face. The valves shall have hardened, stainless steel hinge shaft and bushings provided with force feed lubrication between pins and bushings.
- D. Resilient Seat Gate Valves
 - 1. Resilient seat, wedge type gate valves shall be manufactured to meet all applicable requirements of AWWA C509. Valves 12-inches and smaller shall be bubble-tight at 200 psi water working pressure, tested in both directions.
 - 2. Valve bodies shall be of cast iron and shall have non-rising threaded bronze stems acting through a bronze stem nut. Opening nuts shall be 2-inches square and shall open as specified above. All valves inside the station shall have flanged joint ends.
 - 3. The wedge shall be of cast iron with resilient seating surfaces permanently bonded to the wedge in strict accordance with ASTM D429 or attached to the face of the wedge with stainless steel screws. Each valve shall have a smooth, unobstructed water way free from any sediment pockets.

4. The valve shall have low friction, torque-reduction thrust bearings. O-rings and gaskets shall be removable without taking the valve out of service.
5. The exterior and interior surfaces shall have a non-toxic epoxy coating.
6. Resilient seat gate valves shall be manufactured by Clow Corporation, Bensenville, IL; Mueller Co., Decatur, IL; Dresser Industries, Inc., Bradford, PA, or be an approved equal.

F. Eccentric Plug Valves

1. Non-lubricated eccentric plug valves shall have a cast-iron body in accordance with ASTM A126, Class B. The plug shall be of one-piece construction ductile iron in accordance with ASTM A536 65-45-12 or cast iron ASTM A126, Class B.
2. Plug facing shall be grease and/or petroleum resistant neoprene or Buna-N compound.
3. Shaft bearing bushings shall be permanently lubricated TFE or Delrin sleeve type stainless steel or bronze.
4. Valve seats are to be welded-in overlay of 90% nickel, with a minimum Brinell hardness of 200, (minimum 1/8 inches thick). Stem seal shall be nitrile butadiene packing or Buna-N dual U-cups per AWWA C504, Section 3.7.
5. Furnish actuator integral with valve. Include positive identification on actuator indicating valve position. Adjustable stop to set closing torque.
6. Plug valve port area shall be 100% of the equivalent full pipe area.
7. Plug valves less than 12-inches diameter shall be rated for 175 psi working pressure.

F. Discharge Pressure Gauges

1. A discharge pressure gauge shall be installed in each valve as shown on the drawings.
2. Each gauge shall be removable and shall have a shutoff cock with filter located between the gauge and the discharge pipe.
3. The gauge shall have a 2½-inch dial with an ABS/Acrylic case and window respectively. The gauge shall have a glycerin filled case and lower connection. The gauge shall have a range in pounds per square inch from 0 to 30 in both valve vaults.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Installation of the pump station and related appurtenances shall be performed in accordance with all written instructions furnished by the manufacturer.
- B. After installation, Contractor shall clean all surfaces damaged in shipment or installation and shall touch up in the field with the same materials as original coatings.

3.02 INTERFERENCE WITH EXISTING WORKS:

- A. The Contractor shall at all times conduct its operations so as to interfere as little as possible with existing works.

3.03 HYDRAULIC UPLIFT OF STRUCTURES:

- A. The Contractor shall be responsible for the protection of all structures against hydraulic uplift until such structures have been accepted by the Owner.

3.04 FIELD ACCEPTANCE TESTS:

- A. After installation of the equipment and after completion of the services of the manufacturer's representative, the Contractor shall operate each unit to demonstrate its ability to pump without excessive vibration, motor overloading, or overheating. Each pump shall be operated for a sufficient period of time to permit thorough observation of all pump components.
- B. Start-up and testing shall be conducted in accordance with Section 01 75 00, STARTUP AND TESTING.
- C. Notify the Engineer in writing at least three days in advance of the tests. If testing cannot be conducted because of scheduling, unavailable service personnel, etc., the Engineer's fees for a second visit shall be paid by the Contractor.
- D. All defects or defective equipment shall be corrected or replaced promptly at the Contractor's expense.
- E. All final adjustments necessary to place the equipment in satisfactory working order shall be made prior to the tests.
- F. If sufficient sewage is not available for the test, the Contractor shall provide water for testing. All labor and materials necessary for the test shall be furnished by the Contractor.

- G. After installation, all piping shall be tested for tightness in an approved manner. Should leaks be found, faulty joints shall be repaired, even to the extent of disassembling and remaking the joint, and all defective pipe and fittings shall be removed and replaced in a manner satisfactory to the Engineer.

