

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 3

PROPOSAL

DATE AND TIME OF BID OPENING: NOVEMBER 21, 2013 AT 2:00 PM

CONTRACT ID: DC00048

WBS ELEMENT NO.: 15B.13.28

FEDERAL AID NO.: N/A

COUNTY: NEW HANOVER

ROUTE NO.: US 17/ US 76 / US 421

LOCATION: BRIDGE #13 ON US 17/ US 76 / US 421 OVER THE CAPE FEAR RIVER

TYPE OF WORK: INSTALLATION OF A NEW STANDBY GENERATOR AT THE CAPE FEAR MEMORIAL BRIDGE

NOTICE:

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

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS AN ELECTRICAL PROJECT

BID BOND NOT REQUIRED

**RETURN BIDS TO: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
LLOYD G. ROYALL, JR., PLS
NCDOT DIVISION 3 OFFICE
5501 BARBADOS BLVD.
CASTLE HAYNE, NC 28429**

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. DC00048 IN NEW HANOVER COUNTY, NORTH CAROLINA
OCTOBER 31, 2013
DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **DC00048**; 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 Board 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 2012 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **DC00048** in **NEW HANOVER 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 2012* 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.

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.

INSTRUCTION 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 shall cause the bid to be considered irregular and shall be grounds for rejection of the bid.

1. The bid sheet furnished by NCDOT with the proposal shall be used and shall not be altered in any manner. **DO NOT SEPARATE THE BID SHEET FROM THE PROPOSAL!**
2. All entries on the bid sheet, including signatures, shall be written in ink.
3. The Bidder shall submit a unit price for every item on the bid form. The unit prices for the various contract items shall be written in figures.
4. An amount bid shall be entered on the bid sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount Bid" column of the sheet.
5. The total amount bid shall be written in figures in the proper place on the bid sheet. The total amount shall be determined by adding the amounts bid for each item.
6. Changes in any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink.
7. The bid shall be properly executed. All bids shall show the following information:
 - a. Name of individual, firm, corporation, partnership, or joint venture submitting bid.
 - b. Name of individual or representative submitting bid and position or title.
 - c. Name, signature, and position or title of witness.
 - d. Federal Identification Number
 - e. Contractor's License Number if required
8. Bids submitted by corporations shall bear the seal of the corporation.
9. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
10. The bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
11. **THE PROPOSAL WITH THE BID SHEET STILL ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL HAVE BEEN DELIVERED TO AND RECEIVED IN THE DIVISION 3 ENGINEER'S OFFICE AT 5501 BARBADOS BLVD. CASTLE HAYNE, N.C. 28429 BY 2:00 PM ON THURSDAY, NOVEMBER 21, 2013**
12. The sealed bid must display the following statement on the front of the sealed envelope:

Name of Company

QUOTATION FOR WBS ELEMENT: 15B.13.28: INSTALLATION OF A NEW STANDBY GENERATOR AT THE CAPE FEAR MEMORIAL BRIDGE TO BE OPENED AT 2:00 PM ON THURSDAY, NOVEMBER 21, 2013.

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

**North Carolina Department of Transportation
Lloyd G. Royall, Jr., PLS
Division 3 Engineer's Office
5501 Barbados Blvd.
Castle Hayne, NC 28429**

AWARD OF CONTRACT

The award of the contract, if it be awarded, will be made to the lowest responsible Bidder in accordance with Section 102 (*excluding 102-2 and 102-11*) of the Standard Specifications for Roads and Structures 2012. The lowest responsible will be notified that his bid has been accepted and that he has been awarded the contract. NCDOT reserves the right to reject all bids.

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PROJECT SPECIAL PROVISIONS

GENERAL

This contract is for the Installation of a New Standby Generator at the Cape Fear Memorial Bridge. All work and materials shall be in accordance with the provisions of the General Guidelines of this contract, the Project Special Provisions, the North Carolina Department of Transportation Standard Specifications for Roads and Structures 2012, the North Carolina Department of Transportation Roadway Standards Drawings, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

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

PUBLIC ADVERTISEMENT

There will NOT be a Pre-Bid Conference for this project. Plans and Proposal packages must be obtained by visiting: https://connect.ncdot.gov/letting/Pages/Letting-List.aspx?let_type=3 and clicking on the appropriate let date.

CONTRACT TIME AND LIQUIDATED DAMAGES

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

108

SP1 G10 A

The date of availability for this contract is **January 6, 2014**.

The completion date for this contract is **June 27, 2014**.

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 **Five Hundred Dollars (\$500.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER [1] 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 **US 17 / US 76 / US 421** during the following time restrictions:

DAY AND TIME RESTRICTIONS

**MONDAY – SUNDAY
5:00 AM – 9:00 PM**

In addition, the Contractor shall not close or narrow a lane of traffic on **US 17 / US 76 / US 421**, 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 **6:00 a.m.** December 31st and **8:00 p.m.** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **8:00 p.m.** the following Tuesday.
3. For **Easter**, between the hours of **6:00 a.m.** Thursday and **8:00 p.m.** Monday.
4. For the **Azalea Festival**, between the hours of **3:00 pm** the Tuesday before the weekend of the Azalea Festival and **9:00 am** the Monday after the Azalea Festival.
5. For **Memorial Day**, between the hours of **6:00 a.m.** Friday and **11:00 p.m.** Tuesday.
6. For **Independence Day**, between the hours of **6:00 a.m.** the day before Independence Day and **11:00 p.m.** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **6:00 a.m.** the Thursday before Independence Day and **11:00 p.m.** the Tuesday after Independence Day.
7. For **Labor Day**, between the hours of **6:00 a.m.** Friday and **11:00 p.m.** Tuesday.
8. For **Thanksgiving Day**, between the hours of **6:00 a.m.** Tuesday and **8:00 p.m.** Monday.
9. For **Christmas**, between the hours of **6:00 a.m.** the Friday before the week of Christmas Day and **8:00 p.m.** 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 Two Hundred Fifty Dollars (\$ 1,250.00)** per **15** minutes.

BANKRUPTCY

The Department of Transportation, at its option, may terminate the contract upon filing by the Contractor of any petition for protection under the provisions of the Federal Bankruptcy Act.

BIDS

In accordance with GS 136-28.1(b), if the total bid amount of the contract exceeds \$2,500,000, the bid will not be considered for award.

CLAIMS FOR ADDITIONAL COMPENSATION OR EXTENSION OF TIME

Any claims for additional compensation and/or extensions of the completion date shall be submitted to the Division Engineer with detailed justification within thirty (30) days after receipt of the final invoice payment. The failure of the Contractor to submit the claim(s) within thirty days shall be a bar to recovery.

CONTRACT PAYMENT AND PERFORMANCE BOND

A performance bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the faithful performance of the contract in accordance with specifications and conditions of the contract is required. Such bond shall be solely for the protection of the North Carolina Department of Transportation and the State of North Carolina.

A payment bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the prompt payment for all labor or materials for which the Contractor, or his subcontractors, is liable is required. The payment bond shall be solely for the protection of persons or firms furnishing materials or performing labor for this contract for which the Contractor is liable.

The successful bidder, within fourteen (14) days after notice of award, shall provide the Department with a contract payment bond and a contract performance bond each in an amount equal to 100 percent of the amount of the contract.

CONTRACTOR CLAIM SUBMITTAL FORM

(9-16-08)

SP1G140

If the Contractor elects to file a written claim or requests an extension of contract time, it shall be submitted on the *Contractor Claim Submittal Form (CCSF)* available through the Construction Unit or: http://ncdot.org/doh/operations/dp_chief_eng/constructionunit/formsmanuals/.

CONTRACTOR'S LICENSE REQUIREMENTS

(7-1-95)

102-14

SP1 G88

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

DEFAULT OF CONTRACT

The Department of Transportation shall have the right to declare a default of contract for breach by the Contractor of any material term or condition of the contract. Default of contract shall be in accordance with the terms, conditions, and procedures of Article 108-9 of the Standard Specifications.

EROSION, SILTATION, AND POLLUTION CONTROL

The Contractor shall exercise every reasonable precaution and take all necessary measures throughout the life of the project to prevent erosion, siltation, and pollution in accordance with Section 107-13 of the Standard Specifications.

MATERIALS AND TESTING

The Engineer reserves the right to perform all sampling and testing in accordance with Section 106 of the Standard Specifications and the Department's "Materials and Test Manual." However the Engineer may reduce the frequency of sampling and testing where he deems it appropriate for the project under construction.

The Contractor shall furnish the applicable certifications and documentation for all materials as required by the Standard Specifications. Material, which is not properly certified, will not be accepted.

Delivery tickets for all asphalt material shall be furnished in accordance with Section 106-7 of the Standard Specifications and shall include the following information:

NCDOT WBS Element	Plant Location
Date	Truck Number
Time issued	Contractor's Name
Type of Material	Public weighmaster's stamp or number
Gross weight	Public weighmaster's signature or initials in ink
Tare Weight	Job mix formula numbers
Net weight of material	

PREQUALIFICATION TO BID ON POC'S

Beginning **July 1, 2009**, any firm that wishes to perform work on Division Purchase Order Contracts as either the prime contractor or as a subcontractor on the project must be prequalified for the type of work they wish to perform. Firms that wish to bid on these projects as the prime contractor must be prequalified prior to submitting a bid. Firms that wish to perform as a subcontractor to the prime contractor must be prequalified prior to beginning work on the project.

For the purposes of prequalification, any firm that is currently prequalified as a prime or a subcontractor on central let projects for the appropriate work codes is considered eligible to work and/or bid on Purchase Order Contracts as long as other items such as bonding and license requirements for the contract are met.

Information regarding the requirements to become prequalified as a Purchase Order Contract contractor, including the application to become prequalified if you are not already prequalified, can be found at the following website: <https://connect.ncdot.gov/business/Prequal/Pages/default.aspx>

SAFETY AND ACCIDENT PROTECTION

In accordance with Article 107-21 of the Standard Specifications, the Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

UTILITY CONFLICTS

The Contractor shall adhere to all applicable regulations and follow accepted safety procedures when working in the vicinity of utilities in order to insure the safety of construction personnel and the public.

WORKERS' COMPENSATION INSURANCE

Pursuant to N.C.G.S. § 97-19, all contractors of the Department of Transportation are, prior to beginning services, required to show proof of coverage issued by a workers' compensation insurance carrier, or a certificate of compliance issued by the Department of Insurance for self-insured subcontractors stating that it has complied with N.C.G.S. § 97-93 irrespective of whether subcontractors have regularly in service fewer than three employees in the same business within the State of North Carolina, and subcontractors shall be hereinafter liable under the Workers' Compensation Act for payment of compensation and other benefits to its employees for any injury or death due to an accident arising out of and in the course of performance of the work insured by the subcontractor.

PROSECUTION OF WORK:

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

108

SP1 G15R

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

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

POSTED WEIGHT LIMITS

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

107

SP1 G 24R

The Contractor's attention is directed to the fact that many Primary and Secondary Roads and bridges are posted with weight limits less than the legal limit. Do not exceed the posted weight limits in transporting materials and/or equipment to the projects, unless otherwise indicated below. Make a thorough examination of all projects and haul routes and be prepared to discuss them at the Preconstruction Conference.

NO MAJOR CONTRACT ITEMS

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

104

SP1 G31

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

NO SPECIALTY ITEMS

(7-1-95)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the 2012 Standard Specifications).

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS)

(10-16-07)(Rev. 5-21-13)

102-15(J)

SP1 G67

Description

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

Definitions

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

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

Contract Goals Requirement - The approved MBE and WBE participation at time of award, but not greater than the advertised contract goals for each.

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

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

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

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

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

such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

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

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

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

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

Forms and Websites Referenced in this Provision

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

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all MBE/WBE firms working on the project. This form is for paper bid projects only.
<http://www.ncdot.org/doh/forms/files/DBE-IS.xls>

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

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

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

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

Listing of MBE and WBE Subcontractors Form - Form for entering MBE/WBE subcontractors on a project that will meet this MBE and WBE goals. This form is for paper bids only.

[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).doc](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).doc)

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

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

MBE and WBE Goal

The following goals for participation by Minority Business Enterprises and Women Business Enterprises are established for this contract:

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

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

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

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

Directory of Transportation Firms (Directory)

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

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

Listing of MBE/WBE Subcontractors

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

Blank forms will not be deemed to represent zero participation. Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.

(A) *If either the MBE or WBE goal is more than zero,*

- (1) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.
- (2) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety.
- (3) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the corresponding goal.

(B) *If either the MBE or WBE goal is zero,* bidders, at the time the bid proposal is submitted, shall enter the word "None"; or the number "0"; or if there is participation, add the value on the *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents.

MBE or WBE Prime Contractor

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

For example, on a proposed contract, the WBE goal is 10%, and the MBE goal is 8%. A WBE bidder puts in a bid where they will perform 40% of the contract work and have a WBE subcontractor which will perform another 5% of the work. Together the two WBE firms submit on the *Listing of MBE and WBE Subcontractors* a value of 45% of the contract which fulfills the WBE goal. The 8% MBE goal shall be obtained through MBE participation with MBE certified subcontractors or documented through a good faith effort. It should be noted that you cannot combine the two goals to meet an overall value. The two goals shall remain separate.

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

Written Documentation – Letter of Intent

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

The documentation shall be received in the office of the Engineer no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth 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 12:00 noon on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the MBE and WBE goals, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the MBE/WBE goal. If the lack of this participation drops the commitment below either the MBE or WBE goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the Engineer no later than 12:00 noon of the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 12:00 noon on the next official state business day.

Submission of Good Faith Effort

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

One complete set and **six (6)** copies of this information shall be received in the office of the Engineer no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth 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 12:00 noon on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of MBE/WBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with MBE/WBE 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 MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

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

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs 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 MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.
- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the MBE and WBE goals will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the contract MBE/WBE goals when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested MBEs/WBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D)
 - (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take

a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the contract MBE or WBE goals, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.

- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening NCDOT's Business Development Manager in the Business Opportunity and Work Force Development Unit to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the MBE and WBE 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 MBE and WBE goals.
- (2) The bidders' past performance in meeting the MBE and WBE goals.
- (3) The performance of other bidders in meeting the MBE and WBE goals. For example, when the apparent successful bidder fails to meet the goals, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goals. If the apparent successful bidder fails to meet the MBE and WBE goals, but meets or exceeds the average MBE and WBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

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

Non-Good Faith Appeal

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

Counting MBE/WBE Participation Toward Meeting MBE/WBE Goals

(A) Participation

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

(B) Joint Checks

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

(C) Subcontracts (Non-Trucking)

A MBE/WBE may enter into subcontracts. Work that a MBE subcontracts to another MBE firm may be counted toward the MBE contract goal requirement. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE subcontracts to a non-MBE firm does not count toward the MBE contract goal requirement. Again, the same holds true for the work that a WBE subcontracts to a non-WBE firm. If a MBE or WBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the MBE or WBE is not performing a commercially useful function. The MBE/WBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption may be subject to review by the Office of Inspector General, NCDOT.

(D) Joint Venture

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

(E) Suppliers

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

(F) Manufacturers and Regular Dealers

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

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

Commercially Useful Function

(A) MBE/WBE Utilization

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

(B) MBE/WBE Utilization in Trucking

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

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

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

MBE/WBE Replacement

When a Contractor has relied on a commitment to a MBE or WBE firm (or an approved substitute MBE or WBE firm) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another MBE/WBE subcontractor, a non-MBE/WBE subcontractor, or with the Contractor's own forces or those of an affiliate. A MBE/WBE may only be terminated after receiving the Engineer's written approval based upon a finding of good cause for the termination.

All requests for replacement of a committed MBE/WBE firm shall be submitted to the Engineer for approval on Form RF-1 (*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.

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

(A) Performance Related Replacement

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

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

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

(B) Decertification Replacement

- (1) When a committed MBE/WBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.
- (2) When a committed MBE/WBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another similarly certified MBE/WBE subcontractor to perform at least the same amount of work to meet the MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

Changes in the Work

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

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

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

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

Reports and Documentation

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

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

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

Reporting Minority and Women Business Enterprise Participation

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

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

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

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

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

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

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

The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System or on the Department's DBE-IS (*Subcontractor Payment Information*) with each invoice. Invoices will not be processed for payment until the DBE-IS is received.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2012 Standard Specifications* may be cause to disqualify the Contractor.

SUBSURFACE INFORMATION

(7-1-95)

450

SP1 G112 A

There is **no** subsurface information available on this project. The Contractor shall make his own investigation of subsurface conditions.

LOCATING EXISTING UNDERGROUND UTILITIES

(3-20-12)

105

SP1 G115

Revise the *2012 Standard Specifications* as follows:

Page 1-43, Article 105-8, line 28, after the first sentence, add the following:

Identify excavation locations by means of pre-marking with white paint, flags, or stakes or provide a specific written description of the location in the locate request.

RESOURCE CONSERVATION

(5-21-13)

104-13

SP1 G118

In accordance with North Carolina Executive Order 156, NCGS 130A-309.14(2), and NCGS 136-28.8, it is the policy of the Department to aid in the reduction of materials that become a part of our solid waste stream, to divert materials from landfills, and to find ways to recycle and reuse materials for the benefit of the Citizens of North Carolina.

Initiate, develop and use products and construction methods that incorporate the use of recycled or solid waste products in accordance with Article 104-13 of the *2012 Standard Specifications*. Report the quantities of reused or recycled materials either incorporated in the project or diverted from landfills on the Project Construction Reuse and Recycling Reporting Form.

A location-based tool for finding local recycling facilities and the Project Construction Reuse and Recycling Reporting Form are available at:

<http://connect.ncdot.gov/resources/Environmental/Pages/North-Carolina-Recycling-Locations.aspx>

MAINTENANCE OF THE PROJECT

(11-20-07) (Rev. 1-17-12)

104-10

SP1 G125

Revise the *2012 Standard Specifications* as follows:

Page 1-35, Article 104-10 Maintenance of the Project, line 25, add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

Page 1-35, Article 104-10 Maintenance of the Project, line 30, add the following as the last sentence of the first paragraph:

The Contractor shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. *Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project* in accordance with this article, such repair or replacement shall be performed within 7 consecutive calendar days of such inspection report.

Page 1-35, Article 104-10 Maintenance of the Project, lines 42-44, replace the last sentence of the last paragraph with the following:

The Contractor will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail/guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7, Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail/guiderail. Performance of weekly inspections of guardrail/guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

COOPERATION BETWEEN CONTRACTORS

(7-1-95)

105-7

SP1 G133

The Contractor's attention is directed to Article 105-7 of the *2012 Standard Specifications*.

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

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.

OUTSOURCING OUTSIDE THE USA

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

SP1 G150

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

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

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

GIFTS FROM VENDORS AND CONTRACTORS

(12-15-09)

107-1

SP1 G152

By Executive Order 24, issued by Governor Perdue, and *N.C.G.S. § 133-32*, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e. Administration, Commerce, Correction, Crime Control and Public Safety, Cultural Resources, Environment and Natural Resources, Health and Human Services, Juvenile Justice and Delinquency Prevention, Revenue, Transportation, and the Office of the Governor). This prohibition covers those vendors and contractors who:

- (A) Have a contract with a governmental agency; or
- (B) Have performed under such a contract within the past year; or
- (C) Anticipate bidding on such a contract in the future.

For additional information regarding the specific requirements and exemptions, vendors and contractors are encouraged to review Executive Order 24 and *N.C.G.S. § 133-32*.

Executive Order 24 also encouraged and invited other State Agencies to implement the requirements and prohibitions of the Executive Order to their agencies. Vendors and contractors should contact other State Agencies to determine if those agencies have adopted Executive Order 24.

EMPLOYMENT

(11-15-11) (Rev. 1-17-12)

108, 102

SP1 G184

Revise the *2012 Standard Specifications* as follows:

Page 1-20, Subarticle 102-15(O), delete and replace with the following:

- (O) Failure to restrict a former Department employee as prohibited by Article 108-5.

Page 1-65, Article 108-5 Character of Workmen, Methods, and Equipment, line 32, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

STATE HIGHWAY ADMINISTRATOR TITLE CHANGE

(9-18-12)

SP1 G185

Revise the *2012 Standard Specifications* as follows:

Replace all references to “State Highway Administrator” with “Chief Engineer”.

DAMAGE TO EXISTING PAVEMENT, BASE, SUBGRADE AND PROPOSED PAVEMENT

In addition to the requirements of the Standard Specifications concerning this subject, the Contractor is cautioned that he will be held responsible for all damages to the pavement, base, and subgrade caused by his operations, including but not limited to, rutting and shoving of the existing or proposed pavement and yielding or rutting of the existing base and subgrade.

The Contractor is cautioned to limit the weight of his equipment and the frequency of hauls so as to not damage the existing pavement, base, subgrade and the proposed pavement.

Any subgrade or base failures which the Contractor finds prior to the beginning of his operations or during the conditioning of the existing base are to be brought to the attention of the Engineer in writing. Repairs to those areas will be made by DOT forces. Once these deficient areas have been repaired, the requirements of this Special Provision will fully apply.

DRIVEWAYS AND PRIVATE PROPERTY

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

The Contractor shall not perform work for private citizens or agencies in conjunction with this project or within the project limits of this contract.

LITTER PICK-UP

Litter pick-up shall be performed on all areas. Litter pick-up consisting of construction debris, will be considered incidental to mobilization. No additional compensation will be made for litter pick-up.

NOTIFICATION OF OPERATIONS

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

PLAN, DETAIL AND QUANTITY ADJUSTMENTS

The Department reserves the right to make, at any time during the progress of the work, such alterations in plans or the details of construction as may be found necessary or desirable by the Engineer to complete the project.

PRECONSTRUCTION CONFERENCE

In accordance with Section 108-3 of the Standard Specifications, a preconstruction conference will be required prior to beginning work.

PROSECUTION AND PROGRESS

The Contractor shall prepare and submit to the Engineer a proposed schedule of operations prior to beginning work on this project. The schedule should indicate the proposed chronological sequence of operations and may be revised within the limits of the contract with the approval of the Engineer.

No work may be performed on legal State holidays. Work shall only be performed when weather and visibility conditions allow safe operations. The Contractor's vehicles and equipment shall not be parked within the State Highway System right of way overnight or at other times when work has been suspended unless approved by the Engineer. The Engineer may designate specific locations for parking equipment.

The Contractor shall temporarily remove his equipment from the travelway for emergency vehicles and school buses as directed by the Engineer.

UTILITY COORDINATION

It shall be the responsibility of the Contractor to contact all affected utility owners and determine the precise locations of all utilities prior to beginning construction. Utility owners shall be contacted a minimum of 72 hours prior to the commencement of operations. Special care shall be used in working around or near existing utilities, protecting them when necessary to provide uninterrupted service. In the event that any utility service is interrupted, the Contractor shall notify the utility owner immediately and shall cooperate with the owner, or his representative, in the restoration of service in the shortest time possible. Existing fire hydrants shall be kept accessible to fire departments at all times.

The Contractor shall make a reasonable effort to prevent utility relocations. The Engineer shall be notified for approval prior to any utility relocation. The Contractor shall be responsible for all other utility coordination.

Utility coordination will be incidental to the project for which no direct compensation will be made.

PROJECT SPECIAL PROVISIONS

NOTES TO CONTRACTOR

The Contractors attention is directed to the following:

1. The successful bidder, within fourteen (14) days after notice of award, shall provide the Department with the certificate of Liability Insurance.
2. Contract Payment and Performance Bonds are required regardless of contract amount.

CRANE SAFETY

(8-15-05)

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental companies shall comply with the current Occupational Safety and Health Administration regulations (OSHA).

Submit all items listed below to the Engineer prior to beginning crane operations involving critical lifts. A critical lift is defined as any lift that exceeds 75 percent of the manufacturer's crane chart capacity for the radius at which the load will be lifted or requires the use of more than one crane. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

CRANE SAFETY SUBMITTAL LIST

- A. **Competent Person:** Provide the name and qualifications of the "Competent Person" responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.
- B. **Riggers:** Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.
- C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.
- D. **Certifications:** By July 1, 2006, crane operators performing critical lifts shall be certified by NC CCO (National Commission for the Certification of Crane Operators), or satisfactorily complete the Carolinas AGC's Professional Crane Operator's Proficiency Program. Other approved nationally accredited programs will be considered upon request. All crane operators shall also have a current CDL medical card. Submit a list of anticipated critical lifts and corresponding crane operator(s). Include current certification for the type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

MATERIALS:

(2-21-12) (Rev. 11-19-13)

1000, 1005, 1050, 1074, 1078, 1080, 1081, 1084, 1087, 1092

SP10 R01

Revise the *2012 Standard Specifications* as follows:

Page 10-1, Article 1000-1, DESCRIPTION, line 14, add the following:

Use materials which do not produce a mottled appearance through rusting or other staining of the finished concrete surface.

Page 10-5, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1 REQUIREMENTS FOR CONCRETE											
Class of Concrete	Min. Comp. Strength at 28 days	Maximum Water-Cement Ratio				Consistency Max. Slump		Cement Content			
		Air-Entrained Concrete		Non Air- Entrained Concrete		Vibrated	Non- Vibrated	Vibrated		Non- Vibrated	
		Rounded Aggregate	Angular Aggre-gate	Rounded Aggregate	Angular Aggre-gate			Min.	Max.	Min.	Max.
<i>Units</i>	<i>psi</i>					<i>inch</i>	<i>inch</i>	<i>lb/cy</i>	<i>lb/cy</i>	<i>lb/cy</i>	<i>lb/cy</i>
AA	4,500	0.381	0.426	-	-	3.5	-	639	715	-	-
AA Slip Form	4,500	0.381	0.426	-	-	1.5	-	639	715	-	-
Drilled Pier	4,500	-	-	0.450	0.450	-	5-7 dry 7-9 wet	-	-	640	800
A	3,000	0.488	0.532	0.550	0.594	3.5	4	564	-	602	-
B	2,500	0.488	0.567	0.559	0.630	2.5	4	508	-	545	-
B Slip Formed	2,500	0.488	0.567	-	-	1.5	-	508	-	-	-
Sand Light- weight	4,500	-	0.420	-	-	4	-	715	-	-	-
Latex Modified	3,000 7 day	0.400	0.400	-	-	6	-	658	-	-	-
Flowable Fill excavatable	150 max. at 56 days	as needed	as needed	as needed	as needed	-	Flow-able	-	-	40	100
Flowable Fill non-excavatable	125	as needed	as needed	as needed	as needed	-	Flow-able	-	-	100	as needed
Pavement	4,500 design, field 650 flexural, design only	0.559	0.559	-	-	1.5 slip form 3.0 hand place	-	526	-	-	-
Precast	See Table 1077-1	as needed	as needed	-	-	6	as needed	as needed	as needed	as needed	as needed
Prestress	per contract	See Table 1078-1	See Table 1078-1	-	-	8	-	564	as needed	-	-

Page 10-65, Article 1050-1, GENERAL, line 41, replace the first sentence with:

All fencing material and accessories shall meet Section 106.

Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE, replace with the following:

TABLE 1005-1 AGGREGATE GRADATION - COARSE AGGREGATE													
Percentage of Total by Weight Passing													
Std. Size #	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#40	#200	Remarks
4	100	90-100	20-55	0-15	-	0-5	-	-	-	-	-	A	Asphalt Plant Mix
467M	100	95-100	-	35-70	-	0-30	0-5	-	-	-	-	A	Asphalt Plant Mix
5	-	100	90-100	20-55	0-10	0-5	-	-	-	-	-	A	AST, Sediment Control Stone
57	-	100	95-100	-	25-60	-	0-10	0-5	-	-	-	A	AST, Str. Concrete, Shoulder Drain, Sediment Control Stone
57M	-	100	95-100	-	25-45	-	0-10	0-5	-	-	-	A	AST, Concrete Pavement
6M	-	-	100	90-100	20-55	0-20	0-8	-	-	-	-	A	AST
67	-	-	100	90-100	-	20-55	0-10	0-5	-	-	-	A	AST, Str. Concrete, Asphalt Plant Mix
78M	-	-	-	100	98-100	75-100	20-45	0-15	-	-	-	A	Asphalt Plant Mix, Str. Conc. Weep Hole Drains
14M	-	-	-	-	-	100	35-70	5-20	-	0-8	-	A	Asphalt Plant Mix, AST, Weep Hole Drains, Str. Concrete
9	-	-	-	-	-	100	85-100	10-40	-	0-10	-	A	AST
ABC	-	100	75-97	-	55-80	-	35-55	-	25-45	-	14-30	4-12 ^B	Aggregate Base Course, Aggregate Stabilization
ABC (M)	-	100	75-100	-	45-79	-	20-40	-	0-25	-	-	0-12 ^B	Maintenance Stabilization
Light-C weight	-	-	-	-	100	80-100	5-40	0-20	-	0-10	-	0-2.5	AST

- A. See Subarticle 1005-4(A).
 B. See Subarticle 1005-4(B).
 C. For Lightweight Aggregate used in Structural Concrete, see Subarticle 1014-2(E)(6).

Page 10-115, Subarticle 1074-7(B), Gray Iron Castings, lines 10-11, replace with the first two sentences with the following:

Supply gray iron castings meeting all facets of AASHTO M 306 excluding proof load. Proof load testing will only be required for new casting designs during the design process, and conformance to M306 loading (40,000 lbs.) will be required only when noted on the design documents.

Page 10-126, Table 1078-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1078-1 REQUIREMENTS FOR CONCRETE		
Property	28 Day Design Compressive Strength 6,000 psi or less	28 Day Design Compressive Strength greater than 6,000 psi
Maximum Water/Cementitious Material Ratio	0.45	0.40
Maximum Slump without HRWR	3.5"	3.5"
Maximum Slump with HRWR	8"	8"
Air Content (upon discharge into forms)	5 + 2%	5 + 2%

Page 10-151, Article 1080-4 Inspection and Sampling, lines 18-22, replace (B), (C) and (D) with the following:

- (B) At least 3 panels prepared as specified in 5.5.10 of AASHTO M 300, Bullet Hole Immersion Test.
- (C) At least 3 panels of 4"x6"x1/4" for the Elcometer Adhesion Pull Off Test, ASTM D4541.
- (D) A certified test report from an approved independent testing laboratory for the Salt Fog Resistance Test, Cyclic Weathering Resistance Test, and Bullet Hole Immersion Test as specified in AASHTO M 300.
- (E) A certified test report from an approved independent testing laboratory that the product has been tested for slip coefficient and meets AASHTO M253, Class B.

Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7, delete the second and third sentences of the description for Type 3A.

Page 10-161, Subarticle 1081-1(A) Classifications, lines 29-33, delete first 3 sentences of the description for Type 2 and replace with the following:

Type 2 - A low-modulus, general-purpose adhesive used in epoxy mortar repairs. It may be used to patch spalled, cracked or broken concrete where vibration, shock or expansion and contraction are expected.

Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30, replace the second paragraph with the following:

For epoxy resin systems used for embedding dowel bars, threaded rods, rebar, anchor bolts and other fixtures in hardened concrete, the manufacturer shall submit test results showing that the bonding system will obtain 125% of the specified required yield strength of the fixture. Furnish certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that there is no movement of the anchor bolt. For certification and anchorage, use 3,000 psi as the minimum Portland cement concrete compressive strength used in this test. Use adhesives that meet Section 1081.

List the properties of the adhesive on the container and include density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength.

Page 10-169, Subarticle 1081-3(G) Anchor Bolt Adhesives, delete this subarticle.

Page 10-173, Article 1084-2 STEEL SHEET PILES, lines 37-38, replace first paragraph with the following:

Steel sheet piles detailed for permanent applications shall be hot rolled and meet ASTM A572 or ASTM A690 unless otherwise required by the plans. Steel sheet piles shall be coated as required by the plans. Galvanized sheet piles shall be coated in accordance with Section 1076. Metallized sheet piles shall be metallized in accordance to the Project Special Provision “Thermal Sprayed Coatings (Metallization)” with an 8 mil, 99.9% aluminum alloy coating and a 0.5 mil seal coating. Any portion of the metallized sheet piling encased in concrete shall receive a barrier coat. The barrier coat shall be an approved waterborne coating with a low-viscosity which readily absorbs into the pores of the aluminum thermal sprayed coating. The waterborne coating shall be applied at a spreading rate that results in a theoretical 1.5 mil dry film thickness. The manufacturer shall issue a letter of certification that the resin chemistry of the waterborne coating is compatible with the 99.9% aluminum thermal sprayed alloy and suitable for tidal water applications.

Page 10-179, Subarticle 1087-4(A) Composition, lines 39-41, replace the third paragraph with the following:

All intermixed and drop-on glass beads shall not contain more than 75 ppm arsenic or 200 ppm lead.

Page 10-180, Subarticle 1087-4(B) Physical Characteristics, line 8, replace the second paragraph with the following:

All intermixed and drop-on glass beads shall comply with NCGS § 136-30.2 and 23 USC § 109(r).

Page 10-181, Subarticle 1087-7(A) Intermixed and Drop-on Glass Beads, line 24, add the following after the first paragraph:

Use X-ray Fluorescence for the normal sampling procedure for intermixed and drop-on beads, without crushing, to check for any levels of arsenic and lead. If any arsenic or lead is detected, the sample shall be crushed and repeat the test using X-ray Fluorescence. If the X-ray Fluorescence test shows more than a LOD of 5 ppm, test the beads using United States Environmental Protection Agency Method 6010B, 6010C or 3052 for no more than 75 ppm arsenic or 200 ppm lead.

Page 10-204, Subarticle 1092-2(A) Performance and Test Requirements, replace Table 1092-3 Minimum Coefficient of Retroreflection for NC Grade A with the following:

TABLE 1092-3 MINIMUM COEFFICIENT OF RETROREFLECTION FOR NC GRADE A (Candelas Per Lux Per Square Meter)								
Observation Angle, degrees	Entrance Angle, degrees	White	Yellow	Green	Red	Blue	Fluorescent Yellow Green	Fluorescent Yellow
0.2	-4.0	525	395	52	95	30	420	315
0.2	30.0	215	162	22	43	10	170	130
0.5	-4.0	310	230	31	56	18	245	185
0.5	30.0	135	100	14	27	6	110	81
1.0	-4.0	120	60	8	16	3.6	64	48
1.0	30.0	45	34	4.5	9	2	36	27

DOMESTIC STEEL

(4-16-13)

106

SP1 G120

Revise the 2012 *Standard Specifications* as follows:

Page 1-49, Subarticle 106-1(B) Domestic Steel, lines 2-7, replace the first paragraph with the following:

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined material cost of the items involved does not exceed 0.1% of the total amount bid for the entire project or \$2,500, whichever is greater. If invoices showing the cost of the material are not provided, the amount of the bid item involving the foreign material will be used for calculations. This minimal amount of foreign produced steel and iron products permitted for use is not applicable to high strength fasteners. Domestically produced high strength fasteners are required.

STOCKPILE AREAS

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed.

CONSTRUCTION SPECIAL PROVISIONS
FOR
GENERATOR REPLACEMENT FOR THE
CAPE FEAR MEMORIAL LIFT BRIDGE

WILMINGTON, NORTH CAROLINA

Prepared For:
State of North Carolina
Department of Transportation

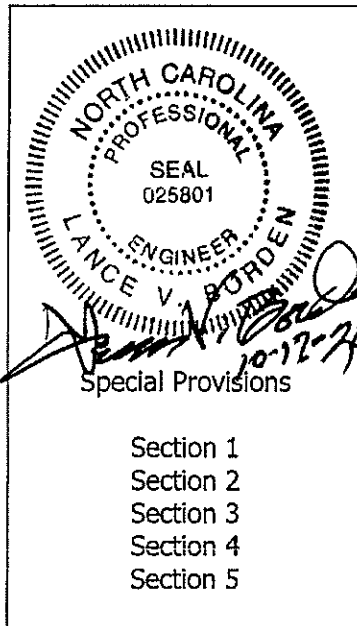
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OCTOBER 2013

Special Provision Sections:

Section 1	General Requirements for Bridge Electrical Work
Section 2	Submittals
Section 3	Conduit and Wiring System
Section 4	Generator and Automatic Transfer Switch
Section 5	PLC Control System Modifications

PROFESSIONAL REGISTRATIONS AND RESPONSIBILITIES



SECTION 1
GENERAL REQUIREMENTS FOR BRIDGE ELECTRICAL WORK

1. SCOPE

- (A) This section covers all products, labor, services, incidentals, and related work necessary to furnish, install, test, and put into permanent service all electrical work as shown on the Plans and described in the Specifications.
- (B) This section, along with the following sections, comprise the Special Provisions for electrical work. The provisions and requirements of all sections of these electrical Special Provisions shall apply fully and equally to all electrical work and to all contractors performing electrical work. The provisions and requirements of this section are hereby incorporated into the sections listed below by this reference, and shall have the same force and effect as if printed in full in each of the sections listed.

NOTE: See Qualifications requirements in Section 4.0, below

- (1) Section 2 – Working Drawings and Submittals
- (2) Section 3 – Conduit and Wiring Systems
- (3) Section 4 – Generator and Automatic Transfer Switch
- (4) Section 5 - PLC Control System Modifications

2. GENERAL PROVISIONS

- (A) Unless specifically noted otherwise in these contract documents, the Contractor shall bear full responsibility, at no additional payment, for all costs, damages, etc. related to compliance with this section and those sections which incorporate this section by reference.
- (B) The Contractor is expected to deliver a complete, functional, reliable, and safe installation which fully satisfies the requirements, both explicit and implicit, and intents of the contract documents.
- (C) Any work which is not shown and/or described in the contract documents, but is nevertheless necessary in order to properly carry out the intent thereof, shall be executed in its entirety as if it were specifically shown and/or described therein.
- (D) Use of terms such as "approved" or "accepted" shall be understood to solely refer to approval by the Engineer as satisfying the requirements of the contract documents and acceptable for use and/or execution, except where a different meaning is made clear by the context of use.