END OF SECTION

**OPERATION AND MAINTENANCE MANUAL
REVIEW CHECKLIST**

- 1. Name, address, telephone/fax number of the manufacturer
- 2. Name, address, contact name, telephone/fax of local representative
- 3. Name, address, telephone/fax number of the contractor
- 4. Exploded view/general arrangement of materials of construction
- 5. Description of operation/operating principal
- 6. Project specific Operating parameters
- 7. Wiring Diagrams (If Applicable)
- 8. Troubleshooting checklist
- 9. Recommended spare parts list with prices, and ordering instructions
- 10. Model number and the serial number of the model provided
- 11. Performance curves or tabulated data
- 12. Routine Maintenance instructions/service instructions with recommended Intervals
- 13. Assembly and disassembly instructions
- 14. Recommended lubricates and lubrication schedule.
- 15. Approved copies of Shop Drawings are to be included in the manual
- 16. Startup/break-in and adjustment instructions
- 17. Warranty information

Reviewed By: _____ Date: _____
 Engineer

END OF SECTION

SECTION 40 90 00

DUPLEX PUMP CONTROL

RELATED DOCUMENTS:

Drawings

General provisions of the CONTRACT

General and Supplementary Conditions of the CONTRACT

Division 1 Specification Sections

IEEE C37.81 – 1989: Seismic Considerations

NFPA 70 - 2023: National Electric Code

The requirements of Section 26 00 00 govern the work specified in this section.

PART 1 – GENERAL

1.01 SCOPE AND PANEL OPERATION:

Provide a a duplex pump control system to maintain the indicated sewage level in the wet well as shown on the plans. The control panel shall provide power and logic control to operate two 40 horsepower pumps with 460V, 3Ø, 60HZ service.

The control logic shall provide for the automatic operation and alternation of the pumps based on a (4) float system – off, lead on, lag on, high level.

The float switch liquid level control system shall control the operation of the pumps according to level variations. The system shall actuate pump motors on an alternating “lead-lag” basis with independently adjustable lead pump and lag pump start levels. One pump motor shall be actuated when wet well liquid rises to a pre-set “lead pump on” level, shall be shut down when wet well liquid has been pumped down to the pre-set “off” level.

After the lead pump motor has been actuated and the liquid continues to rise and reaches the pre-set “lag pump on” level, the second pump motor shall be actuated and both pump motors shall continue to operate until the wet well level falls to the pre-set “off” level. A “high level” float switch shall energize a local visual and audible alarm if the wet well level reaches the pre-set maximum.

The system shall be completely automatic not requiring any operating personnel. The panel shall be a complete factory assembly as further described in this specification section. The panel(s) are to be mounted in the canopy enclosure as indicated on the plans. All electrical

components shall be a minimum of 30 inches above the indicated flood plain. The canopy shall be modified as required to accommodate the supplied control panel.

All internal wiring shall be neat and color coded. Each wire shall be a different color or stripe (except for ground). Terminal strips shall be provided for all incoming field wiring terminations, and any requested dry contacts for remote monitoring purposes. All components mounted on the inner door shall be identified with labels. The control panel assembly shall be completely factory tested and shall be "UL" 508A or 698A listed and labeled.

The control panel described in these specifications shall be manufactured by Custom Control Technologies –Shelby, Ohio – and shall be provided by Clearwater, Inc or approved equal.
1105 8th Street Court SE
Hickory, North Carolina 28602
Phone: (828) 855-3162

1.02 SUBMITTALS:

Product Data: Submit manufacturer's technical data for items specified showing compliance with specifications.

PART 2 – PRODUCTS

2.01 MANUFACTURERS:

The control panel described in these specifications shall be manufactured by Custom Control Technologies –Shelby, Ohio – and shall be provided by Clearwater, Inc., or approved equal. The control panel assembly shall be completely factory tested and shall be "UL" 508A or 698A listed and labeled.

2.02 ENCLOSURE:

A Nema 4Xstainless steel enclosure shall be supplied. The enclosure shall have exterior mounting tabs, back panel mounting studs, padlocking provisions, door latches, with a stainless-steel pin. Enclosure shall be Hoffman – or approved equal.

The panel shall have a hinged aluminum inner door with a latch to protect all live internal wiring from operator personnel. The inner door shall be able to be opened to a minimum of 150 degrees to allow safe access to the components. Cutouts for breaker handles shall be provided to allow the operation of all circuit breakers through the inner door. All control switches and pilot lights shall be mounted on the inner door.

All components shall be securely mounted to the backplate with machine screws through machine thread tapped holes in the backplate. The screws shall be of adequate size for the device being secured. Self-tapping screws shall not be allowed.

2.03 POWER DISTRIBUTION:

460 volt pump power and for the primary of the control transformer shall be from Panel MDP as shown on the power riser and panel schedules. Provisions for field wiring shall be incorporated in the design. The panel power distribution shall include all components as indicated below and be completely wired with stranded conductors having a minimum of 90 degree insulations rating and an ampacity rating a minimum of 125% of the motor ampere rating. All power wiring shall be neatly routed and accessible. All conductor terminations shall be as recommended by the device manufacturer and be secure to provide adequate electrical conductivity. The power distribution block shall be Square D 9080LBA series – or approved equal. Phases shall be monitored and alarmed per NEC 250.21(B).