3. REFERENCED PUBLICATIONS AND STANDARDS

- (A) The following publications form a part of these Special Provisions by this reference, and shall have the same force and effect as if printed herewith in full. Unless otherwise noted, the version of referenced standards or publications is the version in effect at the bid opening time for this contract.
 - (1) AASHTO LRFD Movable Highway Bridge Design Specifications
 - (2) NECA 1 – Standard Practice for Good Workmanship in Electrical Contracting
 - (3) NETA Acceptance Testing Specifications
 - (4) NFPA 70 – National Electrical Code
 - (5) NFPA 70E – Electrical Safety Requirements for Employee Workspaces
 - (6) North Carolina Electrical Code
 - (7) North Carolina Department of Transportation Standard Specifications for Roads and Structures
 - (8) All applicable state and local codes.

- (B) Additionally, all work shall comply with all additional requirements of the Authorities Having Jurisdiction. It shall be the responsibility of the Contractor to contact the proper Authorities prior to beginning work in order to determine all requirements, as well as to maintain relevant communications with such Authorities throughout construction.

4. QUALIFICATIONS OF CONTRACTORS, VENDORS, AND MANUFACTURERS

- (A) All contractors and/or sub-contractors undertaking electrical work related to this project shall be properly qualified, skilled, and experienced in the type of work involved. All vendors and manufacturers selected by the Contractor to provide products for this project shall be properly qualified, skilled, and experienced in the fabrication and/or manufacturer of the products involved.
- (B) Electrical Contractor
 - (1) The Electrical Contractor shall be properly licensed by the State of North Carolina, and be primarily and regularly engaged in the installation and service of industrial electrical power distribution and control systems.
 - (2) The Electrical Contractor shall employ on site supervisory personnel who are licensed electricians experienced in the installation and maintenance of industrial electrical power distribution and control systems.
 - (3) The Electrical Contractor shall have been in the business of installing and servicing industrial electrical power distribution and control systems for at least ten continuous years as of the bid date.
 - (4) In lieu of sub-contracting the electrical work to a separate Electrical Contractor, Prime Contractor personnel satisfying all of the above requirements may perform electrical work.
 - (5) Documentation demonstrating that the Electrical Contractor satisfies the requirements of these Special Provisions shall also be provided prior to commencing any electrical work. If no separate sub-contractor is to be used, the Prime Contractor shall be clearly identified as the Electrical Contractor and documentation demonstrating that the Prime Contractor satisfies the requirements of these Special Provisions shall be provided.
- (C) General Vendors and Manufacturers
 - (1) Vendors and/or manufacturers for electrical systems, sub-systems, and/or products, other than the control system, shall be primarily and regularly engaged in providing the items for which they are responsible.
 - (2) Additional qualification requirements for vendors and/or manufacturers shall be as given elsewhere in these Special Provisions.

5. ARC FLASH HAZARD ANALYSIS AND LABELING

- (A) The Contractor shall engage an electrical consultant to perform an arc flash hazard analysis on the electrical system, as installed, in compliance with the applicable provisions of OSHA, the NEC and NFPA 70E. The consultant performing the analysis shall be experienced in and qualified to perform such analysis, and shall be regularly engaged in providing such services.
- (B) The results of the arc flash hazard analysis shall be the proper hazard warning labeling of all enclosures in which are contained exposed live electrical parts. As a minimum, the hazard labels shall contain the following information: the NFPA 70E hazard category number, the flash hazard boundary distances, the required PPE, the voltage level/shock hazard, the limited approach

distances, the Restricted Approach and appropriate gloves ratings, and the Prohibited Approach and appropriate gloves ratings.

6. CONTROL OF WORK AND MATERIALS

(A) Character of Work

- (1) It is the intent and requirement under this contract that high quality workmanship be provided in all respects, and that the finished work be workmanlike and acceptable in every detail.
- (2) In addition to the specific requirements given by the contract documents, all work shall comply with the following.
 - (a) All work must properly perform its intended function in a reliable manner.
 - (b) All work must be of substantial character such that it is not likely, in the Engineer's judgment, to become subject to premature failure during the course of normal service, including normal wear and tear.
 - (c) All work must not pose any unusual and/or unreasonable danger to persons and/or property. All work must not be likely, in the Engineer's judgment, to expose persons and/or property to any unusual and/or unreasonable danger as a result of normal service, including normal wear and tear.
 - (d) All work must be aesthetically acceptable in every way, including neatness and cleanliness.

(B) Quality Control

- (1) The Contractor shall bear full responsibility for all coordination of features, ratings, etc. of products as may be required to provide complete, operational, reliable and safe system(s) and sub-system(s) in accordance with the requirements and intent of these contract documents.
- (2) The Contractor shall bear full responsibility for all coordination necessary to perform all work, including, but not be limited to, coordination with and/or between suppliers, vendors, sub-contractors, trades, the Department and the U.S. Coast Guard.
- (3) All details shown on the Plans are typical and apply to all similar locations, or as otherwise indicated. All dimensions and details shall be verified at the site before proceeding with any work, purchasing any items, or fabrication of any custom components. The Contractor shall bear all costs and/or damages which may result from the ordering or fabrication of any items or materials prior to such verifications.
- (4) The Engineer may request that the Contractor furnish product samples in order to assist the Engineer in determining the acceptability of a proposed product or procedure. Such samples shall be furnished by the Contractor at no additional cost, and will be returned at or before the end of the project.
- (5) The Engineer may request that the Contractor furnish standards, reference materials, and/or similar publications in order to assist the Engineer in determining the acceptability of a proposed product, procedure, or test result. Such publications shall be furnished by the Contractor at no additional cost, and will be returned at or before the end of the project.
- (6) All items shall be handled, applied or installed in strict accordance with manufacturer's recommendations and instructions and with these Special Provisions.

(C) Familiarity with Contract Requirements and Examination of Plans

- (1) It is the responsibility of the Contractor, prior to submission of a bid, to fully determine the nature and location of the work, the character, quality and quantity of the materials which will be required, the nature of equipment and facilities needed preliminary to and during the performance of the work, the general and local conditions, and of all other matters which can in any way affect the work for this project. Failure to comply with this requirements shall not relieve the Contractor from responsibility for completion of all specified work, and shall not be considered cause for delay or additional payment.
- (2) Dimensions shall not be acquired or determined by scale measuring of the Plans except where a scale is explicitly indicated. Dimensions of existing features shall not be determined by scale measuring of the Plans, but shall be determined by actual field measurements.
- (3) Any reference drawings included with the Plans are provided as-is and may not reflect the actual current conditions at the job site. The Owner makes no claim as to the accuracy of any reference drawings. The Contractor shall bear full responsibility for field verification of all critical dimensions.
- (4) The Contractor shall bring to the attention of the Engineer for clarification any apparent typographical or drafting error in the Plans and/or these Special Provisions. Typographical and/or drafting errors, discovered or undiscovered, shall not relieve the Contractor from responsibility for satisfactory completion of all specified work in accordance with the intent of these contract documents, and shall not be considered cause for additional payment.

(D) Harmony And Coordination Of Contract Documents

- (1) The contract documents, including any referenced publications, are intended to form a cohesive and consistent whole.
- (2) These Special Provisions shall in no way be interpreted as voiding any applicable provision or requirement contained in any other portion of the contract documents, including those intended to be generally applicable to all work regardless of type or trade, except that in the case of an irreconcilable conflict the Engineer shall determine which provision(s) and/or requirement(s) take precedence. Otherwise, the Contractor shall make every effort to comply with all applicable provisions and requirements.
- (3) The Contractor shall immediately bring to the attention of the Engineer any conflict between or within the contract documents and/or referenced publications.
- (4) Resolution of any conflicts between or within the contract documents and/or referenced publications shall be at the discretion of the Engineer. The existence and/or resolution of such conflicts shall not be considered cause for delay or additional payment.
- (5) Dimensions shown on the Plans, unless incorrect, shall take precedence over measurement by scale. Larger scale and/or detail Plans shall take precedence over smaller scale and/or general Plans.

(E) Field Measurements

- (1) Before ordering any materials or fabricating any items, the Contractor shall verify all pertinent dimensions at the job site and be responsible for their accuracy.
- (2) All field measurements which are critical to the fabrication of new items shall be verified before submission of shop drawings for such items. Field measurements noted on shop drawings shall be clearly differentiated from other dimensions.

- (3) The Department and/or Engineer will not, as a part of shop drawings review, bear responsibility for verification of any field measurements made by the Contractor. Review of shop drawings by the Department and/or Engineer does not in any way relieve the Contractor from full responsibility for the accuracy of field measurements.
- (4) The Contractor shall bear full responsibility for any errors which may result from inaccuracy of field measurements.

(F) Brand Name Products and Substitutions

- (1) The identification of materials and/or products, both on the Plans and in these Special Provisions, by brand name, manufacturer's name, or other proprietary designation or description is intended to be descriptive, but not exclusive or restrictive, and is to indicate the characteristics, performance, and quality of products that are satisfactory. Except when noted otherwise, the Contractor may propose the substitution of "equal" products for consideration by the Engineer. Such "equal" products may be used only if the Engineer determines that the proposed product satisfies the requirements identified in the contract documents, is acceptable for the intended use, and is substantially equal in characteristics, performance, and quality to the specified product.
- (2) Determination of the acceptability of a proposed "equal" product shall be solely at the discretion of the Engineer. Rejection of a proposed "equal" product shall not be considered cause for delay or additional payment. The Engineer may reject any proposed "equal" product which in his past experience and/or judgment is of poor quality and/or not likely to perform reliably in the application under consideration. In such case, an explanation for such rejection will be provided.
- (3) Where a product is identified by brand name, that brand name product was used as the design basis. Where the Contractor proposes to use an approved "equal" product, even if such a substitution is approved by the Engineer, the Contractor shall assume all responsibility for its proper installation and fit into the system and shall bear sole responsibility for any resultant extra work, including products, labor, and related costs associated with utilization of the substitute product.
- (4) The Contractor shall bear full responsibility for supplying to the Engineer all information required for the Engineer to determine the acceptability of a proposed "equal" product or procedure. The Engineer may request additional information, beyond what is explicitly required by these contract documents, to assist in determination of acceptability.
- (5) Because of the continuously changing nature of commercially manufactured products, neither the Department nor the Engineer warrant that any identified brand names are available, accurate, and/or satisfy all requirements of the contract documents. The Contractor shall bear final responsibility for selection of products which satisfy the Contract requirements. In case of any discrepancy, or other conflict, between the salient requirements identified in the contract documents and products identified by brand name, the salient requirements shall govern. Any such conflict, or other discrepancy, shall not be considered cause for delay or additional payment.

(G) Inspection Of Materials And Workmanship

- (1) All products and work, including fabrication, erection, and/or installation procedures, are subject to inspection and testing by the Engineer at all times. If any products and/or installations are found to be defective it shall be the Contractor's responsibility to coordinate repair or replacement at no additional cost.

- (2) Under no circumstances shall any inspection and/or test by the Engineer or his duly authorized representative, or any approval granted as a result thereof, relieve the Contractor from responsibility for full compliance with the requirements of these contract documents.
 - (3) Where inspections or tests are to be made at the point of manufacture or fabrication, the Contractor shall in all cases give ample notice (no less than two weeks) to the Engineer to permit such inspection and tests to be performed before shipment is made.
 - (4) The Contractor shall make all work and products physically accessible to the Engineer for inspection and testing at all times. Walkways, platforms, ladders, and specialized equipment required for convenient and safe access to areas of work shall be provided by the Contractor. The Contractor shall provide all tools and labor to remove and replace covers, disassemble and reassemble equipment, etc., as may be directed by the Engineer to facilitate inspection and testing by the Engineer.
 - (5) The Contractor shall keep the Engineer informed regarding the progress of work and provide the Engineer with reasonable advance notice of milestones during construction when inspection and/or testing by the Engineer may be required. The Contractor shall also coordinate construction activities to allow access to all work by the Engineer, as well as provide the time required by the Engineer to perform all inspection and testing. If, in the Engineer's judgment, the requirements of this paragraph are not being complied with, the Engineer may order the Contractor to temporarily halt work to allow for inspection and testing to take place. Any such disruption to work shall not be considered cause for delay or additional payment.
 - (6) The Engineer shall have full power to reject any and all material or work which fails to meet the terms of the contract documents and such material or work shall be promptly repaired, or removed and replaced with new, as may be directed by the Engineer. All material or work which develops defects during the life of the contract either before or after installation shall be removed and replaced notwithstanding that it may have passed the prescribed inspection and tests.
 - (7) The Contractor shall immediately correct any deficient work which may be discovered before final acceptance of the project at no additional cost. The fact that any such work may have been inspected shall not relieve the Contractor of his obligations to perform proper and satisfactory work, as herein specified. All work which, during its progress, may become damaged from any cause or fails for any reason to satisfy the requirements of the contract documents, shall be removed and replaced by good and satisfactory work by the Contractor without any additional cost to the Department and such work shall be subject to the approval of the Engineer.
 - (8) The Contractor shall furnish, at no additional cost, all labor and assistance necessary for the Engineer or his duly authorized representative to make such inspection and tests of workmanship as specified herein or as directed by the Engineer.
 - (9) These requirements shall apply equally to all work and products at the project site, in a shop, and in off-site storage.
- (H) Acceptance of Work
- (1) Acceptance of all work is at the sole discretion of the Department and the Engineer.
 - (2) The Contractor shall perform all acceptance tests and operational demonstrations, and fully cooperate with all inspections, required by the Department and Engineer for the purpose of determining that all work satisfies the requirements of the contract documents. Such tests, demonstrations, and inspections shall be at no additional cost.

- (3) While individual systems and/or sub-systems may be granted preliminary acceptance during the course of construction, final overall acceptance of all work will not be granted until such time as the Department and Engineer are satisfied that all work fully satisfies the requirements of the contract documents. Any preliminary acceptance granted prior to final acceptance shall in no way restrict the Department's right to require further adjustment prior to final acceptance, nor shall it relieve the Contractor of responsibility for full compliance with the requirements of the contract documents.

It is hereby noted that the Engineer is in no way obligated to grant preliminary acceptance to any portion of the electrical work. Denial of any request to grant preliminary acceptance shall not be considered cause for additional payment or delay.

7. SUBMITTALS

- (A) The contract documents are intended only to depict the general intent of this contract; they are not of sufficient detail to be used in lieu of the required submittals. Additional detail development will be required, and shall be provided at no additional cost.
- (B) The Contractor or electrical subcontractor shall have on staff or shall retain an Electrical Engineer who shall coordinate and supervise the preparation of all electrical submittals, and fully review and check all submittal items, including those originally prepared by all sub-contractors and vendors, for compatibility with all new and existing work, and coordination with other submittal items prior to submission for compliance with the requirements of the contract documents.
- (C) Submittals shall comply with Section 2 – Working Drawings and Submittals.
- (D) Submit testing procedures and results as required.
- (E) Proposed schedules and procedures shall be submitted for approval prior to commencing work. All proposed schedules and procedures shall be fully coordinated with the overall project schedule and approved schedule of work.
- (F) Submit all additional information as may be described elsewhere in the contract documents, or as otherwise required by the Engineer in order to determine the acceptability of proposed products and/or work.

8. AS-BUILT DOCUMENTATION

- (A) All as-built documentation shall be turned over to the Engineer prior to the completion of the project. The overall project will not be granted final acceptance, until all required as-built documentation has been furnished and accepted.
- (B) All as-built documentation which is required by these contract documents to be submitted to the Engineer, for any reason, shall be subject to the same requirements for all other submittals given elsewhere in these specifications.
- (C) The Contractor shall submit to the Engineer preliminary copies of all as-built documentation for review and approval prior to delivery of the final record copies. The preliminary copies will be reviewed by the Engineer for completeness, general accuracy, and compliance with the requirements for as-built documentation given in these contract documents. Upon approval of the preliminary copies, the Contractor shall deliver the final record copies.
- (D) Final copies of all as-built documentation shall be neat, clean, and easily readable. Drawings shall preferably be updated via CAD, but may be updated by hand where the Engineer agrees that updating via CAD is not practical.

- (E) As-built versions of contract Plans, catalog cut sheets, shop drawings, installation and layout drawings, and similar items shall be provided irregardless of whether or not the original versions contain as-built changes. All as-built documentation items shall be clearly identified as such.
- (F) In cases where Plans are effectively replaced by the Contractor's shop and/or installation drawings, such as for control logic drawings, such contract Plans may, with the explicit permission of the Engineer, not be required to be updated with specific as-built changes. In such cases, the as-built versions of the affected Plans shall be updated with a clear statement indicating that they do not reflect the as-built condition and referring to the appropriate as-built shop and/or installation drawings. Any case in which the Engineer does not allow Plans to be updated in this manner shall not be considered cause for delay or additional payment.
- (G) Final copies of all as-built documentation shall be clearly marked with the phrase "AS BUILT" in minimum 1/4 inch high bold or block text, along with the revision date in smaller text. This marking shall appear on every individual sheet of drawings, and on the first page of multi-page catalog cut sheets and similar items.
- (H) As-built versions of all contract Plans, shop drawings, erection drawings, materials tabulations, and similar items shall be provided on both paper and in electronic form.
 - (1) Number of copies shall be as follows.
 - 1. Paper: six copies.
 - 2. Electronic: CD media, six copies.
 - (2) Paper shall be matte white 20 pound engineering quality engineering bond (minimum 3.5 mils thickness).
 - (3) Drawings shall be provided in full size portable document format (PDF). The corresponding drawing CAD format files and all associated reference files shall also be provided.
- (I) Drawings shall be plotted at their original full size so that all scales are accurate.

9. MANUALS

- (A) Provide manufacturer's manuals for major equipment including generator, automatic transfer switch, and load bank. Manuals shall include basic user and maintenance information, wiring schematics, and replacement parts lists.
 - (1) Number of copies shall be as follows.
 - 1. Paper: six copies.
 - 2. Electronic: CD media, six copies, portable document format (PDF).

10. PRODUCT WARRANTIES

- (A) All product warranty certificates, and similar warranty information, shall be stored at a single location on the project site and be turned over to the Owner prior to final acceptance of the project.
- (B) Warranty information shall be clearly marked to identify the components covered and allow cross referencing back to the as-built contract and shop drawings.
- (C) Where registration is necessary as a condition of warranty coverage, warranties shall be registered to the Owner.

11. GUARANTEE OF MATERIALS AND WORKMANSHIP

- (A) By executing the contract for this project, the Contractor agrees to guarantee all work against defects due to materials and/or workmanship for one full calendar year from the date of final acceptance of the work covered.
- (B) The Contractor shall remedy, in a timely manner, at his own expense, and to the complete satisfaction of the Department, any and all such defects which are discovered during the guarantee period.
- (C) The guarantee shall remain in full effect regardless of the status of payments to the Contractor or disposition, including termination, of the contract for this project.
- (D) The guarantee shall in no way limit the Contractor's liability for defects due to failure to comply with the contract documents, including any defects which may be discovered after expiration of the guarantee period.
- (E) Should the Contractor fail to remedy any defects within a timely manner, the Department may elect to have such defects corrected by others and bill the Contractor for the full cost thereof.
- (F) The Contractor shall reimburse the Department for any and all court costs, attorney's fees, and similar costs encountered by the Department in the course of enforcing the guarantee.

12. DELIVERY, STORAGE, AND HANDLING

- (A) All products shall be delivered to the site in accordance with the approved sequence of construction. All products shall be properly protected until installation, including during shipment and storage.
- (B) Prior to shipment from the manufacturer's and/or fabricator's plant or plants, the Contractor shall prepare all products for shipment. All large, bulky and/or heavy items shall be securely mounted on skids or pallets of ample size and strength to facilitate loading and unloading. All small parts shall be boxed in sturdy wood or heavy corrugated paperboard boxes. A packing list enclosed in a moisture-proof envelope and indicating the contents of each such box shall be securely attached to the outside of the container. The skid/pallet mounting and boxing shall be done in a manner that will prevent damage to the equipment during loading, shipment, unloading, storage and any associated and/or subsequent handling. Weatherproof covers shall be provided during shipment to protect any and all items shipped in open railway cars, trucks, or barges. Any eyebolts, special slings, strongbacks, skidding attachments or other devices used in loading the equipment at the manufacturer's and/or fabricator's plant or plants shall be furnished for unloading and handling at the destination.
- (C) Products shall be stored so as to permit easy access for inspection and identification, and be protected from the ground by the use of pallets, platforms or other means. Products shall not be stored in a manner that would cause distortion or damage.
- (D) All large units shall have lifting eye bolts or lifting holes properly sized for safe working loads and located to provide a balanced lift.

13. PROTECTION OF WORK

- (A) The Contractor shall at all times protect and preserve all materials, supplies, and equipment of every description (including property which may be furnished or already owned by the Owner) and all work performed.
- (B) All reasonable requests of the Engineer to enclose or specially protect such property shall be complied with.

- (C) If, as determined by the Engineer, material, equipment, supplies, and work performed are not adequately protected by the Contractor, such property may be protected by the Owner and the cost thereof may be charged to, or deducted from any payments due to, the Contractor.

14. TEMPORARY PROVISIONS

- (A) The Contractor shall bear full responsibility for providing all temporary provisions as may be required to accomplish all work and permit continued operation and use of existing equipment and facilities during prosecution of such work.
- (B) The Contractor shall maintain, throughout the course of the project, temporary navigation lighting as may be required by the United States Coast Guard. The Contractor shall be responsible for coordinating temporary navigation lighting requirements with the Coast Guard.
- (C) Unless specifically noted otherwise, all temporary provisions required by these contract documents shall be provided at no additional cost.

15. CLEANING AND MAINTENANCE

- (A) The Contractor shall keep the project premises, and adjoining premises, clean from excess material, debris, and rubbish caused by Contractor's operations at all times.
- (B) The Contractor shall clean the project premises prior to final acceptance. Cleaning shall include, but not be limited to, the following.
 - (1) Removal of excess materials, debris, and rubbish.
 - (2) Removal of grease, oil, paint, and similar materials from the surfaces of installed materials and equipment.
 - (3) Touch-up painting as may be required to repair damage to the finishes of installed materials and equipment.
 - (4) The Contractor shall maintain all work during construction and until the work is finally accepted. All costs of such maintenance shall be included in the unit prices bid for the various items; no additional payment will be made for materials, labor, or incidental costs related to any such maintenance.

16. TESTING AND ADJUSTMENTS

- (A) The Contractor shall be responsible for performing all testing, inspections, and any resulting corrective work as may be necessary in order to ensure that all work is functioning properly, and as otherwise required elsewhere in these Special Provisions. All such testing, inspections, demonstrations, and any resulting remedial work, will be deemed a normal part of the contract work and will not be considered cause for delay or additional payment.
- (B) Procedures and equipment used for the testing required by these Special Provisions shall be in accordance with manufacturer's recommendations, NETA Acceptance Testing Standards, any other applicable industry standards, and shall be appropriate for the specific test being performed. Voltmeters, ammeters, etc. shall be true RMS type. Where recording instruments are required, they shall be three phase, strip chart or computer based type. All tools and instruments shall be specifically designed for measuring the quantity in question and be maintained in properly calibrated condition.
- (C) Prior to energizing any circuit or connection of any piece of equipment to any circuit, the following tests shall be performed.
 - (1) Measure the supply voltage and phase rotation and verify that both are correct for the equipment installed.

- (2) Verify that all conductors and current carrying parts of equipment are continuous, free of shorts, opens, or unintentional grounds, and that all conductors are properly terminated.
 - (3) Perform all testing required elsewhere in these Special Provisions.
- (D) In addition to the required quantitative tests, the Contractor shall also be responsible for performing all qualitative inspections which may be required to ensure that all electrical work is properly executed. Such inspections shall include, but not be limited to, the following.
- (1) Visual inspection of all electrical connections.
 - (2) Visual inspection of all raceway, conductor, device, and equipment installations.
 - (3) Verifying proper operation of all operating mechanisms and mechanical interlocks.
 - (4) Verifying proper tightening of mechanical lugs and terminals.
 - (5) Inspection of all hardware connections.
- (E) All portions of the electrical work, both individually and as a whole, shall be subjected to operational, as-installed, testing. Such testing shall be as required to establish that the item(s) under test meet all specified requirements and are operating in a reliable manner. The Contractor shall also be prepared to conduct any additional miscellaneous operational demonstrations as may be requested by the Engineer to establish that a given product, system, or subsystem meets all specified requirements and is operating in a reliable and safe manner.
- (F) For all test results which fall outside the stated acceptable values or conditions or the Engineer finds unacceptable, the Contractor shall investigate the cause of the failure, take appropriate corrective actions, and repeat the test(s). This procedure shall be repeated until such time as all test results are deemed acceptable by the Engineer.
- (G) Prior to doing any demolition work, the Contractor shall verify that all conductors and current carrying parts of equipment are not energized and that all power feeds have been properly locked and tagged out and/or disconnected at the source. The Contractor shall also isolate or appropriately bypass any control circuits that could impact any required bridge operation. All work shall be approved by the Engineer.

17. TRAINING

- (A) The Contractor shall provide training as described elsewhere in these Special Provisions.
- (B) All training shall be performed prior to final acceptance. Training shall include the following.
 - (1) Diesel Generator
 - (2) Automatic Transfer Switch

18. MEASUREMENT AND PAYMENT

- (A) Item Bridge Electrical Work
 - (1) BRIDGE ELECTRICAL WORK will not be measured, but will be paid for on a lump sum basis. The price shall include all products, labor, tools, equipment, testing, and incidentals necessary to complete the work in accordance with these contract documents.
 - (2) Payment for the Bridge Electrical Work will be made at the contract unit price for Item BRIDGE ELECTRICAL WORK, complete, tested and fully functional in place.

END OF SECTION

SECTION 2

SUBMITTALS

1. SCOPE

- (A) This section covers all submittals for all work related to this project.
- (B) Refer to the additional specific requirements for certain submittal items given elsewhere in these Contract Documents.
- (C) Satisfactory completion of all of the requirements of this Section shall be regarded as equal in importance to all other work performed as part of this project, and shall be prosecuted, executed, coordinated, and in all respects dealt with as such.
- (D) The Contractor shall draw the attention of all sub-contractors, fabricators, vendors, suppliers, and other parties providing materials, labor, and/or other services for this project to the requirements of this Section.

2. DEFINITIONS

- (A) As used in the Specifications for this project, the term "submittals" shall be understood to include all working drawings and other items required by these Contract Documents to be submitted by the Contractor to the Engineer for review, examination, and/or record.

3. REQUIRED SUBMITTALS

- (A) Prior to purchasing any materials or performing any work, the Contractor shall submit, for approval, shop drawings, erection and installation drawings and details, manufacturer's drawings, catalog cuts, and/or similar literature. Such submittal items are required for all work related to this project, and for all materials and products to be furnished as a part thereof.
- (B) Submittals are required for all work in order to establish to the satisfaction of the Engineer that the work being provided is in conformance with the requirements and intents of the Contract Documents, and to enable proper fabrication and installation of all work.
- (C) The Contract Documents are intended only to depict the general intent of this contract; they are not of sufficient detail to be used in lieu of shop drawings, erection and installation drawings, layout drawings, and other working drawings. All required additional detail development shall be provided at no additional cost.
- (D) Catalog cut and product specification sheets shall be provided for all standard or semi-standard purchased items. Certified drawings for standard or semi-standard purchased items shall be provided when required by these Contract Documents or when requested by the Engineer.
- (E) Material test certificates shall be provided for raw materials when requested by the Engineer or otherwise required by these Contract Documents.
- (F) Additional submittal items shall be provided as may be required elsewhere by these Contract Documents.
- (G) All submittal items shall be approved by the Engineer prior to purchase, fabrication, or installation of the product(s) depicted. Submittals that have not been approved, or require correction, shall be resubmitted until such time as they are acceptable to the Engineer. This procedure shall not be considered a cause for delay or additional payment. The Contractor shall bear all costs or damages that may result from the ordering or fabrication of any products prior to the acceptance of all related submittals.

(H) Electrical Work

(1) Product Submittals

- (a) Brochures, catalog cut and specification sheets, and other product literature for all standard or semi-standard products.
- (b) Certified drawings for standard or semi-standard products when requested by the Engineer, or as otherwise required by the contract documents. Certified drawings shall be provided for all motors not provided as an integral component of a piece of standard or semi-standard equipment by the manufacturer of that equipment. Certified drawings shall clearly depict all critical dimensions, as well as all electrical and mechanical ratings. Where motors are provided with special modifications (encoders, extended shafts, etc.), these modifications shall be reflected on the certified drawings. Manufacturer's standard catalog drawings are not acceptable in place of certified drawings.
- (c) Test certificates for raw materials when requested by the Engineer, or as otherwise required by the contract documents.
- (d) Product submittals shall be provided for all products proposed for installation, even if the proposed products are identical to those specified by the contract documents.
- (e) Approval shall be obtained for all submittals prior to the purchase, delivery to the site, or commitment to this project of the respective equipment or materials.

- (2) Nameplates list for electrical equipment, including proposed text shall be provided. The text of nameplates which are part of a product depicted on a shop drawing shall be clearly shown on that shop drawing.
- (3) Submittals for electrical work shall include shop drawings, catalog cuts and specification sheets, installation details, test procedures and results, and other items as necessary for the fabrication and installation of electrical work, and as may be required by these Contract Documents.
- (4) The contractor shall finalize the exact generator and slab location with the Engineer in the field prior to final placement.

(I) Miscellaneous Machinery Work

- (1) Submittals for machinery work shall include shop and working drawings, layout drawings, catalog cut and specification sheets, installation details, test procedures and results, and other items as necessary for the fabrication and installation of machinery work, and as may be required by these Contract Documents.
- (2) Certified drawings shall be submitted for approval prior to purchase of all standard or semi-standard machinery components including, but not limited to: motors, brakes, reducers, couplings, turned bolts, bearings, and similar items.

(J) Other Work

- (1) Submittals for incidental, miscellaneous, and other work shall include shop drawings, installation and erection drawings, catalog cut and specification sheets, and other items

as necessary for the fabrication and installation of the work including fencing and concrete slab work, and as may be required by these Contract Documents.

4. ADVANCE APPROVAL FOR ORDERING OF RAW MATERIALS

- (A) In order to expedite delivery of long lead time raw materials prior to acceptance of the related shop drawings, the Contractor may request, in writing, approval from the Engineer to order raw materials of the correct type for later fabrication from approved shop drawings.
- (B) Such approval by the Engineer shall be valid only if provided in writing (verbal authorization is not binding) and shall not relieve the Contractor from responsibility for compliance with all requirements of these Contract Documents.
- (C) The Engineer is under no obligation to grant such advance approval, and refusal to grant such approval shall not be considered cause for delay or additional payment.

5. PRELIMINARY SUBMITTALS

- (A) In order to expedite the submittal review process, the Contractor may request, in writing, approval from the Engineer to submit preliminary submittals for examination. Approval for submission of preliminary submittals shall be exclusively at the discretion of the Engineer, and refusal of such approval shall not be considered cause for delay or additional payment.
- (B) Preliminary submittals shall be brief submittals describing the concept and materials sufficiently for the Engineer to determine if the contract requirements appear likely to be satisfied. Many detailed characteristics (dimensions, ratings, etc.) may be omitted. However, any missing information shall be clearly indicated on the submittal. Preliminary submittals shall be clearly identified with "PRELIMINARY SUBMITTAL FOR EXAMINATION ONLY - NOT FOR FINAL REVIEW, APPROVAL, OR CONSTRUCTION" marked on all sheets of the submittal item (this marking is permitted to be placed only on the cover sheet required elsewhere in this Section for catalog cut sheets and similar standard product literature).
- (C) Preliminary submittals shall be submitted separately from other submittals.
- (D) Preliminary submittals will be examined only, as opposed to reviewed and approved. This examination will be for anticipated compliance with the requirements of the Contract Documents and for conformance with the overall design concept, insofar as such anticipation is possible with the limited information provided in the submittal; examination will not be conducted with the same rigor or thoroughness as a review for approval. This examination is intended only to establish that the Contractor is apparently proceeding properly in the selection of the respective submittal item. This examination, and any comments and/or corrections provided to the Contractor as a result of this examination, shall not be considered binding upon the Engineer and shall in no way restrict the comments provided, and/or actions taken, by the Engineer during any subsequent review for approval of the same item.
- (E) See the provisions for "Submittals For Examination Only" given later in this Section.

6. GENERAL REQUIREMENTS FOR SUBMITTALS

- (A) Submittal items shall be grouped and submitted according to logical groupings of equipment with related function in order to facilitate review. Specific requirements for submittal groupings may also be given elsewhere in these Specifications. Where a group of items are required by these Specifications to be submitted together, any submission which is missing required information may be rejected, without further review, to be resubmitted along with the missing information.
- (B) All submittals shall be in English. United States (English) standard units of measure shall be used

except where necessary to match units of measure used in the Contract Documents.

- (C) All drawings shall be furnished with a clear white background, be numbered, include a revision block, include a minimum 3 inch by 3 inch block or space for the Engineer's approval stamp, and clearly indicate the current version/revision number and date of the drawing. Each drawing shall clearly indicate the originating party.
- (D) All drawings shall include scales (except wiring diagrams do not require scales). Where reduced or enlarged copies of drawings are submitted, they shall be clearly marked as such.
- (E) Drawings shall not be larger than 34 inches by 22 inches, nor smaller than 11 inches by 8.5 inches. The preferred sizes shall be 34 inches by 22 inches and 17 inches by 11 inches. Other non-drawing submittal sheets shall be either 11 inches by 8.5 inches or 17 inches by 11 inches.
- (F) All catalog cuts, brochures or other literature submitted shall be manufacturer's latest issue in current use.
- (G) All information on all submittals shall be neat and clearly legible. Those submittals which are not neat and clearly legible may be rejected without review.
- (H) All items submitted shall include a notation identifying the component or use for which it is proposed. Submittals without such component identification will not be reviewed by the Engineer, but will be returned for resubmission with proper marking as required.
- (I) Once a submittal item has been approved, any proposed deviation from the information depicted thereon shall be submitted as revisions for the Engineer's approval prior to implementation of the proposed deviation. All drawings affected by such deviations shall be revised by the Contractor and resubmitted for re-approval.
- (J) All submittals shall clearly show dimensions and pertinent ratings, with markings/notation explicitly identifying the intended use of each component on this project. Where a submittal includes a table, listing, or group of similar items with different catalog numbers and/or options, the specific product(s) and options being proposed shall be clearly marked.
- (K) All submittals shall clearly and explicitly depict all information required to permit the Engineer to determine if the item(s) proposed satisfy the requirements of the Contract Documents.
- (L) The Engineer is not responsible for locating or securing any information that is not readily available on the submitted documents.
- (M) Where a specific manufacturer and/or model is specified for a component, and the Contractor proposes a different manufacturer and/or model as an equal replacement, the Engineer may require back-up calculations in order to positively establish that the proposed item is equal to the specified item and is acceptable for use.
- (N) If the Contractor proposes to modify a product so as to make it conform to the requirements of the Contract Documents, the Contractor shall include in the required submittals a clear description of such proposed modifications and clearly mark any descriptive material to show the proposed modifications.
- (O) Any proposed variance from the Contract Documents shall be clearly identified.
- (P) Catalog cut sheets, shop drawings showing overall views of a component (as opposed to drawings showing only detail views), and similar submittals shall clearly identify the weight(s) of the component(s) depicted. Where a number of individual electrical and/or mechanical components are to be combined into a single unit, the weight of the combined unit may be

identified in lieu of the weights of the individual components. Additional information regarding component weights shall be provided when requested by the Engineer.

- (Q) All submittals shall indicate the manufacturer's anticipated delivery time for the item after receipt of approval by the Engineer. Shipping time to the project site shall also be indicated for items with transit times greater than one week when such transit times are critical to the project schedule.
- (R) Submittals which do not comply with the requirements of this Section will be returned without consideration. Time lost because of the submission of incorrect or incomplete submittals by the Contractor will not be cause delay claims, additional compensation, or for extension of the specified contract period.

7. COVER SHEET FOR STANDARD PRODUCT LITERATURE

- (A) The following shall apply to all catalog cut sheets, brochures, and similar standard product literature.
- (B) For individually submitted catalog cut sheets, each sheet, or set of several sheets all pertaining to the same item, shall be provided with a cover sheet. Cover sheet shall clearly list the submittal item title, the manufacturer's name, the complete model name and/or number, the number of sheets in the cut sheet set, and similar relevant information. The cover sheet shall also include a minimum 3 inch by 3 inch block for the Engineer's approval stamp, and clearly indicate the current revision date of the submittal. The cover sheet shall be stapled to the front of the catalog cut sheet(s) it pertains to. Note that this cover sheet is separate from the submittal cover letter described elsewhere in this section.
- (C) Where a number of items are to be shop assembled into a complete assembly or sub-system, the catalog cut sheets for all of the items in the assembly or sub-system may be submitted bound together with a single cover sheet listing the information required above for each item. However, in such a case, the items bound together will be treated as a single submittal item and approved or rejected as a unit.