2.04 CIRCUIT BREAKERS:

Circuit breakers shall be provided for each motor and for the primary of the control transformer. Circuit breakers shall be of the thermal-magnetic type rated 22,000 AIC @ 480 volts. Breakers will be operable through cutouts in the inner door. Circuit breakers shall be Square G series BGL/HGL for 460V – or approved equal.

2.05 LIGHTNING/SURGE ARRESTOR:

The panel shall contain a surge arrester and a surge capacitor, to prevent voltage spikes from damaging the control panel's equipment. The arrester shall be rated for 650 VAC phase-to-ground maximum. The arrester shall be Square D- SDSA 1175 or SDSA 3650 series -or approved equal. The Surge capacitor shall be rated for 600 VAC phase-to-ground maximum. The surge capacitor shall be Delta CA603R – or approved equal.

2.06 SOFT STARTERS:

A motor soft starter shall be provided for each pump and shall provide a soft start and soft stop feature. The soft starters shall have an embedded shorting contactor, 3 logic inputs, and 2 programmable Form C relay outputs. Soft starters shall have a keypad with 4 tactile feedback buttons and shall have 4 LED status indicators on the front face. Soft starters shall be Square D ATS22 series - or approved equal.

2.07 ISOLATION CONTRACTORS:

Isolation contactors shall be IEC rated, minimum 18 amp. A normally open holding contact shall be provided. The starters shall be 3-pole polyphase type units as manufactured by Square D – LC1D series -or approved equal. and Disconnect Switches: Heavy duty, quick-make, quick-break, with rejection fuse holders, motor rated.

2.08 CONTROL CIRCUIT TRANSFORMER:

The control transformer shall be copper wound, vacuum impregnated with solid polyester and be manufactured in compliance with ANSI, CSA, and UL standards. The transformer shall be sized to the required load.

The primary of the transformer shall be fused in accordance with UL 508 requirements. In addition, separate control and alarm circuit fuses will be supplied. Transformer shall be manufactured by Square D – Class 9070 – or approved equal.

2.09 ALTERNATOR:

Alternator shall be solid-state octal plug-in type with output contacts rate 10 amp @ 120 vac. The alternator shall provide automatic sequencing of the two loads and have LED indicators showing the next pump in the sequence. The alternator shall include a lead selector switch. Alternator shall be manufactured by Macromatic – ARP120A6R – or approved equal.

2.10 SELECTOR SWITCHES (22 mm oiltight)

“Hand-Off-Auto” selector switches shall be provided for each motor and mounted on the inner-door. In the “hand” position only the float switches will be bypassed. An alarm on-off-test switch shall also be provided, also inner door mounted.

2.11 PILOT LIGHTS (22mm Oiltight):

All pilots shall be mounted on the inner-door and be supplied as follows:

Pump run (2) - Green

Seal Fail (2) - Red

Heat sensor (2)- Red

2.12 SEAL FAIL ALARM:

Each pump shall be provided with a seal failure alarm relay and an oil tight amber pilot light to indicate the condition. The relay shall have a secondary circuit wired to terminals, for each pump, to be connected to the moisture sensing probe in each pump seal chamber. If probe senses moisture, the seal failed relay shall turn on the Seal Failed alarm pilot light to indicate same. The pump shall not be taken out of service by the seal failed alarm but must be scheduled for maintenance or replacement of the failed seal as soon as possible to reset the alarm. The pump shall remain fully operational with the alarm on.

2.13 MOTOR OVER TEMP ALARM RESET:

Each pump is to be provided with a thermal alarm circuit indicator. Terminal blocks shall be provided for connection the normally closed thermal sensing contact located in each motor winding temperature shall cause the pump motor to shut down. The thermal alarm shall automatically reset and restore pump operation upon the thermal contact resetting when the thermal condition of the windings is back to normal due to the pump shutdown. The alarm shall also reset after a power failure or if control power is interrupted for any reason.

2.14 ELAPSED TIME METERS:

A non- resettable elapsed time meter, reading in hours and tenths, shall be provided for each pump motor and mounted on the inner- door. Meters shall be manufactured by Redington or approved equal.

2.15 ALARM:

Alarm light shall be constructed of shatter-resistant Lexan. The light shall be rated NEMA 4X and be supplied with a heavy-duty one-piece lamp holder and rough service bulb. The light shall be mounted to the side of the canopy as shown on the drawings. PENETRATIONS OF THE CANOPY ARE NOT ALLOWED. The light shall be activated by a high-level condition, and glow bright and flash, via a solid-state flasher. When an alarm is not present, the alarm light shall glow dim to verify bulb's integrity while in a non-alarm situation.

The panel may also be equipped with an (optional) buzzer and acknowledge system. Both visual and audible alarms shall be activated by a high-level condition. An external "silence" pushbutton will silence the audible buzzer, but the light will continue to flash until the condition is cleared.

PART 3 – EXECUTION

3.01 INSTALLATION:

Install Control Panel in the Electrical Service Canopy as shown on the plans. Make all required field connections to the Control Panel as shown on the Equipment Suppliers installation instructions. Comply with manufacturer's instructions and recommendations.

3.02 SPARES:

Provide six spare fuses of each type and rating used.

END OF SECTION

Page 15-11, Sub-article 1520-2 Materials, line 8:

Revise the sentence as follows:

Use 10 gauge solid-copper wire with green insulation for the utility locator wires.

Page 15-11, Sub-article 1520-2 Materials, line 9:

Revise the paragraph as follows:

Use 2 inch plastic marking tape with metalized foil core colored green with “Caution Sewer Line Buried Below” or similar wording, permanently printed at 36 inch centers.

Page 15-12, Sub-article 1520-3 Construction Methods, (A) Gravity Sanitary Sewer, (2) Testing, (a) Infiltration, line 1:

Edit the paragraph to read as follows:

For sewer lines greater than 3 feet below groundwater, measure the amount of water infiltrating into the pipeline between manholes in at least 24 hours. Maximum allowable leakage for the system shall be 100 gallons per inch pipe diameter per linear mile of pipe per 24 hours, including manhole infiltration. No single segment of line (manhole to manhole) shall exceed this requirement. Repair leaks or replace piping when the rate of infiltration exceeds this requirement.

Page 15-12, Sub-article 1520-3 Construction Methods, (A) Gravity Sanitary Sewer, (2) Testing, (c) Air Test, line 21:

Edit the paragraph to read as follows:

Instead of hydrostatic testing, sewer lines 24 inches in diameter or smaller may be air tested in accordance with ASTM C828, ASTM C924 and the following. Securely plug the sewer pipe at the manholes. Test pressure shall be 4 psi increased by 0.43 psi for every foot of ground water above the spring line. Do not increase pressure above 9 psig. Allow pressure to stabilize for at least 5 minutes. Reduce pressure to 3.5 psig or to increased test pressure as determined above when ground water is present. Record drop in pressure during testing period. Air pressure shall not drop more than 1.0 psi during testing period. Testing time in minutes shall be calculated as $0.625 \times$ nominal pipe size (inches).

Page 15-13, Sub-article 1520-3 Construction Methods, (B) Force Main Sanitary Sewer, line 11:

Edit the paragraph to read as follows:

Install PVC and ductile iron pipe in strict conformance with AWWA C600 and the recommendations of AWWA Manual of Practice M23.

Page 15-13, Sub-article 1520-3 Construction Methods, (B) Force Main Sanitary Sewer, (2) Testing, line 20:

Edit the paragraph to read as follows:

Air testing will not be accepted (ONLY hydrostatic testing is allowed). Test all new sewer force mains with clean water at 200 ± 5 psi for a 2 hour duration. Vent all high points and expel all air. Provide certified results demonstrating leakage. Test for leakage concurrent with the pressure test and in strict conformance with AWWA C600, Section 4.2 and AWWA Manual of Practice M23. Remedy all visible leaks and locate and repair leakage in lines which exceed the specified amounts.

The contractor is to contact the Town of North Wilkesboro (TNW) representative with a minimum of two business days notice, to schedule the observation of any test. The contractor will pre-test the lines prior to the TNW representative arrival. The contractor is to cancel the test if the lines will not pass the required test and remedy all visible leaks and locate and repair leakage in lines which exceed the specified amounts. When completed, the contractor will re-schedule the test.

Page 15-14, Sub-article 1525-2 Materials, line 11:

Edit the paragraph to read as follows:

Use precast concrete manholes with monolithic bottoms which conform to ASTM C478, AASHTO M 199 and are as shown in the plans or in Roadway Standard Drawings. Joint surfaces between bases, risers and cones shall be manufactured to the joint surface design and tolerance requirements of ASTM C76. Use ASTM C443 gaskets or AASHTO M 198 flexible sealants for joints between precast manhole sections. Internal seals shall consist of Type S mortar grout. Use resilient connectors for piping conforming to ASTM C923.

Page 15-14, Sub-article 1525-2 Materials, line 16:

Edit the paragraph to read as follows:

Use manhole frames and covers made of cast iron conforming to ASTM A48 Class 35B, which are capable of withstanding a minimum H-20 type loading, have machined contact surfaces and are sized as shown. Standard covers shall have up to four 1" diameter vent holes. All covers shall have lifting bars in lieu of pickholes. Watertight covers are required on all manholes where the rim elevation is less than 2 foot above the 100-year flood. Use covers with "Sanitary Sewer" or "Water" cast in large letters as appropriate for the type of utility. Standard and watertight frames shall have a 24 inch clear opening.

Page 15-14, Sub-article 1525-2 Materials, line 21:

Edit the paragraph to read as follows:

Grout for sealing openings and joints in manholes shall be Type S mortar. No Preco or Hydraulic Cement shall be permitted.

Page 15-14, Sub-article 1525-2 Materials, line 22:

Add the following paragraphs to the end of the section:

Concrete shall conform to ASTM C478, ASTM C913 and as follows:

- a. Compressive strength: 4000 psi minimum at 28 days.