8. CALCULATIONS

- (A) All required calculations shall be signed and sealed by a Professional Engineer holding a valid license, in the appropriate discipline, to practice in the State of North Carolina.
- (B) Calculations shall be complete and show all information, including assumptions and references, required to permit re-creation by an independent engineer.

9. SUBMITTAL QUALITY CONTROL

- (A) All submittal items required by these Contract Documents shall be regarded as part of the work items to which they relate, and shall be of the highest quality and acceptable in all respects.
- (B) Prior to transmittal, all submittals shall be thoroughly checked by Contractor to ensure conformity with the requirements of these Contract Documents. In addition, the Contractor shall be certain that any equipment he proposes to furnish and/or install will fit and functionally operate within the designated available space. Clearances shall be functional, as specified, and shall take into account all applicable Codes, regulations, and similar requirements, and shall permit suitable access for routine operation and maintenance.
- (C) The Contractor shall coordinate and review all submittals of all trades and subcontractors for accuracy, compliance with the requirements of the Contract Documents, compatibility with all new and existing work of all trades, and coordination with other submittal items. A statement to

this effect shall be affixed to all submittal items or placed on the submittal cover letter required elsewhere in this Section, along with a list of the submittals that have been reviewed for compatibility and coordination.

10. CONTRACTOR RESPONSIBLE FOR SUBMITTAL QUALITY CONTROL

- (A) Quality control of submittal items shall be solely the responsibility of the Contractor. The Contractor shall ensure that all submittals satisfy the requirements presented in these Contract Documents, and bear full responsibility for all costs and damages associated with, and/or resulting from, failure to provide submittals which conform to such requirements. Submittals which do not conform to the requirements relating to format, neatness, accuracy, completeness etc. presented in these Contract Documents will be returned without consideration.
- (B) Reviews of submittal items by the Engineer are intended to establish that the materials and work depicted are acceptable, not to serve as quality control for the submittals themselves. The Contractor shall conduct a complete and careful review of all submittal items prior to their submission. Such a review shall include, but not necessarily be limited to, the items listed below, shall consider all portions of all submittal items, and shall be conducted by personnel who are familiar with the project and properly qualified to understand the information depicted in the submittal.
 - 1. Accuracy of content.
 - 2. Consistency with submittal items for related and/or adjacent materials and/or work.
 - 3. Compatibility with related and/or adjacent materials and/or work.
 - 4. Formatting and presentation according to the requirements of these Contract Documents.
 - 5. Typographical accuracy.
 - 6. Drafting accuracy.
 - 7. Completeness of required information.
 - 8. Accuracy of cross references, both within a submittal item and between multiple submittal items.
 - 9. Compatibility of interfaces between components.
 - 10. Clear identification of all variances from the requirements of these Contract Documents.
 - 11. Overall conformity with the requirements for submittals given in these Contract Documents.
- (C) The Contractor shall be fully responsible for the accuracy of all submittals, including submittals which have been approved by the Engineer, and shall bear full responsibility for all costs and damages associated with, and/or resulting from, any errors within submittals.

11. SCHEDULING

- (A) Sufficient time shall be allowed for initial review, correction and resubmission, and final review of all submittals. In no case shall the time allowed for review and return of any submittal be less than 30 calendar days from the date of its receipt by the Engineer. The Contractor shall clearly identify the requested return date for each item at the time of its submittal.
- (B) Submittal and checking time is included in total time for completion of all work.
- (C) At the beginning of the project, a schedule shall be submitted of the items of materials and equipment for which submittals are required. For each required submittal, the date shall be given for intended submission of the submittal to Engineer for review, and the date required for its return to avoid delay in any activity beyond the scheduled start date.

12. DELIVERY

- (A) Six copies of all submittals shall be delivered to the location designated by the Engineer. The Engineer may optionally require that the six required copies be divided into two sets for delivery to two different locations.
- (B) Submittal items, properly checked before submission, shall be delivered in a timely manner to allow review prior to ordering or fabrication. As far as practical, drawings shall be submitted in installments or divisions so as to avoid any unnecessary concentration of checking by the Engineer.
- (C) Submittal items shall be packaged so as to prevent damage during shipping. Submittal items which are significantly damaged during shipping shall be replaced at no additional cost.
- (D) The Contractor shall follow up requests for approval, if not acknowledged within the anticipated and/or scheduled time, to avoid loss of submittals in shipping or in handling.
- (E) Alternatively, electronic submittals may be made via email. Electronic submittals shall be in Portable Document Format (PDF).

13. ENGINEER'S REVIEW

- (A) The Engineer will review submittal items for compliance with the requirements of the Contract Documents and for conformance with the overall design concept (design concept relates to the final, in-place installation of material and equipment as part of a functioning whole project in accordance with the requirements and intents of these Contract Documents).
- (B) After the Engineer's review is completed, one "mark-up" copy of each submittal item will be returned to the Contractor. The "mark-up" copy will be marked with the approval status, as outlined below, and any comments and/or corrections resulting from the Engineer's review.
- (C) The approval status of submittals will be determined by the Engineer as follows.
 - (1) "APPROVED" - The Engineer's review found no objectionable deviations and it conforms to the design concept. Record copies (see below) may be distributed, and work may proceed.
 - (2) "APPROVED AS NOTED" - The Engineer's review found no major deviations from the contract requirements. Minor discrepancies or deficiencies were noted onto the drawing or submittal. Purchase of materials and/or fabrication may proceed if the Contractor complies with the Engineer's comments. Corrected copies are required for re-submittal, and approval, prior to distribution of record copies (see below) or installation.
 - (3) "RETURNED FOR CORRECTIONS" - The Engineer found significant discrepancies or deficiencies such that the submittal/shop drawing shall be corrected to comply with the Contract Documents and/or the Engineer's comments, and re-submitted for approval. Submittals which have not been approved shall be corrected and resubmitted until such time as the submittal is acceptable to the Engineer. No purchase of material, fabrication, installation, or related work is authorized.
- (D) When the Engineer determines that the review comments on a submittal item are few enough that it is unnecessary to return a "mark-up" copy of the submittal, a letter or similar correspondence indicating the comments and approval status for the submittal may be provided in lieu of the "mark-up" copy.
- (E) All comments and/or approval status determinations by the Engineer are unofficial unless written, either in the form of a "mark-up" copy of a submittal or a written correspondence. Under no circumstances shall verbal comments regarding any submittal item be considered official.

- (F) After approval of submittal items by the Engineer, no changes shall be made without resubmission, and all changes or revisions shall be clearly marked and dated. Working copies of submittals shall not be issued for use until after the submittals have been approved, and the date of approval shall be clearly marked on all working copies. Acceptance of material and work will be subject to the final approved submittals.
- (G) Under no circumstances shall the Engineer's review be considered to waive any of the provisions or requirements of these Contract Documents, nor release the Contractor from responsibility for the corrections of submittals and/or for errors in details which may interfere with erection and installation. Nor shall review and/or approval of submittal items relieve the Contractor from furnishing materials and products of proper dimensions, quantity, quality, and from the responsibility for their correct installation and for the proper operational performance intended.

14. SUBMITTALS FOR EXAMINATION ONLY

- (A) These Contract Documents may also require certain items to be submitted for examination only, as opposed to review and approval. Such items will be examined only to the extent and/or for the purposes stated by these Contract Documents; they will not be reviewed in the same manner as items submitted for approval.
- (B) After examination, the Engineer will return one "mark-up" copy marked either "EXAMINED" or "EXAMINED AS NOTED", as appropriate. Comments resulting from the Engineers examination may or may not be included with the returned "mark-up" copy.
- (C) Under no circumstances shall the Engineer's examination be considered to waive any of the provisions or requirements of these Contract Documents, nor release the Contractor from responsibility for the corrections of submittals and/or for errors in details which may interfere with erection and installation. Nor shall such examination relieve the Contractor from furnishing materials and products of proper dimensions, quantity, quality, and from the responsibility for their correct installation and for the proper operational performance intended.

15. DISTRIBUTION OF "MARK-UP" SUBMITTALS

- (A) The Engineer will return only one "mark-up" copy of each submittal item. It shall be the Contractor's responsibility to make additional copies of returned submittals as he may require. Distribution of final approved drawings, manufacturer's drawings and catalog cuts to sub-contractors and suppliers shall be the responsibility of the Contractor.

16. DISTRIBUTION OF RECORD COPIES

- (A) After a submittal item has been granted full approval by the Engineer (marked "APPROVED"), the Contractor shall furnish and deliver four record copies of the item.
- (B) Items which were returned "APPROVED AS NOTED" shall have all comments and/or corrections incorporated, and be re-submitted for final approval prior to distribution of the record copies.
- (C) Each copy of each item shall be clearly marked with "RECORD COPY OF APPROVED ITEM", the item tracking number, and the approval date.
- (D) The Contractor shall also provide, at no additional cost, electronic versions of record copies when requested by the Engineer. Files shall be provided on standard Compact Discs and shall conform to the requirements for electronic versions of as-built documentation given elsewhere in these Specifications. Number of copies to be provided shall be as directed by the Engineer, but will not exceed four.

- (E) These final approved copies of submittals are in addition to, and not in place of or part of, the as-built documentation required elsewhere in these Specifications.

17. RECORD COPIES KEPT ON SITE

- (A) The Contractor shall maintain, on site, at least one record copy of all final approved submittals.
- (B) Record copies of approved submittals shall be stored in such a manner as to prevent damage due to dirt, water, sunlight, insects, rodents, etc., and shall be continuously available for the Engineer's inspection.
- (C) These on site copies of approved submittals are in addition to, and not in place of or part of, the on site as-built documentation required elsewhere in Section 2.

18. SUBMITTAL TRACKING

- (A) For the purposes of tracking items throughout the entire submission process, each submittal item (shop drawing, catalog cut, installation detail, calculation set, etc.) shall be assigned a unique tracking number by the Contractor. Where a single catalog cut is comprised of several physical sheets, one tracking number shall be assigned for all sheets. Calculation sets, bound sets of multiple catalog cut sheets, and similar items containing multiple physical sheets which are all related shall be assigned one tracking number for each item. All other submittals, including shop drawing sets comprised of multiple physical sheets, shall have an individual tracking number assigned to each sheet. Once an item has been assigned a tracking number, it shall remain the same for all subsequent revisions and resubmissions of the item.
- (B) The Contractor shall clearly mark all submittal items with the following information: project name, tracking number, title, contract plan equipment schedule item number (where applicable), and submission number. This information shall be typewritten, or legibly handwritten, on the front of each sheet of a submittal item. Additionally, submittal items which are comprised of multiple physical sheets which are all related to a common tracking number shall be marked with the page number and the total number of pages. Submittal items which are not prepared as required by these Specifications will be returned unchecked.
- (C) Each submittal shall also be assigned a unique, descriptive title. Titles shall not be repeated, either within a single submission or between multiple submissions. Titles shall be descriptive of the function of the item(s) depicted and shall not, to the extent practicable, utilize a manufacturer's part or model name or number, or a trade name (for example, use "Liquidtight Flexible Metal Conduit", not "Sealtite"). Once an item has been assigned a title, it shall remain the same for all subsequent revisions and resubmissions of the item.

19. SUBMITTAL COVER LETTER

- (A) All submissions shall include a cover letter, signed by an authorized representative of the Contractor, identifying the submission and its contents.
- (B) Each cover letter shall be assigned a unique and sequential transmittal number (note that this transmittal number is different from the tracking number assigned to each individual submittal item).
- (C) The cover letter shall list the following information for each submittal item:
 - 1. Item tracking number.
 - 2. Submission number. For items which are being re-submitted, the previous transmittal number shall be indicated.
 - 3. Title and description. Where a single item is comprised of multiple physical pages, the

total number of pages shall be noted. Any item designated as a long lead-time, or similar critical path, item shall be clearly identified as such.

4. Number of copies.
5. Name of party (Contractor, sub-contractor, vendor, manufacturer, system integrator, etc.) responsible for originating the item.
6. A list of the submittals that have been reviewed for compatibility and coordination.
7. Purpose of submission (for approval, information only, etc.).
8. The requested return date.

- (D) Where copies of a submission are sent to multiple parties, a properly addressed cover letter shall accompany each copy. In such a case each cover letter shall bear the same transmittal number, and shall clearly identify the other parties receiving copies of the submission.
- (E) A sample submittal cover letter is attached to the end of this section. This sample letter is provided for illustrative purposes only, but the actual letter format shall be substantially the same as that shown.

20. REQUEST FOR INFORMATION AND CORRESPONDENCE TRACKING

- (A) Each Request for Information (RFI), or similar correspondence, shall be clearly marked with a tracking number similar to those required for submittal items.
- (B) Each RFI shall cover only one distinct item and/or question.

21. RESTRICTIONS ON USE, REPRODUCTION, AND/OR DISTRIBUTION

- (A) The term "documentation", as used in this section, includes submittal items, as-built documentation, operation and maintenance manuals, and all other similar items required by these Contract Documents, or provided for this project by, or through, the Contractor.
- (B) No restrictions shall be placed on the reasonable use, reproduction, and/or distribution of any documentation by the Department, the Department's designated representative(s), the Engineer, and/or the Engineer's designated representative(s) for the purposes of this project.
- (C) All documentation shall be considered to be incidental to the materials, products, and/or work they are concerned with, and therefore shall become the unrestricted property, in perpetuity, of the Department upon completion and final acceptance of the project.
- (D) The Contractor shall bear full responsibility for assuring compliance with these requirements, including obtaining permission for use of any copyrighted material, and for any compensation required by, and/or damages sought by, parties preparing or providing documentation which may result from compliance with these requirements.

22. MEASUREMENT AND PAYMENT

- (A) There will be no measurement or direct payment for submittals and working drawings. Associated costs shall be included in the prices bid for the various other items requiring submittals.
- (B) Delivery and/or approval of required submittals shall not be considered to be a basis for partial payment against any item.

END OF SECTION

SUBMITTAL COVER LETTER

PROJECT:	TRANSMITTAL NUMBER:
	DATE:

TO:	FROM:
-----	-------

ITEM NUMBER	SUBMISSION NUMBER	TITLE AND DESCRIPTION	COPIES	ORIGINATING PARTY	ITEMS REVIEWED FOR COMPATIBILITY	SUBMITTED FOR	REQUESTED RETURN DATE

REMARKS:

I HEREBY DECLARE THAT THESE ITEMS HAVE BEEN REVIEWED FOR ACCURACY, COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, COMPATIBILITY WITH ALL NEW AND EXISTING MATERIALS AND WORK OF ALL TRADES, AND COORDINATION WITH OTHER SUBMITTAL ITEMS.

(typed name of person signing)

Page ____ of ____

SECTION 3
CONDUIT AND WIRING SYSTEM

1. SCOPE

- (A) This work consists of furnishing and installing all materials necessary for both replacement and new installation of designated conduit, general purpose wiring, and flexible and armored cable. Also included are junction boxes and terminal cabinets and the testing of new wiring.
- (B) This section is a component of the electrical specifications. The provisions and requirements of the section General Requirements for Bridge Electrical Work are hereby incorporated into this section by this reference, and shall have the same force and effect as if printed here in full.

2. CONDUIT

(A) General Requirements

- 1. Sleeves for conduit or cable holes through concrete walls and floors where required, shall be PVC pipe, epoxied in place. Any sharp sleeve edges shall be filed or sanded smooth.
- 2. Sizes shall be in accordance with the requirements of the National Electrical Code (NEC), and shall be sized to accommodate conductor pulling without damage to conductor insulation.
- 3. Couplings, connectors, and fittings shall be of a type specifically designed and manufactured for the application and for the conduit material. Conduit hubs shall be compatible with both the conduit and the enclosure material.
- 4. Where final connection to equipment with rigid conduit is not practicable, flexible, liquid-tight conduit or flexible type cables identified in this specification shall be used, such as to equipment with adjustable mountings, to navigation lights, to limit switches, and to all machinery. Flexible conduit shall be liquid-tight, UL listed. The flexible conduit jacket material shall be resistant to corrosive atmospheres, sunlight, and weather.
- 5. Provide expansion conduit fittings as required at all structural expansion joints, as required to comply with NEC, and as required to provide a complete and reliable installation.
- 6. Where conduit clamps are used, the matching clamp backs shall be used to support conduits off of surfaces to which they are mounted.
- 7. Conduits shall not be used to support pull boxes, terminal cabinets, etc; such items shall be supported independently of the conduits.
- 8. Conduit threads shall be standard American National Tapered Pipe Threads. Threads shall be clean cut, straight and true, and of sufficient length to permit full-depth coupling. Conduits shall be tightened until conduit ends are together.
- 9. Any removal, cutting or drilling through structural masonry to allow for conduit routing shall be approved by the Engineer.
- 10. All conduit and cable runs for power circuits with conductors size AWG 10 or smaller and control circuits shall contain a minimum of 10% spare conductors, but no less than two spare conductors, unless shown otherwise on the Plans.
- 11. All major conduit runs shall include a water and UV resistant synthetic pull rope.

12. All threaded connections shall be coated with conduit thread sealant. Sealant shall be a waterproof conductive type, explicitly manufactured for the respective conduit material.

(B) PVC Coated Rigid Metal Conduit (RMC)

1. All conduit located in damp or wet areas, installed underground, or encased with concrete shall be hot dip galvanized steel conduit with an exterior PVC coating and an interior urethane coating. Conduit located indoors in dry locations shall be either PVC-coated hot dip galvanized steel conduit or plain hot dip galvanized steel conduit.
2. Exterior PVC coating shall be a minimum 40 mils thick. The adhesion of the PVC coating to the conduit shall be greater than the strength of the coating itself. Overall conduit shall be UL listed with the PVC coating as the primary corrosion protection and the underlying galvanized coating as supplemental protection. Interior coating shall be urethane, minimum 2 mils in thickness.
3. Field cuts to conduit shall be made square and reamed to remove burrs. Field cut threads shall have same length, dimensions, and taper as factory-cut threads. Clean field cut threads with an appropriate degreasing solvent after cutting and coat with a touch-up compound as recommended by the conduit manufacturer. Any area of the interior of the conduit which has been disturbed by reaming shall be similarly treated.
4. Plastic coated rigid metal conduit shall be installed using tools and methods which will not cause damage to the PVC coating. Any areas on the exterior of the conduit which have been damaged during installation shall be coated with an exterior patching compound as recommended by the conduit manufacturer.
5. Installers of PVC coated conduit shall be trained in the proper techniques for cutting, bending, threading, and repairing the PVC conduit.
6. U-bolts, conduit clamps, and mounting hardware shall have similar PVC coated construction, shall be compatible with the PVC conduit, and shall be provided by the same manufacturer as the conduit. Other hardware shall be constructed of stainless steel.
7. PVC coated galvanized steel conduit shall be Robroy Industries Plasti-Bond REDH2OT, Thomas & Betts Ocal, or approved equal.