- b. Air Content: 4 percent minimum.
- c. Cementitious Materials: Minimum of 564 pounds per c.y.
- d. Coarse Aggregates: ASTM C33.
- e. Fine Aggregates: ASTM C33. Free from organic impurities.
- f. Chemical Admixtures: ASTM C494. Calcium Chloride or admixtures containing calcium shall not be used.
- g. Air Entraining Admixtures: ASTM C260.

Mortar shall conform to ASTM C270, Type S.

All structures shall be coated prior to testing. The exterior of all structures shall be coated with two coats of a bituminous coating system at a rate of 120 square feet per gallon prior to testing.

The interior of all manholes shall be lined with a factory blended, rapid setting, high-early strength, non-shrink, calcium aluminate mortar to be trowel or pneumatically spray applied to the entire surface. The calcium aluminate product shall meet or exceed the performance specifications of:

- Product Type: Calcium aluminate mortar
- Tensile Strength, psi (ASTM C496): > 600
- Compressive Strength, psi (ASTM C109): > 8,000 at 28 days
- Flexural Strength, psi (ASTM C293): > 900
- Shrinkage @ 90% R.H., % (ASTM C596): 0
- Adhesion to Concrete, psi (ASTM C882): > 2000 psi
- Adhesion to Concrete, psi (ASTM D7234): > 150 psi
- Freeze/Thaw (ASTM C666): 100 Cycles, no visible damage
- Density of wet mix: 129-139 lbs./ft³
- Applied Density: 135 lbs/ft³ (+/- 5 lbs).

The interior of the wet well shall be lined with a polymorphic resin protective wet well liner system, which shall meet or exceed the performance specifications of:

- Manufacture shall warrant material and workmanship for a minimum period of ten (10) years.
- Shall be a modified isphthalic polyester liner system made of two-components, 100% solid, known as polymorphic resin as described below.
- Shall provide a waterproof, corrosion resistant liner to prevent any deterioration of concrete surfaces from hydrogen sulfide and other corrosive gases/acids produced by wastewater.
- Can be used to rehabilitate and protect concrete, steel, fiberglass, or masonry surfaces.
- System shall restore structural integrity of brick/concrete structures.
- Shall use an approved quick setting cementitious material to bring substrate to profile.
- To ensure total unit responsibility, all material and installation shall be furnished by, and coordinated with, one supplier/ manufacturer.

- The resin based material shall be used to form the sprayed on/structure enhanced monolithic liner covering all interior surfaces to be protected and shall include the walls, ceiling, benches, inverts and pipe entries.
- Application of liner system shall be in strict accordance with manufacture's recommendation.
- The three coat system is made of a prime coat (DS-101 10-25 mils thick), intermediate coat (DS301 75-150 mils thick), and a final coat (DS-401 10-25 mils thick). Final installation shall be a minimum thickness of 150 mils and not more than 250 mils thick.

Liner System Minimum Physical/Material Properties

Flexural Strength	ASTM D790	8,630 psi
Comprehensive Strength	ASTM D695	1,050 psi
Tensile Strength	ASTM D638	4,900 psi
Barcol Hardness	Impressor #L25	72-75
Adhesive Strength	Direct to Metal	1,582 psi
Adhesive Strength	Direct to Concrete	Substrate Failure

Vents shall be constructed of 316 stainless steel or better and shall extend a minimum of 2 feet above the 100-year flood elevation with integral non-corrosive insect screen.

Page 15-15, Sub-article 1525-3 Construction Methods, line 4:

Edit the paragraph to read as follows:

Steps are not to be provided in any utility manhole, regardless of depth.

Page 15-15, Sub-article 1525-3 Construction Methods, line 6:

Edit the paragraph to read as follows:

Construct invert channels to confine and direct the flow through sanitary sewer manholes. Use smooth finished invert channels that provide easy transition from inlet to outlet. Finish the benches or shelves to a non-slip texture and slope toward the invert channel. The invert channels shall be formed directly in the concrete of the manhole base with 3,000 psi concrete, 28 day strength. The invert channels shall be 3/4 the depth of the largest pipe.

Page 15-15, Sub-article 1525-3 Construction Methods, line 15:

Add the following paragraphs to the end of the section:

Joints between precast components shall be sealed between the tongue and the groove and additionally around the internal and external perimeter. Tongue and groove seals shall consist of a plastic or paper-backed butyl rubber rope no less than 14 feet long and having a cross-sectional area no less than the annular space times the height of the joint. Internal seals shall consist of Type S mortar grout. External seals shall consist of Type S mortar grout or plastic or paper-backed butyl rubber rope no less than 14 feet long and having a cross-sectional area no less than the annular space times the height of the joint.

Manholes shall have a minimum inside diameter of 4 feet for sewer mains 12 inches diameter and smaller manholes shall be 5 feet inside diameter for sewer mains larger than 12 inches. Larger inside diameters may be required for larger pipe sizes, more than two pipes, or when entrance/exit angle requires.

Manholes shall be constructed of pre-cast concrete rings in accordance with the Drawings. The pre-cast concrete base shall be placed on a 12-inch (minimum) compacted crushed #57 stone bedding foundation which shall extend up around the pipes to at least 3 inches above the top line of the pipes. The stone bedding shall be considered as incidental to the unit price bid for the installed manhole. All pre-cast manhole components shall be lifted and moved by use of suitable lifting slings and plugs that will not damage the pre-cast manhole lip.

Provide a minimum of six inches of separation between edge of manhole core holes and manhole barrel joints. Provide a minimum of six inches separation between edges of core holes. Coring the manhole cone section is not allowed. All manhole main line and service piping shall be installed at a minimum of crown to crown of the largest diameter pipe.

All damage to pre-cast sections shall be thoroughly repaired in the presence of the Engineer. Repair and patching of minor breaks shall be done by chipping and scarifying the defective area before application of grout. Pre-cast sections shall be subject to rejection on account of failure to conform to any of the specification requirements. In addition, individual sections of manhole sections may be rejected because of fractures or cracks passing through the wall, except for a single end crack that does not exceed the depth of the joint; defects that indicate imperfect proportioning, mixing, and molding; surface defects indicating honey-combed or open texture; damaged or cracked end, where such damage would prevent making a satisfactory joint; and/or any continuous crack having a surface which width of 0.01 inches or more and extending for a length of 12 inches or more, regardless of position in the section wall.

All upstream pipes (including services) shall have sloped invert channel slides that provide smooth transitions to the downstream invert channel. Invert channel slides shall be the diameter of the entering pipe and be formed as a channel that is at least 3/4 pipe deep. Upstream pipes that enter at the shelf shall have their invert channel slides smoothly cast into the shelf with a sloping transition to the downstream pipe invert.

The floor of the manhole outside the channels, or slides, shall be smooth and shall slope toward the channels at 1 inch per foot.

Manhole castings shall be installed to grade using 24 inch inside diameter pre-cast concrete grade rings, or brick grouted in place, for a maximum adjustment of 8 inches. Manhole sections shall be used for greater adjustment, unless approved otherwise. Flat top manholes shall not be adjusted by more than one course of brick (4 inches).

Page 15-16, Sub-article 1525-4 Measurement and Payment, line 11:

Add the following after line 11:

The height of the doghouse manhole will be measured and paid to the nearest tenth of a foot from the inside bottom (invert) of the manhole to the final finished top of the manhole ring. "Generic Utility Item, 4' Dia Utility Doghouse Manhole" and "Generic Utility Item, Doghouse Manhole Wall 4' Dia" will be measured and paid by appropriate diameter per each for manholes of 0 to 6 feet height and per linear foot of height over 6 feet. Adjustment or reconstruction of existing manholes will be measured and paid in accordance with Article 858-4. Drop assemblies will be incidental to the work being performed.

All saw cutting, debris removal, required bypassing, and all other ancillary work associated with installing the Doghouse Manhole is considered incidental to the work.

Pay Item:	Pay Unit:
Generic Utility Item, 4' Dia Utility Doghouse Manhole	Each
Generic Utility Item, Doghouse Manhole Wall 4' Dia	Linear Foot

Page 15-17, Sub-article 1530-3 Construction Methods, (A) Abandoning Pipe, line 12:

Add the following paragraphs to the end of the section:

- (3) Other pipes as indicated on plans.

STABILIZATION REQUIREMENTS:

(4-30-2019)(Rev. 1-21-25)

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit issued by the North Carolina Department of Environmental Quality Division of Energy, Mineral and Land Resources. Temporary or permanent ground cover stabilization shall occur within the following time frames from the last land-disturbing activity:

- Stabilize perimeter dikes, swales, ditches, and perimeter slopes within 7 calendar days.
- Stabilize high quality water (HQW) zones within 7 calendar days.
- Stabilize slopes steeper than 3:1 within 7 calendar days.
 - If slopes are 10 feet or less in length and are not steeper than 2:1, 14 calendar days are allowed.
- Stabilize slopes 3:1 to 4:1 within 14 calendar days.
 - 7 calendar days for slopes greater than 50 feet in length and with slopes steeper than 4:1.
 - 7 calendar days for perimeter dikes, swales, ditches, perimeter slopes, and HQW Zones.
- Stabilize areas with slopes flatter than 4:1 within 14 calendar days.
 - 7 calendar days for perimeter dikes, swales, ditches, perimeter slopes, and HQW Zones.