3. WIRING AND CONDUCTORS

(A) General Purpose Wiring

1. All conductors shall be copper, ASTM Class B stranding. Solid conductors shall not be used. Aluminum conductors shall not be used.
2. Wire and cable for general power and control circuits shall be rated 600 volts minimum.
3. Minimum wire size for field power and control wiring shall be 12 AWG.
4. Conductors shall be sized as shown on the Plans. Conductor sizes, if not shown on the Plans or otherwise specified, shall be minimum permitted by AASHTO for the application.
5. Conductors shall conform to the applicable requirements of UL Standard 44 and NEMA WC-70 / ICEA S-95-658.
6. Wiring, including shielded cable, shall be rated for wet locations. Wiring and cabling installed in exposed locations shall be sunlight and weather resistant.

7. THWN, or similar moisture and heat resistant insulation shall be permitted for use inside control panels. Minimum wire size for use inside control panels shall be 14 AWG.

(B) Communications Cable

1. Communications cables shall be provided as required for the equipment and/or systems served. Conductor sizes, counts, and similar characteristics shall be as recommended by the manufacturer of the equipment and/or system served. Provided shielded type cable where optionally permitted or recommended by equipment manufacturer.
2. Insulation shall be rated at least 300 volts. Where installed in the same raceway, cable tray, or enclosure with power and/or lighting circuits, or where otherwise required by the NEC, insulation shall be rated at least 600 volts.
3. When installed in exposed cable tray, cable shall be rated for wet locations, and outer jacket shall be sunlight and oil resistant.
4. Provide all necessary accessories as required including connectors and termination resistors. Assemble, install, and test according to equipment manufacturer recommendations and procedures.

4. LOW VOLTAGE SPLICES, TERMINALS, AND TERMINAL BLOCKS

- (A) Provide all splices, taps, connectors, terminals, terminal blocks, and related appurtenances as required to provide a complete installation.
- (B) Splices and/or taps made in conductors 10 AWG and smaller for making final connection to luminaires, receptacles, or similar devices may be made with insulated, set-screw type connectors (Ideal Models 10, 11, or 22, or approved equal). Set-screw connectors shall be provided with a flame retardant insulating shell and wrapped with vinyl electrical tape after installation.
- (C) Unless otherwise indicated on the Plans, all other splices and/or taps shall be made on heavy duty, insulated, screw type terminal blocks or power splice blocks mounted in enclosures, junction boxes, pull boxes, or cabinets. Blocks shall have no more than two conductors per terminal.
- (D) Power splice blocks shall be heavy duty, UL Listed or Recognized, rated 600 volts and 90 Celsius, suitable for use with copper conductors, NEMA style, barrier type, tin plated copper or aluminum, Valox or phenolic insulated, either terminal screws or mechanical box lugs. Current rating and wire range shall be sized to accommodate loads served.
- (E) Mount power splice blocks with stainless steel bolts or machine screws. Provide and install protective cover and marking strip for all blocks. Torque all connections per the manufacturer's recommendations using calibrated tools.
- (F) Terminal blocks added to existing control cabinets, where required, shall match the manufacturer and style of existing terminal blocks.
- (G) Splices and/or taps made at equipment or in locations which do not permit the use of terminal blocks or power splice blocks may be made with crimp or mechanical type connectors with the Engineers permission. Splices made with crimp or mechanical type connectors shall be insulated with rubber and vinyl tape, or an insulating cover specifically designed for use with the connector, after installation. The Engineer may requires the use of special splices or splice kits to address specific application considerations including waterproof splice kits.

5. JUNCTION BOXES, PULL BOXES, TERMINAL CABINETS

- (A) Unless specified otherwise, junction boxes, pull boxes, terminal cabinets, and other miscellaneous wiring device boxes outdoors or in machinery rooms shall be NEMA 4X weatherproof, cast aluminum or type 316 stainless steel. Doors shall be gasketed to be weather-tight, per NEMA 4. Cabinets located in the operator's house shall be NEMA 12 rated.
- (B) Hinges, bolts, screws, and other hardware shall be brass or stainless steel. All stainless steel cover fasteners shall be treated with anti-seize compound.
- (C) Terminal cabinets shall be provided with interior mounting panels for mounting of terminal strips. Cabinets that may house power and control conductors shall be sectionalized with divider between power and control sections.
- (D) Interior mounting panels where used in junction boxes, pull boxes, and terminal cabinets mounted in machinery or exposed locations shall be stainless steel.
- (E) Pull boxes installed below grade shall comply with all applicable NEC and ANSI/SCTE requirements.
- (F) Conduit hubs shall be gasketed and caulked with sealant, and shall be located on bottoms of boxes wherever practical. NEMA 4 cabinets shall include breather fittings similar to Crouse Hinds Series ECD and 3/16 inch drain holes in the bottom at two corners.
- (G) Junction boxes with threaded, screw-on type covers shall not be used due to historical problems with corrosion in the cover threads.

6. INSTALLATION

- (A) All conduit, cable tray, wireway, wiring, junction boxes, and terminal cabinets, and support hardware shall be shown on the appropriate shop drawings, layout drawings, wiring diagrams, and other required submittal drawings and approved by the Engineer prior to installing.
- (B) Method of installation for all conduit and wiring shall be in accordance with contract Plans, AASHTO, and the National Electrical Code (NEC). All conduits shall be supported at intervals not to exceed six feet, and as otherwise required for compliance with AASHTO.
- (C) Replacement of conduit shall include replacement of associated, junction boxes, conduit clamps, U-bolts and associated hardware.
- (D) Apply copper impregnated conductive paste to all conductors being terminated in terminal blocks. (Does not apply to crimp-on terminal lugs)
- (E) Split-bolt connectors shall not be used on this project.
- (F) Conductors shall be pulled through conduits, enclosure and cabinet hubs, and conduit bodies in a manner that does not scrape or gouge the insulation. Nicks, gouges, and other damage to insulation will be considered sufficient basis for removal and replacement of conductors at Contractor's expense.
- (G) Power and control wiring shall not be combined in the same conduit.
- (H) No splices or taps shall be permitted in conduits, wireways, or cable trays.
- (I) Sharp edges and corners on fabricated mounting brackets, angles, channels, and commercial erector systems shall be removed by filing, sanding, or grinding prior to installation.
- (J) Where existing spare conduits are utilized by the Contractor for new conductors, verify conduits are free from debris and/or obstruction before installing conductors.

- (K) Utilize weather and UV resistant nylon cable ties for arranging and attaching cables in cable trays.

7. REMOVAL OF EXISTING CONDUIT AND CONDUCTORS

- (A) Remove conductors, conduit, raceways, and equipment as shown on the Plans.
- (B) Existing conduits embedded in concrete and/or installed underground which are to be abandoned in place shall have all conductors removed, be capped/plugged at a threaded connection close to ground elevation, and abandoned.
- (C) The locations and characteristics of all conduit, raceways, boxes, and equipment which are abandoned in place shall be clearly documented on the as-built drawings.
- (D) The Contractor shall bear full responsibility for proper disposal of removed materials in accordance with all applicable regulations.

8. TESTING

- (A) Prior to installation of new wiring, all conduits shall be inspected for any deformations and thread damage. Any damaged conduit shall be replaced in kind for its entire length between connections.
- (B) All new conductors, including power, control, and communications shall be tested for continuity and conductor identification after placement. Continuity testing shall include all necessary tests to confirm that each conductor is continuous throughout its entire run.
- (C) All new conductor insulation shall be Megger tested prior to energizing. Contractor shall measure conductor insulation wire-to-wire and wire-to-ground using an approved ground reference. All devices and loads shall be disconnected prior to Megger testing. Testing shall be done according to IEEE Standard No.4, using an approved instrument. Minimum acceptable insulation value is 10 megohms.
- (D) Supply voltages shall be measured and verified correct for the actual installed devices or equipment being served. Only after these preliminary checks may the circuit be energized.

9. MEASUREMENT AND PAYMENT

- (A) Work covered by this section is an integral part of Item BRIDGE ELECTRICAL WORK; it will not be separately measured or paid for.

END OF SECTION

SECTION 4
GENERATOR AND AUTOMATIC TRANSFER SWITCH

1. SCOPE

- (A) This work consists of the furnishing, installing and testing backup generator equipment which shall include, but need not be limited to, the following major equipment and facilities:
1. Generator Pad (with Grounding System and Security Fencing)
 2. Service disconnect switch and circuit breaker
 3. Automatic Transfer Switch (ATS)
 4. Diesel Generator, Enclosure, and Fuel System
 5. Generator Pad Panelboard and Transformer
 6. Generator Pad Conduit and Wiring
 7. Generator Load Bank
 8. Removal of wiring from existing generators.
 9. Removal of fuel from existing diesel tanks, removal of tanks
- (B) This section is a component of the electrical specifications. The provisions and requirements of Section 1— General Requirements for Bridge Electrical Work are hereby incorporated into this section by this reference, and shall have the same force and effect as if printed here in full.

2. GENERAL PROVISIONS

- (A) It is the Contractor's responsibility to contact, arrange, and coordinate with the local Electric Utility Company.

3. REFERENCED PUBLICATIONS AND STANDARDS

- (A) In addition to the references in the General Requirements for Bridge Electrical Work, any standards and rules of the local utility shall apply, and any applicable federal, state, and local laws and/or regulations shall apply.

4. SUBMITTALS

- (A) The Contractor shall submit the following:
1. Product data for new equipment including generator, automatic transfer switch, load bank.
 2. Electrical drawings for new equipment.
 3. Shop drawings detailing interconnections between equipment, installation details, and equipment mounting framing.
 4. Generator Pad – plan and elevation, construction, reinforcement, equipment mounting locations, conduit embedment.

5. EXISTING COMMERCIAL SERVICE

- (A) The Contractor shall furnish all necessary materials and labor for the connection of the existing electric service to the new generator equipment and to the bridge. Power and metering materials, ratings, and installation shall conform to the requirements of the National Electrical Code (NEC) and of the local utility company. The Contractor shall bear full responsibility for all fees and costs associated with performing the work as described on the Plans and in these Specifications.
- (B) Prior to beginning work, the Contractor shall verify the A-B-C phase sequencing of the existing service connection. The Contractor shall ensure that all new work shall match the phase

sequencing of the existing service. The Contractor shall bear full responsibility for any equipment damaged as a result of improper phase sequencing.

- (C) Existing metering equipment may be reused if permitted by the Utility Company. The Contractor shall provide and install new metering equipment if required by the Utility Company.
- (D) The service disconnecting means shall be as indicated on the Plans and satisfying the requirements for such items given elsewhere in these Specifications. Disconnecting means shall be listed as "Suitable for Use as Service Entrance Equipment." Provide heavy duty laminated steel padlocks with hardened steel shackles and weather resistant thermoplastic shells, one for enclosure door, one for operating handle, and two spare. Padlocks shall be keyed alike, and shall be Masterlock No. 311, or approved equal. Weather and UV resistant warning labels satisfying OSHA/NFPA 70E shock and arc flash hazard requirements shall be affixed to the service disconnecting means.
- (E) The Contractor shall ensure that electrical service is solidly grounded.

6. GENERATOR PAD, GROUNDING SYSTEM, AND FENCING

- (A) The Contractor shall perform all necessary site survey work and required regulatory permitting prior to the excavation of the generator pad location. This shall include identifying the locations of any existing utilities. The Contractor shall be responsible for coordination with all utilities involved. The Contractor shall also be responsible for providing the engineering, coordination, materials, and labor required to relocate any utilities affected by the construction of the new generator pad.
- (B) A grounding system shall be installed as described on the Plans. All non-current carrying metallic parts and equipment within the generator pad shall be connected to the grounding system using properly sized conductors. All sections of the fence, including posts, fabric, gates, and barbed wire strands shall be bonded to the grounding system.
- (C) Grounding electrodes shall be solid copper one-piece or sectional ground rods. Sectional ground rods shall be threaded with matching threaded couplers.
- (D) Exothermic welding system shall be utilized which is specifically designed for use in making grounding and lightning protection connections. System shall utilize weld material consisting of a mixture of copper oxide and aluminum powder which, when ignited, produces a molecular bond.
- (E) The Contractor shall excavate the site, install the grounding electrodes and conductors, bonding conductors, underground raceways for the new power and control system conductors, and any necessary aggregate base material, piles, and/or footings for the generator pad. It is the Contractor's responsibility to dispose of any excess excavated material in compliance with any applicable federal, state, or local regulations.
- (F) The Contractor shall bond and connect the grounding system to the utility grounding electrode as is required by the NEC.
- (G) A chain link fence shall be installed on the generator pad as described on the Plans.

7. AUTOMATIC TRANSFER SWITCH

- (A) The transfer switch shall be listed under U.L. 1008, and rated as shown on the contract drawings. The transfer switch shall be housed in a NEMA 4X stainless steel enclosure.
- (B) The transfer switch shall include a retransfer inhibit input. This shall be connected the bridge control system and shall be used to prevent transfer back to utility power while the bridge is operating under generator power.

- (C) The transfer switch shall have isolated relay output contacts for control system monitoring of the condition of the transfer switch by the bridge control system. The required signals are: source 1 connected, source 2 connected, source 1 available, source 2 available.
- (D) The transfer switch shall have a microprocessor based controller with a digital display for monitoring power conditions and adjusting transfer switch parameters. Memory and settings shall be retained if power to the controller is lost. Features shall include programmable engine start delay timer, engine stop delay timer, transfer delay timers, transition timer, and generator set exerciser. Shall include indicator LED lamps for source availability, source connected, and exercise/test mode. The controller shall use over/under voltage and frequency sensing with adjustable dropout time delays.
- (E) The transfer switch shall be 3-pole type with silver alloy contacts. The mechanism shall be electrically operated and mechanically held in position. Normal and generator contacts shall be positively interlocked electrically and mechanically to prevent simultaneous closing.
- (F) The transfer switch shall be compatible with the diesel generator control system, and shall be from the same manufacturer as the diesel generator.
- (G) The transfer switch shall have the capability to disable an external resistive load bank as required during generator startup and system testing.

8. DIESEL GENERATOR, ENCLOSURE, AND FUEL SYSTEM

- (A) The diesel generator set, enclosure, and fuel system shall have ratings as shown on the Plans, and as described herein.
- (B) The complete diesel generator set, enclosure, fuel system, and automatic transfer switch shall be furnished by a single supplier who has regularly engaged in standby engine-generator sales, service, and installation, for single-source responsibility and service. The system shall meet the requirements of NEMA MG-1, and the generator set shall be listed to U.L. 2200, Stationary Engine Generator Assemblies and pass tests in accordance with NFPA 110 under the Prototype Test Support program.
- (C) The manufacturer shall verify the size and ratings of the specific diesel generator set selected and confirm compatibility with the flux vector drives of the size and type to be installed. If determination is made that a larger size generator is necessary, the Contractor shall be responsible for increasing the size of the generator, pad, associated electrical equipment, and wiring at no additional cost.
- (D) The diesel generator set shall be housed in a Level II sound-attenuated and weather protective aluminum enclosure with stainless steel hardware. The generator set shall also include a 600 gallon dual wall sub-base fuel tank. Fuel tank shall include primary tank leak detection, low level fuel switch, and direct reading fuel level gauge. The cooling system shall include an integrally mounted radiator system. All inlets and outlets shall be provided with rodent barriers. Enclosure shall be equipped with exterior oil and coolant drains with interior valves for ease of service. Vibration isolators shall be provided as recommended by the manufacturer.
- (E) Fuel shall be No. 2 diesel, and engine emissions shall be certified compliant with EPA requirements for stationary diesel generator sets in effect at the engine build date. The exhaust system shall be furnished with an residential grade silencer.
- (F) The diesel generator shall be equipped with a heavy duty 12 volt DC negative ground battery(ies) for engine starting, 100 amp battery charging alternator, and 120VAC battery trickle charger. 120VAC thermostatically controlled heaters shall be provided for the coolant system, lube oil

system, and alternator. Alternator shall have class H insulation, and temperature rise shall be 125 degrees C (standby).

- (G) A generator main circuit breaker shall be furnished, having minimum ratings as shown on the Plans, and shall be U.L. 489 listed for 100% continuous operation and U.L. 869A for use as service equipment.
- (H) The generator control system shall provide total system integration, including automatic remote starting / stopping, precise frequency and voltage regulation, alarm and status message display, current protection, output metering, provisions for remote annunciator panel, and auto-shutdown at fault detection. Local control shall provide for starting and running the generators without transferring the load.
- (I) Provide and install a remote annunciator panel for the generator. Display shall provide generator status indicators including the following:
 - 1. Common Alarm
 - 2. Generator Running
 - 3. Low Oil Pressure
 - 4. High Coolant Temperature
 - 5. Low Battery Voltage
 - 6. Battery Charger Malfunction
 - 7. Low Fuel
- (J) The Contractor shall provide all fuel required for the diesel generator set up through and including testing, and shall fill the fuel tank of the new generator to full capacity after all testing and construction is completed and the "Bridge Electrical Work" is completed and accepted.

9. GENERATOR LOAD BANK

- (A) The load bank shall be self-contained, freestanding type. Shall be suitable for installation on a concrete pad or structural base, with forklift channels in the base for lifting. The enclosure shall be Nema 3R outdoor weatherproof rated, constructed using heavy gage aluminized steel, and all exterior fasteners shall be stainless steel.
- (B) The load bank shall be designed and rated for continuous operation. Unit shall be rated for ambient temperature to 120 degrees Fahrenheit.
- (C) Resistive elements shall be constructed of corrosion resistant materials, and shall be air cooled with an internal fan assembly.
- (D) Load bank shall have self contained controls, circuit protection fuses/breakers, contactors, and cooling fan motor starters. Control power shall be 120VAC. Controls shall include automatic load regulation which automatically senses down-stream generator loads and maintains a programmable minimum load on the generator. All necessary current transformers, sensors, and accessories shall be provided.
- (E) Load bank shall include circuit as shown on the Plans to remotely disable load bank operation.
- (F) Provide anti-condensation heater with associated controls.

10. TEMPORARY GENERATORS

- (A) The Contractor shall provide temporary generators as necessary to support construction activities and to maintain bridge operation, traffic control and signaling, and navigation light operation during construction.

- (B) Temporary generators shall be grounded and shall have over-current protection as required by the NEC.
- (C) The Contractor shall provide all fuel required by temporary generators.

11. REMOVALS

- (A) Remove conductors from existing conduits as shown in the Plans.
- (B) Remove all fuel from existing backup generators diesel fuel tanks, filters, transfer lines, and generator fuel systems.
- (C) The Contractor shall remove and dispose of existing generator fuel tanks. Fuel lines to generators shall be capped and sealed with the appropriate pipe fittings.
- (D) After the proper removal of fuel and fuel tanks, existing generators shall be abandoned in place.
- (E) Contractor shall be responsible for the proper handling, storage, transportation, and disposal of materials according to all applicable local, state, and federal regulations.