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING:

(West)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

Shoulder and Median Areas

August 1 - June 1

20# Kentucky Bluegrass
 75# Hard Fescue
 25# Rye Grain
 500# Fertilizer
 4000# Limestone

May 1 - September 1

20# Kentucky Bluegrass
 75# Hard Fescue
 10# German or Browntop Millet
 500# Fertilizer
 4000# Limestone

Areas Beyond the Mowing Pattern, Waste and Borrow Areas:

August 1 - June 1

May 1 - September 1

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
2 nd Millennium	Essential	Kitty Hawk 2000	Shelby
3 rd 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	Freedom 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	

On cut and fill slopes 2:1 or steeper add 20# Sericea Lespedeza January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet, or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, and the rate of application may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be six inches.

CONSTRUCTION MATERIALS MANAGEMENT

(3-19-19) (rev. 04-27-20)

Description

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

Polyacrylamides (PAMS) and Flocculants

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

https://files.nc.gov/ncdeq/Water+Quality/Environmental+Sciences/ATU/PAM8_30_18.pdf

Equipment Fluids

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

Waste Materials

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

Herbicide, Pesticide, and Rodenticides

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

Concrete Materials

Concrete materials onsite, including excess concrete, must be controlled and managed to avoid contact with surface waters, wetlands or buffers. No concrete or cement slurry shall be discharged from the site. (Note that discharges from onsite concrete plants require coverage under a separate

NPDES permit – NCG140000.) Concrete wash water shall be managed in accordance with the *Concrete Washout Structure* provision. Concrete slurry shall be managed and disposed of in accordance with *NCDOT DGS and HOS DCAR Distribution of Class A Residuals Statewide* (Permit No. WQ0035749). Any hardened concrete residue will be disposed of, or recycled on site, in accordance with state solid waste regulations.

Earthen Material Stock Piles

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

Measurement and Payment

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

WASTE AND BORROW SOURCES:

(2-16-11) (Rev. 3-17-22)

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

<https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/Contract%20Reclamation%20Procedures.pdf>

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

SAFETY FENCE AND JURISDICTIONAL FLAGGING:

Description

Safety Fence shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

Materials

(A) Safety Fencing

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

(B) Boundary Flagging

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

Construction Methods

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

(A) Safety Fencing

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. Posts shall be installed a minimum of 2 ft. into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final acceptance. The tops of all wood posts shall be cut at a 30-degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence geotextile shall be attached to the wood posts with one 2" galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being

paid for as “Construction Surveying”, except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

(B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6” into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as *Construction Surveying*, except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6” into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(5) or Subarticle 802-2(F) of the *Standard Specifications*. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

Measurement and Payment

Safety Fence will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

Pay Item
Safety Fence

Pay Unit
Linear Foot

CONCRETE WASHOUT:

(10-22-15)(Rev. 4-15-25)

Description

Concrete washouts are impermeable enclosures, above or below grade, to contain concrete wastewater and associated concrete mix from cleaning of ready-mix trucks, drums, pumps, tools or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with washout operations.

Acceptable concrete washouts may include constructed earthen structures, above or below ground, or commercially available devices designed specifically to capture concrete wash water.

Materials

Refer to Division 10 of the *Standard Specifications*.

Item	Section
Temporary Silt Fence	1605

Safety Fence shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall consist of a minimum 10 mil thick polypropylene or polyethylene geomembrane.

Construction Methods

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed by the Engineer near the project entrance(s) or at location(s) of concrete operations. Structures shall be constructed a minimum of 50 feet from drainage conveyances or jurisdictional streams or wetlands. Alternate structure designs or plans for management of concrete washout may be submitted for review and approval by the Engineer. Include in the alternate plan the method used to retain, treat and dispose of the concrete washout wastewater generated within the project limits and in accordance with the minimum setback requirements.

Install temporary silt fence around the perimeter of the structure enclosure in accordance with the details and as directed by the Engineer if the structure is not located in an area where existing erosion and sedimentation control devices are capable of containing stormwater runoff.

Post a sign with the words "Concrete Washout" in close proximity of the concrete washout area, so it is clearly visible to site personnel. Install safety fence as directed by the Engineer for visibility to construction traffic.

Install prefabricated concrete washouts, designed specifically to capture concrete wash water, at locations of additional concrete pouring operations. Acceptable systems may include geotextile lined containers, vinyl or plastic containers or roll-off containers, with or without filter bags with a minimum functional holding capacity of 36 cubic feet (1.33 cubic yards). Submit prefabricated concrete washout system for approval by the Engineer prior to installation. Place prefabricated concrete washout devices to a minimum 50 foot setback from drainage conveyances and jurisdictional streams and wetlands. If the minimum setback cannot be achieved, provide secondary containment to prevent accidental release of wastewater from reaching drainage conveyances or streams.

Prefabricated concrete washouts must be clearly and visibly labeled as such, either by the manufacturer on the product itself, or by a sign with the words "Concrete Washout" in close proximity of the concrete washout area so it is clearly visible to site personnel.

Maintenance and Removal

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity. Inspect concrete washout structures for damage to liner or structure to maintain functionality.

Maintain prefabricated concrete washout systems per manufacturer's recommendations. Inspect concrete washout structures for damage to linings or structure and repair or replace as necessary.