12. SPARE PARTS

- (A) Three complete sets of all filters required by generator.
- (B) Six fuses of each size and type used.

13. PROCEDURES

- (A) The installation of the diesel generator system shall be overseen by the diesel generator manufacturer's field service technician(s). Any and all adjustments necessary for a reliable and trouble free system shall be made by the service technician. The Contractor is responsible for any associated costs for the service technician(s). Installation shall be in compliance with NFPA Standard 37, Combustion Engines, and any other local codes that may apply. Monitor primary leak detector during and after introduction of fuel to the empty tank. Means for tank grounding and anchoring to the concrete pad shall be provided. All fuel tanks shall be labeled by product, capacity, and manufacturer. Inspection and permits for use after the installation may be required by the local fire district regulating authority.
- (B) Free-standing enclosures, cabinets, and posts shall be anchored to the concrete pad with stainless steel or hot-dip galvanized anchor bolts. Stainless steel metallic shims shall be utilized to adjust and install enclosures, cabinets, and post plumb.
- (C) Utilize framing constructed of 4" by 4" by 1/4" wall hot dipped galvanized steel structural tubing posts to mount electrical equipment. Posts shall be placed at a maximum of 5' on center spacing. Horizontal framing shall utilize 4" by 4" by 1/4" hot dipped galvanized steel angle and/or stainless steel erector systems such as Unistrut or B-Line.
- (D) Grounding bars or lugs shall be provided in each enclosure or cabinet. Service grounding and equipment grounding and bonding shall conform to requirements of Article 250 of the NEC and of the local utility company.
- (E) The Contractor shall provide the labor and materials to install all necessary interface wiring between the generator and transfer switch required by the Manufacturer. Utility receptacles, switches, and lighting shall be provided as shown on the Plans.

14. ON-SITE TESTING

- (A) The Contractor shall furnish all materials, equipment, fuel and labor to conduct all tests required herein. The Engineer shall be notified in advance of all tests and shall have the option to witness the tests. Written records of all tests shall include the type of test performed, date, personnel involved, equipment tested, name of test equipment or instrument used for the tests with serial number and test results. Test reports shall be signed and dated by the Contractor and submitted to the Engineer or other representative of the Department for review.
- (B) Prior to energizing, the service equipment shall be inspected for any unintentional grounding, phase reversal of feeder connections, short circuits, and the equipment is connected and wired as shown on the approved working drawings.
- (C) The Contractor shall perform all tests and inspection recommended by the equipment manufacturer and the electric utility company, unless specifically waived by the Engineer or by the representative of the Department. The Contractor shall engage the manufacturer's field service technician or engineer to perform the testing of the diesel generator and transfer switch.
- (D) The manufacturer's field service technician or engineer shall also provide routine maintenance procedure, operation, and troubleshooting training to the Department's maintenance personnel for the generator and automatic transfer switch.
- (E) When the entire installation of all electrical systems of the bridge is complete, the Contractor shall perform operational tests of the diesel generator and the transfer switches as a complete electrical service system to demonstrate that all of the electrical service equipment functions properly.

15. MEASUREMENT AND PAYMENT

- (A) Work covered by this section is an integral part of Item BRIDGE ELECTRICAL WORK; it will not be separately measured or paid for.

END OF SECTION

SECTION 5
PLC CONTROL SYSTEM MODIFICATIONS

1. SCOPE

- (A) This Section covers the furnishing of all labor, material, equipment, devices, and related appurtenances to install, test and put in permanent operation the PLC control system modifications required to support the removal of the existing generators and transfer switches and the installation of the new generator and ATS switch as shown on the contract plans and described below.
- (B) This section is a component of the electrical specifications. The provisions and requirements of Section 1 – General Requirements for Bridge Electrical Work are hereby incorporated into this section by this reference, and shall have the same force and effect as if printed here in full.

2. QUALIFICATIONS OF CONTROL SYSTEM VENDOR

- (A) Concurrent with submission of the bid, each bidder shall identify the intended Control System Vendor (assembler/supplier of the integrated control system), and submit a sufficient previous experience log to verify that the Vendor meets the requirements listed herein.
- (B) The Control System Vendor must be able to demonstrate experience in programming Allen-Bradley PLC control systems by having completed ten previous successful control systems, at least five of which shall have incorporated SLC 500 type Allen-Bradley PLC controllers.
- (C) All required previous project references, including names of owners and contact persons with phone numbers, must be submitted with the bid document.
- (D) Control System Vendors unable to demonstrate compliance with the above requirements will not be accepted, which may be deemed cause for disqualification and rejection of the bid.

3. PROGRAMMABLE LOGIC CONTROLLER SYSTEM

- (A) Existing PLC
 - 1. The existing bridge control system utilizes Model SLC 5/05 PLC equipment, as manufactured by the Allen-Bradley Company.
 - 2. Two identical PLC processors are currently installed; one is active and the other is standby. The Controls System Vendor is alerted to the fact that there may be subtle program differences between the processors and shall be responsible for making the required programming changes to both processor programs.
- (B) Fuses and Fuse Blocks
 - 1. Provide fuse and DIN rail mounted block as shown in the Plans. Fuse blocks shall be UL listed, similar in style and type to those currently installed and shall be Allen-Bradley 1492-FB series, or approved equal.
- (C) Relays
 - 1. PLC isolation relays shall be provided as shown on the plans. Relays shall be UL listed general purpose plug-in type relays with DPDT contacts rated 10 amperes at 300 volts AC, 60 hertz. Relay coils shall be 120 volts AC, 60 hertz. Relays shall include pilot light and manual operator. Sockets suitable for DIN rail or panel mounting, with retainer clips, shall be provided for each relay. Isolation relays shall be Allen-Bradley 700 series, or approved equal.

(D) Cabinet Wiring

1. Provide wire labels for all new cabinet wiring. Utilize wire numbering consistent with existing drawings and as shown on the Plans.
2. All point-to-point wiring internal to the PLC and remote I/O cabinets shall be stranded copper. Control wire shall be minimum 14 AWG.
3. Submit a complete detailed interconnection diagram between all components and a list of equipment to be furnished for approval prior to starting his electrical work. Wire numbers shall be provided on the wiring diagrams.

4. PROGRAMMING

- (A) The ladder logic shown on the Plans is conceptual only. Additional logic development and program writing by the control system vendor may be necessary.
- (B) The Control System Vendor shall be responsible for providing all necessary programming laptop computer, software, and communications cables. The Control System Vendor shall coordinate with the bridge owner to upload the current programs and documentation from the existing PLC processors.

5. TESTING

- (A) The Control System Vendor shall test and verify proper operations of the PLC logic changes on both processors.
- (B) The proper operation of the existing bridge control sequence must be successfully demonstrated after the logic changes have been performed. The logic changes shall in no way modify or negatively impact the existing bridge operations. Any errors found shall be corrected and testing shall be performed to demonstrate proper operation to the satisfaction of the Engineer.

6. STARTUP SERVICES

- (A) The Control System Vendor shall provide a factory trained field engineer/technician to check out the wiring and logic changes on site. The vendor's field engineer/technician(s) shall remain on-site during system startup for any required adjustments or modifications of the control logic.
- (B) Any travel and on-site costs for the Control System Vendor shall be included in the bid price.

7. AS-BUILT DOCUMENTATION

- (A) The Control System Vendor shall provide an electronic backup of the PLC ladder program, contact labels, program labels, PLC configuration, and all related files in a format that can be read and downloaded by the PLC programming software. All files shall be verified to be compatible with the bridge owner's version of PLC programming software and shall be copied to the hard drive of the owner's laptop computer.
- (B) The Control System Vendor shall provide hard copies of the as-built PLC ladder logic program listing complete with all cross references, contact labels, and rung comments. Three hardcopies shall be provided along with the corresponding electronic Portable Document Format (PDF) file.
- (C) Electronic backups shall be provided on compact disk, or a media approved by the Owner. Six copies shall be provided.
- (D) All passwords utilized shall be provided to the Owner.

8. MEASUREMENT AND PAYMENT

- (A) Work covered by this section is an integral part of Item BRIDGE ELECTRICAL WORK; it will not be separately measured or paid for.

END OF SECTION

STANDARD SPECIAL PROVISION

AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

(5-20-08)

Z-2

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

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

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(E) of the *2012 Standard Specifications*.

STANDARD SPECIAL PROVISION

ERRATA

(1-17-12) (Rev. 10-15-13)

Z-4

Revise the 2012 *Standard Specifications* as follows:

Division 2

Page 2-7, line 31, Article 215-2 Construction Methods, replace “Article 107-26” with “Article 107-25”.

Page 2-17, Article 226-3, Measurement and Payment, line 2, delete “pipe culverts,”.

Page 2-20, Subarticle 230-4(B), Contractor Furnished Sources, change references as follows: **Line 1**, replace “(4) Buffer Zone” with “(c) Buffer Zone”; **Line 12**, replace “(5) Evaluation for Potential Wetlands and Endangered Species” with “(d) Evaluation for Potential Wetlands and Endangered Species”; and **Line 33**, replace “(6) Approval” with “(4) Approval”.

Division 4

Page 4-77, line 27, Subarticle 452-3(C) Concrete Coping, replace “sheet pile” with “reinforcement”.

Division 6

Page 6-7, line 31, Article 609-3 Field Verification of Mixture and Job Mix Formula Adjustments, replace “30” with “45”.

Page 6-10, line 42, Subarticle 609-6(C)(2), replace “Subarticle 609-6(E)” with “Subarticle 609-6(D)”.

Page 6-11, Table 609-1 Control Limits, replace “Max. Spec. Limit” for the Target Source of $P_{0.075}/P_{be}$ Ratio with “1.0”.

Page 6-40, Article 650-2 Materials, replace “Subarticle 1012-1(F)” with “Subarticle 1012-1(E)”

Division 8

Page 8-23, line 10, Article 838-2 Materials, replace “Portland Cement Concrete, Class B” with “Portland Cement Concrete, Class A”.

Division 10

Page 10-74, Table 1056-1 Geotextile Requirements, replace “50%” for the UV Stability (Retained Strength) of Type 5 geotextiles with “70%”.

Division 12

Page 12-7, Table 1205-3, add “FOR THERMOPLASTIC” to the end of the title.

Page 12-8, Subarticle 1205-5(B), line 13, replace “Table 1205-2” with “Table 1205-4”.

Page 12-8, Table 1205-4 and 1205-5, replace “THERMOPLASTIC” in the title of these tables with “POLYUREA”.

Page 12-9, Subarticle 1205-6(B), line 21, replace “Table 1205-4” with “Table 1205-6”.

Page 12-11, Subarticle 1205-8(C), line 25, replace “Table 1205-5” with “Table 1205-7”.

Division 15

Page 15-4, Subarticle 1505-3(F) Backfilling, line 26, replace “Subarticle 235-4(C)” with “Subarticle 235-3(C)”.

Page 15-6, Subarticle 1510-3(B), after line 21, replace the allowable leakage formula with the following: $W = LD\sqrt{P} \div 148,000$

Page 15-6, Subarticle 1510-3(B), line 32, delete “may be performed concurrently or” and replace with “shall be performed”.

Page 15-17, Subarticle 1540-3(E), line 27, delete “Type 1”.

Division 17

Page 17-26, line 42, Subarticle 1731-3(D) Termination and Splicing within Interconnect Center, delete this subarticle.

Revise the *2012 Roadway Standard Drawings* as follows:

1633.01 Sheet 1 of 1, English Standard Drawing for Matting Installation, replace “1633.01” with “1631.01”.

STANDARD SPECIAL PROVISION

PLANT AND PEST QUARANTINES

(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)

(3-18-03) (Rev. 10-15-13)

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, 919-733-6932, or <http://www.ncagr.gov/plantind/> to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include

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

STANDARD SPECIAL PROVISION

MINIMUM WAGES

(7-21-09)

Z-5

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

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

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

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

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

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

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

STANDARD SPECIAL PROVISION

ON-THE-JOB TRAINING

(10-16-07) (Rev. 5-21-13)

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. A sample agreement is available at www.ncbowd.com/section/on-the-job-training.

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.

WORK ZONE TRAFFIC CONTROL GENERAL REQUIREMENTS

TEMPORARY TRAFFIC CONTROL (TTC)

(7-16-13)

RWZ-1

Maintain traffic in accordance with Divisions 10, 11 and 12 of the *2012 Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs in accordance with the detail drawing provided in these plans prior to beginning any other work. Use a lane closure or slow moving operation to complete the work, as necessary, unless otherwise indicated. Refer to Standard Drawing No. 1101.02, 1101.11, 1110.01, 1110.02, 1130.01 1135.01 and 1180.01 of the *2012 Roadway Standard Drawings*. Use a moving operation only if the minimum speed maintained at all times is 3 mph with no stops that narrow or close a lane of travel. If the moving operation is progressing slower than 3 mph at any time, install a lane closure. Maintain the existing traffic pattern at all times, except in the immediate work zone where lane closures are allowed as determined by the Engineer.

Refer to attached details and Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.05, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *2012 Roadway Standard Drawings* when closing a lane of travel in a stationary work zone such as pavement patching resurfacing, or pavement marking removal. Properly ballasted cones and skinny drums may be used instead of drums. However, drums are required for the upstream taper portion of lane closures in all applications. The stationary work zone shall be a maximum of 1 mile in length at any given time on 2 Lane, 2 Way facilities unless otherwise approved by the Engineer. A pilot vehicle operation may be used in conjunction with flaggers and the appropriate pilot vehicle warning signing as directed by the Engineer. During periods of construction inactivity, return the traffic pattern to the existing alignment and remove or cover any work zone signs. When covering work zone signs, use an opaque material that prevents reading of the sign at night by a driver using high beam headlights. Use material, which does not damage the sign sheeting. Replace any obliterated markings as required by other sections of the *2012 Standard Specifications* and the Engineer.

When personnel and/or equipment are working on the shoulder adjacent to and within 5 feet of an open travel lane, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *2012 Roadway Standard Drawings*. When personnel and/or equipment are working within a lane of travel of an undivided facility, close the lane according to the traffic control plans, *2012 Roadway Standard Drawings* or as directed by the Engineer. Conduct the work so that all personnel and/or equipment remain within the closed travel lane. Do not work simultaneously, on both sides of an open travel way, within the same location, on a two-lane, two-way road. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

When utilizing a slow-moving operation for such items as pavement marking and marker placement, as a minimum the slow moving operation caravan shall consist of the vehicles and devices shown on the Moving Operation Caravan Details according to Roadway Standard Drawing No. 1101.02, sheet 11 of the *2012 Roadway Standard Drawings*. Traffic cones may be used when necessary to provide additional protection of wet pavement markings. Ballast all traffic cones so they will not be blown over by traffic.

TRAFFIC OPERATIONS:

1) Drop-Off Requirements and Time Limitations:

Do not exceed a difference of 2 inches in elevation between open lanes of traffic for nominal lifts of 1.5 inches.

During a resurfacing only operation, bring all newly resurfaced lanes to the same elevation within 72 hours for nominal lifts of 1.5 inches or less of asphalt course and by the end of each work day for nominal lifts of greater than 1.5 inches of asphalt course.

Backfill at a 6:1 slope up to the edge and elevation of existing pavement in areas adjacent to an open travel lane that has an edge of pavement drop-off as follows:

- (A) Drop-off that exceeds 2 inches on roadways with posted speed limits of 45 mph or greater.
- (B) Drop-off that exceeds 3 inches on roadways with posted speed limit less than 45 mph.

For drop-offs that exceed the above requirements, backfill the unacceptable drop-off with suitable compacted material, as approved by the Engineer. The material, equipment and labor associated with

this operation will be at no expense to the Department. This work is not considered part of shoulder reconstruction.

2) Project Requirements:

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

1. Before working on ANY MAP, the Contractor shall submit a written construction sequence for traffic control and construction lighting for ALL MAPS to the Engineer at the first pre-construction meeting and the sequence must be approved before closing a lane of traffic. The Contractor and Engineer will coordinate with the Traffic Management Unit at 919-773-2800 or Traffic Services for additional traffic control guidance, as necessary.
2. Coordinate the installation of items required by the contract documents and resurfacing operations such that these operations are completed in the order as agreed upon with the Engineer at the first pre-construction meeting. Refer to the Provisions, Typicals and Details unless otherwise directed by the Engineer.
3. Once the Contractor has started work at a location, the Contractor should prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance unless determined otherwise by the Engineer.
4. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures.
5. Mainline pavement shall not be left milled, unmarked or uneven at the end of a paving season.
6. Contractor shall mill and pave lanes in an order such that water shall not accumulate.
7. Traffic Control for the milling and/or paving of ramps is to be done according to Standard Drawing Number 1101.02, Sheets 9 & 10 unless otherwise approved to be closed by the Engineer. If approved, Contractor will provide plans and devices for the detour at no additional cost to the department.
8. If lane closure restrictions apply, see Special Provision, "Intermediate Contract Times and Liquidated Damages".

Notify the Engineer 15 consecutive calendar days before resurfacing a bridge or its approaches. Patch and make repairs to bridge surface and its approaches before resurfacing occurs. Coordinate all operations on the bridge and its approaches with the Engineer.

Notify the Engineer 48 hours before resurfacing the areas of existing pavement that require patching. Patch these areas before resurfacing occurs. Allow full depth asphalt patching to cool to the point of supporting traffic without displacement or rutting before reopening closed lane. Coordinate the resurfacing operations of the patched areas with the Engineer.

Notify the Engineer 48 hours before milling or resurfacing will interfere with the existing Signal Loops. Loops may need to be placed in milled surface before resurfacing occurs. Coordinate all signal loop operations with the Engineer.

For partial or wheel track milling operations on two-way, two-lane facilities, mill and pave back by the end of each work day. For Partial or wheel track milling operation on multi-lane facilities, the lane being milled may be left closed and paved back within 72 hours.

The following options are available during Resurfacing and milling operations on two-way, two-lane facilities when the entire roadway or entire lane is to be milled:

- (A) Mill a single lane and pave back by the end of each work day.
- (B) Mill the entire width of roadway and pave back within 72 hours.

The following options are available during Resurfacing and milling operations on multi-lane facilities when all lanes or a single lane in one direction are to be milled:

- (A) Mill a single lane and pave back by the end of each work day.
- (B) Mill the entire width of pavement for all lanes to be milled in any direction daily and pave back within 72 hours.

Slope the pavement at the beginning and ending of the daily milling operation as directed by the Engineer. Sweep and remove all milled material from the roadway as soon as the daily milling operation is completed. Continue milling operations until the particular section of roadway being milled is complete. Remove any existing pavement adjacent to the milled area that has been damaged and replace with patch material as directed by the Engineer.

Operate equipment and conduct operations in the same direction as the flow of traffic. Maintain vehicular access in accordance with Article 1101-05 of the *2012 Standard Specifications* using suitable backfill material approved by the Engineer.

Provide appropriate lighting in accordance with Section 1413 of the *2012 Standard Specifications*.

Review and record the existing pavement markings and markers prior to resurfacing. Use the record of existing pavement markings and markers in accordance with the *2012 Roadway Standard Drawings* to identify “no passing zones” and to re-establish the proposed pavement markings and markers unless otherwise directed by the Engineer.

Remove existing pavement markers in preparation for paving. Repair any pavement damage due to existing pavement marker removal prior to the end of the work day. Dispose of existing pavement markers as directed by the Engineer. No direct payment will be made for this work, as it will be incidental to the paving operation.

3) Work Zone Signing:

Description

Install advance/general warning work zone signs according to the Detail Drawing provided in these plans prior to beginning of work. Install and maintain signing in accordance with the attached drawings and Divisions 11 and 12 of the *2012 Standard Specifications*.

(A) Installation

Install all Advance/General warning work zone signs before beginning work on a particular map. If signs are installed more than seven (7) calendar days prior to the beginning of work on a particular map, cover the signs until the work begins. Install each work zone Advance/General warning sign separately and not on the same post or stand with any other sign except where an advisory speed plate or directional arrow is used.

All stationary signing is to be installed as shown on the detail drawing unless otherwise directed by the Engineer. Once the signs have been installed, any sign relocations requested by the Department will be compensated in accordance with Section 104-7. Any additional signs other than the ones shown in the drawing will be compensated in accordance with Section 104-7.

No -Y- Line advance warning signage is required unless there's more than 1,000 feet of resurfacing along the -Y- line. Whenever work proceeds through an intersection, portable signs shall be used for traffic control. There will be no direct compensation for any portable signing.

If there is a period of construction inactivity longer than 14 calendar days, remove or cover advance/general warning work zone signs. Uncover advance/general warning work zone signs no more than 7 calendar days before work resumes. All other operations may be suspended upon failure to comply with the above requirements. Such suspended operations would not be resumed until the above requirements are fulfilled.

(B) Sign Removal

All stationary work zone signs shall be removed once the project is substantially complete. The project is substantially complete when the resurfacing operations are completed and the shoulders are brought up to the same elevation as the proposed pavement and when pavement markings are installed. The pavement marking doesn't have to be the final marking material to be considered substantially complete. Any remaining punch list items are to be completed with portable work zone signing. There will be no compensation for any portable signing. Sign removal is a condition of final project acceptance.

(C) Lane Closure Work Zone Signs

Install any required lane closure signing needed during the life of the project in accordance with the Standard Drawing No. 1101.02, 1101.11 and 1110.02 of the *2012 Roadway Standard Drawings*. Any required portable signs for lane closures are compensated in the contract pay item for *Temporary Traffic Control*.

4) Measurement and Payment:

Temporary traffic control work, including, but not limited to installation and removal of portable signs, cones, drums, skinny drums, flaggers, AFAD's, changeable message boards, truck mounted attenuators, flashing arrow panels, and pilot vehicles will be paid at the contract lump sum price for *Temporary Traffic Control*. The *Temporary Traffic Control* pay item does not include work zone advance or general warning signs. Partial payments for *Temporary Traffic Control* will be made as follows: The cumulative total of the lump sum price for temporary traffic control will be equal to the percent complete (project) as calculated for each partial pay estimate. Additional flashing arrow panels and message boards beyond

those shown in the contract, detail drawings or *Roadway Standard Drawings* required by the Engineer will be paid as extra work in accordance with Article 104-7 of the Standard Specifications.

The work of satisfactorily installing and removing work zone advance and/or general warning signs, including, but not limit to, furnishing, locating, installing, covering, uncovering and removing stationary signs will be measured for each required sign and paid at the contract price for *Work Zone Advance/General Warning Signing (SF)*. Payment for *Work Zone Advance/General Warning Signing* will be limited to a maximum of 90% of the total installed quantity. The remaining 10% will be paid once all signs have been removed.

The Lump Sum price for *Temporary Traffic Control* will include the work of four (4) flaggers per operation per map being utilized at the same time on any day. If a pilot vehicle is used for an operation, the Lump Sum Price for *Temporary Traffic Control* will include the work of five (5) flaggers. The operator of a pilot vehicle will be considered one of the five flaggers. Payment will be made per hour at a rate of \$20.00 per hour for each flagger over the included amount (four or five) that is approved by the Engineer as *Supplemental Flagging*.

Payment will be made under:

Pay Item	Pay Unit
Temporary Traffic Control	Lump Sum
Work Zone Advance/General Warning Signing	Square Foot
Supplemental Flagging	Hour

TIME LIMITATION FOR PAVEMENT MARKINGS AND MARKERS ON NEWLY RESURFACED AREAS

Markings: Two-Lane, Two-Way Facilities

For all two-lane, two-way facilities, place all edge lines and other symbols within 30 calendar days after they have been obliterated by the resurfacing operation. This 30 day requirement is an exception to the 15 day requirement in the *2012 Standard Specifications*. All other pavement marking shall be installed in accordance with the *2012 Standard Specifications* and the 2012 Roadway Standard Drawings 1205.01 through 1205.13.

Markings: All Facilities

Final pavement markings on a specific map are subject to an observation period that begins with the satisfactory completion of all pavement markings required on a specific map in accordance with Subarticle 1205-3(H) of the *2012 Standard Specifications*. Pavement markings shall be installed in accordance with the *2012 Standard Specifications* and the 2012 Roadway Standard Drawings 1205.01 through 1205.13 with the exception of the 30 day edge line requirement for 2 lane roads as described above.

All characters, symbols and stop bars on concrete shall be either Type 2 or Type 3 Cold Applied Plastic or Heated-In-Place Thermoplastic as shown on NCDOT Approved Product List. The quantity for

characters, symbols and stop bars on concrete will be included in the pay items for Type 2 Cold Applied Plastic.

All characters, symbols and stop bars on asphalt shall be either Heated-In-Place Thermoplastic or Extruded Thermoplastic as shown on NCDOT Approved Product List. The quantity for characters, symbols and stop bars on asphalt will be included in the pay items for Heated-In-Place Thermoplastic.

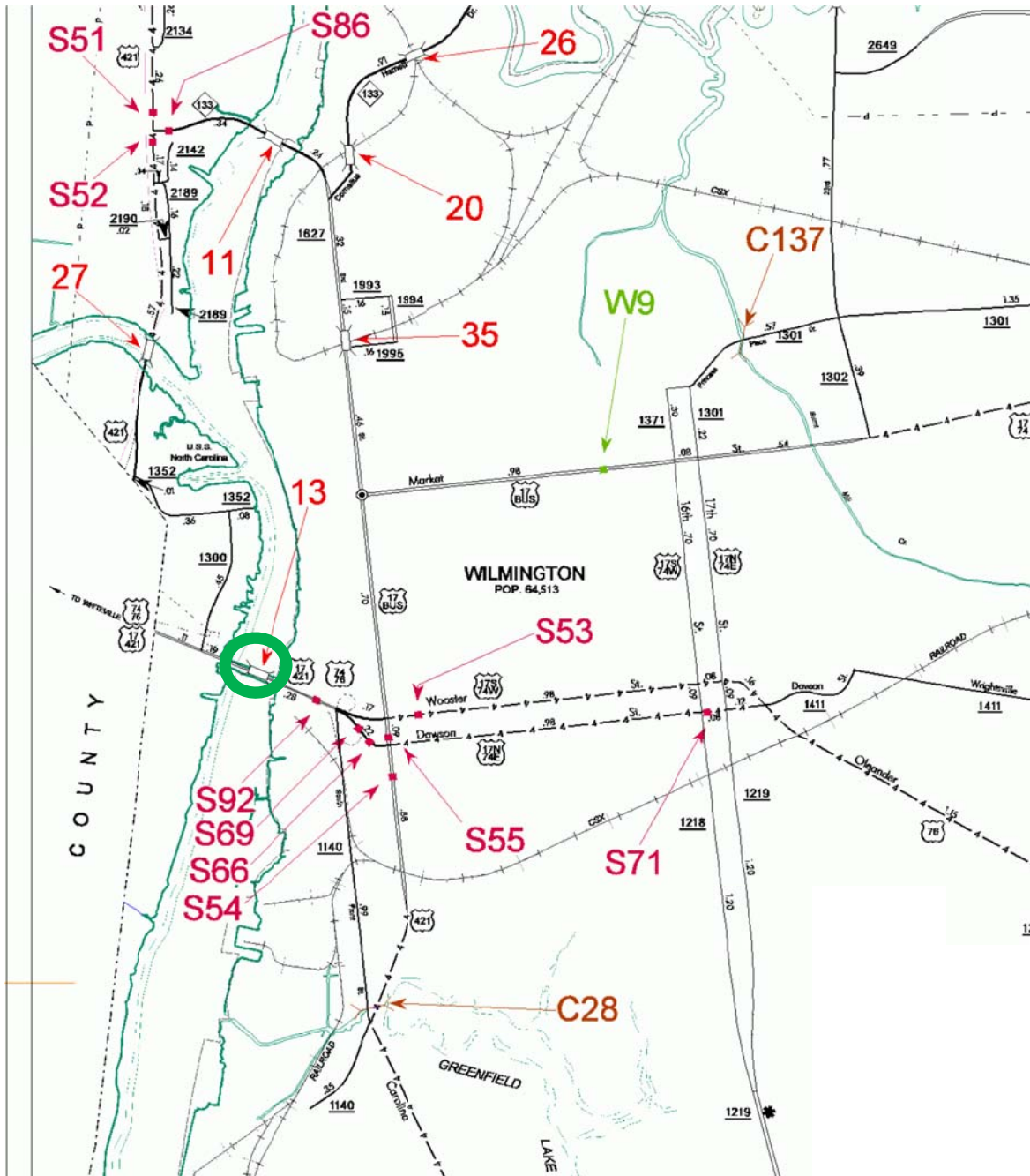
Markers: All Facilities

Install permanent pavement markers within 60 calendar days after completing the resurfacing on each map. Pavement markers shall be installed in accordance with the 2012 *Standard Specifications* and the 2012 Roadway Standard Drawing 1205.12 and 2012 Roadway Standard Drawings 1250.01 through 1253.01.

Milled Rumble Strips:

When utilized, milled rumble strips shall be installed in accordance with the 2012 *Standard Specifications* and the 2012 Roadway Standard Drawing 665.01.

VICINITY MAP



NEW HANOVER BRIDGE 13
US 17 / 76 / 421 OVER THE CAPE FEAR RIVER

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

CORPORATION

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

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Full name of Corporation

Address as Prequalified

Attest _____

Secretary/Assistant Secretary
Select appropriate title

By _____

President/Vice President/Assistant Vice President
Select appropriate title

Print or type Signer's name

Print or type Signer's name

CORPORATE SEAL

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the

_____ day of _____ 20__.

NOTARY SEAL

Signature of Notary Public

of _____ County

State of _____

My Commission Expires: _____

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

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

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

<hr/>	
Full Name of Partnership	
<hr/>	
Address as Prequalified	
<hr/>	
<hr/>	By <hr/>
Signature of Witness	Signature of Partner
<hr/>	<hr/>
Print or type Signer's name	Print or type Signer's name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the _____ day of _____ 20__.

NOTARY SEAL

Signature of Notary Public

of _____ County

State of _____

My Commission Expires:_____

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

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

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Full Name of Firm

Address as Prequalified

Signature of Manager

Signature of Witness

Individually

Print or type Signer's name

Print or type Signer's Name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the

NOTARY SEAL

_____ day of _____ 20__.

Signature of Notary Public

of _____ County

State of _____

My Commission Expires: _____

EXECUTION OF BID
DEPARTMENT CERTIFICATION AND
JOINT VENTURE (2) or (3)

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Instructions: **2 Joint Venturers** Fill in lines (1), (2) and (3) and execute. **3 Joint Venturers** Fill in lines (1), (2), (3) and (4) and execute. On Line (1), fill in the name of the Joint Venture Company. On Line (2), fill in the name of one of the joint venturers and execute below in the appropriate manner. On Line (3), print or type the name of the other joint venturer and execute below in the appropriate manner. On Line (4), fill in the name of the third joint venturer, if applicable and execute below in the appropriate manner.

(1)	<hr/>		
	Name of Joint Venture		
(2)	<hr/>		
	Name of Contractor		
	<hr/>		
	Address as Prequalified		
	<hr/>	By	<hr/>
	Signature of Witness or Attest		Signature of Contractor
	<hr/>		<hr/>
	Print or type Signer's name		Print or type Signer's name
	<i>If Corporation, affix Corporate Seal</i>	and	

		Name of Contractor
Address as Prequalified		
Signature of Witness or Attest	By	Signature of Contractor
Print or type Signer's name		Print or type Signer's name
<i>If Corporation, affix Corporate Seal</i>	and	

(4) _____
 Name of Contractor *(for 3 Joint Venture only)*

 Address as Prequalified

 Signature of Witness or Attest

 Print or type Signer's name

By _____
 Signature of Contractor

 Print or type Signer's name

If Corporation, affix Corporate Seal

NOTARY SEAL

Affidavit must be notarized for Line (2)

Subscribed and sworn to before me this
day of 20

Signature of Notary Public
of _____ County

State of _____
My Commission Expires:

NOTARY SEAL

Affidavit must be notarized for Line (3)

Subscribed and sworn to before me this
day of _____ 20____

Signature of Notary Public
of _____ County

State of _____
My Commission Expires:

NOTARY SEAL

Affidavit must be notarized for Line (4)

Subscribed and sworn to before me this
day of _____ 20____

Signature of Notary Public
of _____ County

State of _____
My Commission Expires:

EXECUTION OF BID
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN CERTIFICATION
INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

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

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Name of Contractor

Individual name

Trading and doing business as

Full name of Firm

Address as Prequalified

Signature of Witness

Signature of Contractor, Individually

Print or type Signer's name

Print or type Signer's name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the

NOTARY SEAL

_____ day of _____ 20__.

Signature of Notary Public

of _____ County

State of _____

My Commission Expires: _____

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

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

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

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Name of Contractor _____
Print or type Individual name

Address as Prequalified

Signature of Contractor, Individually

Print or type Signer's Name

Signature of Witness

Print or type Signer's name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the _____
_____ day of _____ 20__.

NOTARY SEAL

Signature of Notary Public

of _____ County

State of _____

My Commission Expires: _____

DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction*, *debarred*, *suspended*, *ineligible*, *lower tier covered transaction*, *participant*, *person*, *primary covered transaction*, *principal*, *proposal*, and *voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐

Check here if an explanation is attached to this certification.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR

CONTRACT:

NAME OF BIDDER:

The undersigned intends to perform work in connection with the above contract upon execution of the bid and subsequent award of contract by the Board of Transportation as:

Name of MBE/WBE/DBE Subcontractor _____

Address _____

City _____ State _____ Zip _____

Please check all that apply:

Minority Business Enterprise (MBE) _____

Women Business Enterprise (WBE) _____

Disadvantaged Business Enterprise (DBE) _____

The MBE /WBE /DBE status of the above named subcontractor is certified by the North Carolina Department of Transportation. The above named subcontractor is prepared to perform the described work listed on the attached MBE/WBE/DBE Commitment Items sheet, in connection with the above contract upon execution of the bid and subsequent award of contract by the Board of Transportation. The above named subcontractor is prepared to perform the described work at the estimated Commitment Total for Subcontractor Price identified on the MBE/WBE/DBE Commitment Items sheet and amount indicated below.

Commitment Total based on estimated Unit Prices and Quantities on the "attached" MBE/WBE/DBE Commitment Items sheet. Amount \$ _____

The above named bidder and subcontractor mutually accepts the Commitment Total estimated for the Unit Prices and Quantities. This commitment total is based on estimated quantities only and most likely will vary up or down as the project is completed. Final compensation will be based on actual quantities of work performed and accepted during the pursuance of work. The above listed amount represents the entire dollar amount quoted based on these estimated quantities. No conversations, verbal agreements, and/or other forms of non-written representations shall serve to add, delete, or modify the terms as stated.

This document shall not serve in any manner as an actual subcontract between the two parties. A separate subcontractor agreement will describe in detail the contractual obligations of the bidder and the MBE/WBE/DBE subcontractor.

Affirmation

The above named MBE/ WBE/ DBE subcontractor affirms that it will perform the portion(s) of the contract for the estimated dollar value as stated above.

Name of MBE/ WBE/ DBE Subcontractor

Name of Bidder

Signature / Title

Signature / Title

Date

Date

LISTING OF MBE & WBE SUBCONTRACTORS						Sheet _____ of _____
Firm Name and Address		MBE or WBE	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address						
Name Address						
Name Address						
Name Address						
Name Address						
Name Address						

Contract No. _____ County _____ Firm _____

**This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no MBE and/or WBE participation must so indicate this on the form by entering the word or number *zero*.**

LISTING OF MBE & WBE SUBCONTRACTORS						Sheet _____ of _____
Firm Name and Address		MBE or WBE	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address						
Name Address						
Name Address						
Name Address						

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

** Must have entry even if figure to be entered is zero.

** Dollar Volume of MBE Subcontractor \$ _____
 MBE Percentage of Total Contract Bid Price _____ %
 ** Dollar Volume of WBE Subcontractor \$ _____
 WBE Percentage of Total Contract Bid Price _____ %

**This form must be completed in order for the Bid to be considered responsive and be publicly read.
 Bidders with no MBE and/or WBE participation must so indicate this on the form by entering the word or number *zero*.**

**North Carolina Department of Transportation
BID FORM**

WBS Element: 15B.13.28

Project Description: *Installation of a New Standby Generator at the Cape Fear Memorial Bridge*

ITEM	DESC NO.	SECT	DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT BID
1	0000100000-N	800	MOBILIZATION	1	LS		
2	1220000000-E	545	INCIDENTAL STONE BASE	140	TON		
3	8860000000-N	SP	BRIDGE ELECTRICAL WORK	1	LS		
<i>TOTAL BID FOR PROJECT: 15B.13.28</i>							

CONTRACTOR _____

ADDRESS _____

Federal Identification Number _____

Contractors License Number _____

Authorized Agent _____

Title _____

Signature _____

Date _____

Witness _____

Title _____

Signature _____ Date _____



**THIS SECTION TO BE COMPLETED BY NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION**

This bid has been reviewed in accordance with Article 103-1 of the Standard Specifications for Roads and Structures 2012.

Reviewed by _____

Date _____

Accepted by _____

Date _____

Contract No. **DC00048**

County (ies): **NEW HANOVER**

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

Contract Officer

Date

Execution of Contract and Bonds
Approved as to Form:

Attorney General

Signature Sheet (Bid - Acceptance by Department)