Remove the concrete washout structures and sign upon project completion. Grade the area to match the existing topography and permanently seed and mulch area. Dispose of prefabricated concrete washout structures according to state or local waste regulations.

Measurement and Payment

Concrete Washout Structure will be measured and paid per each enclosure installed in accordance with the details in the plans. If alternate plans or details are approved, those structures will also be paid for per each approved and installed structure. Such price and payment will be full compensation for all work including, but not limited to, furnishing all materials, labor, equipment, signage, slurry solidification and incidentals necessary to construct, maintain and remove *Concrete Washout Structure* and dispose of residual concrete washout wastewater and concrete solids.

Prefabricated Concrete Washout will be measured and paid per each system installed in accordance with the manufacturer's recommendations. Such price and payment will be full compensation for all work including, but not limited to, furnishing all materials, labor, equipment, signage, slurry solidification and incidentals necessary to install, maintain and remove *Prefabricated Concrete Washout*, and dispose of residual concrete washout wastewater and concrete solids.

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

Safety Fence shall be measured and paid for as provided elsewhere in this contract.

No measurement will be made for over excavation or stockpiling or other items necessary to complete this work.

Payment will be made under:

Pay Item

Concrete Washout Structure
Prefabricated Concrete Washout

Pay Unit

Each
Each

County: WILKES

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0043000000-N	226	GRADING	Lump Sum	L.S.	
0004	0248000000-N	SP	GENERIC GRADING ITEM GEOTECHNICAL INVESTIGATION	Lump Sum	L.S.	
0005	1121000000-E	520	AGGREGATE BASE COURSE	175 TON		
0006	1220000000-E	545	INCIDENTAL STONE BASE	100 TON		
0007	2396000000-N	840	FRAME WITH COVER, STD 840.54	2 EA		
0008	3524000000-E	SP	VINYL COATED CHAIN LINK FENCE, *** FABRIC 72"	185 LF		
0009	3539000000-E	866	METAL LINE POSTS FOR *** CHAIN LINK FENCE VINYL COATED, 72"	16 EA		
0010	3545000000-E	866	METAL TERMINAL POSTS FOR *** CHAIN LINK FENCE VINYL COATED, 72"	4 EA		
0011	3554000000-E	866	METAL GATE POSTS FOR *** CHAIN LINK FENCE, DOUBLE GATE VINYL COATED, 72"	2 EA		
0012	3557000000-E	866	ADDITIONAL BARBED WIRE	200 LF		
0013	3565000000-E	866	DOUBLE GATES, *** HIGH, **' WIDE, *** OPENING VINYL COATED, 72", 16', 16'	1 EA		
0014	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	300 SY		
0015	5534000000-E	1515	*** VALVE 1.5"	1 EA		
0016	5546000000-E	1515	8" VALVE	1 EA		

County: WILKES

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0017	5563000000-E	1515	*** PLUG VALVE 6"	2 EA		
0018	5589200000-E	1515	2" AIR RELEASE VALVE	1 EA		
0019	5653000000-E	1515	*** DCV BACKFLOW PREVENTION ASSEMBLY 1.5"	1 EA		
0020	5684400000-E	1515	6" LINE STOP WITH BYPASS	1 EA		
0021	5686500000-E	1515	WATER SERVICE LINE	12 LF		
0022	5689000000-E	1515	GENERIC UTILITY ITEM 6" CHECK VALVE	2 EA		
0023	5691300000-E	1520	8" SANITARY GRAVITY SEWER	35 LF		
0024	5691500000-E	1520	12" SANITARY GRAVITY SEWER	45 LF		
0025	5709400000-E	1520	8" FORCE MAIN SEWER	55 LF		
0026	5775000000-E	1525	4' DIA UTILITY MANHOLE	1 EA		
0027	5781000000-E	1525	UTILITY MANHOLE WALL 4' DIA	14 LF		
0028	5801000000-E	1530	ABANDON 8" UTILITY PIPE	26 LF		
0029	5877000000-N	SP	SANITARY SEWER PUMP STATION	Lump Sum	L.S.	
0030	5882000000-N	SP	GENERIC UTILITY ITEM DOGHOUSE MANHOLE	1 EA		
0031	5882000000-N	SP	GENERIC UTILITY ITEM YARD HYDRANT	1 EA		
0032	5888000000-E	SP	GENERIC UTILITY ITEM DOG HOUSE MANHOLE	10 LF		
0033	6000000000-E	1605	TEMPORARY SILT FENCE	110 LF		

County: WILKES

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	80 TON		
0035	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	7 TON		
0036	6071010000-E	1642	WATTLE	10 LF		
0037	6084000000-E	1660	SEEDING & MULCHING	0.05 ACR		
0038	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	2 EA		
0039	6132000000-N	SP	GENERIC EROSION CONTROL ITEM PREFABRICATED CONCRETE WASHOUT	4 EA		

1154/Feb05/Q1412.05/D175311310000/E39

Total Amount Of Bid For Entire Project :