STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 3, 2006

Addendum No. 2

RE: Contract ID: C201278
TIP Number: R-2813B
Buncombe County
Project Description: NC 146 (Long Shoals Rd.) from West of Clayton Road (SR 3501) to East of I-26

December 21, 2006 Letting

To Whom It May Concern:

Reference is made to the Request for Proposal recently furnished to you on the above project. The following revisions have been made to the Request for Proposal:

The *COVER SHEET* has been revised.

The *TABLE OF CONTENTS* has been revised.

Pages No. 5, 6, 9, 13, 17, 22-24, 29-32, 32A, 32C, 32E - 32K, 32N and 32Q - 32U of the *PROJECT SPECIAL PROVISIONS SECTION* have been revised.

Page 32V of the *PROJECT SPECIAL PROVISIONS SECTION* has been added.

Pages 33 and 36 of the *GENERAL SECTION* have been revised.

Page 53 of the *STRUCTURES SCOPE OF WORK* has been revised.

Page 58 of the *HYDRAULICS SCOPE OF WORK* has been revised.

Page 78 of the *TRAFFIC CONTROL SCOPE OF WORK* has been revised.

Pages 88 and 90 of the *SIGNING SCOPE OF WORK* have been revised.

Page 99 of the *UTILITIES COORDINATION SCOPE OF WORK* has been revised.

Page 107 of the *ENVIRONMENTAL PERMITS SCOPE OF WORK* has been revised.

Pages 109-112 of the *EROSION AND SEDIMENTATION CONTROL SCOPE OF WORK* have been revised.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT SERVICES UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4128
FAX: 919-250-4119

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Pages 113-114 of the *PUBLIC INFORMATION SCOPE OF WORK* have been revised.

Pages 122 and 152-154 of the *STANDARD SPECIAL PROVISIONS SECTION* have been revised.

Page 216 of the *DIVISION ONE –Section 105-2* has been revised.

Sincerely,

R.A. Garris, P.E.
Contract Officer

cc:
Mr. Steve Varnedoe, PE
Mr. Ellis Powell, PE
Ms. Deborah Barbour, PE
Mr. Victor Barbour, PE (w/)
Mr. Art McMillan, PE
Mr. Rodger Rochelle, PE (w/)
Mr. Clarence Coleman, PE - FHWA (w/3)
Mr. Jay Swain, PE (w/)
Mr. Jay Bennett, PE
Mr. Philip Harris, PE
Mr. Dave Henderson, PE
Mr. Carl Goode
Mr. Gregory Thorpe, PhD
Mr. Ricky Tipton, PE (w/3)
Mr. Bucky Galloway, PE (w/)
Mr. Mark Teague, PE (w/)
Mr. Steve Kite, PE (w/)
Mr. Ray McIntyre, PE
Mr. Shannon Sweitzer, PE (w/)
Mr. David Harris, PE
Mr. Greg Smith, PE
Ms. Beverly Williams (w/)
Ms. Stacey Baldwin, PE (w/)
Mr. Robert Memory, (w/)
Ms. Teresa Bruton, PE (w/4)
Mr. Ron Hancock, PE (w/)
Mr. Lori Cove, PE (w/)
Mr. Ayman Alqudwah, PE (w/)
Mr. Ron Davenport, PE (w/)
Ms. Virginia Mabry (w/)
Mr. John Emerson, PE (w/)
Ms. Jennifer Brandenburg, PE (w/)
Ms. Judith Corley-Lay, PhD, PE
Mr. Marshall Clawson, PE - Hydraulics (w/)
Ms. Anne Gamber, PE - Hydraulics (w/)
Mr. Chris Rivenbark - Environmental Permits (w/)
Ms. Elizabeth Lusk – Natural Enviornment (w/)
Mr. Stuart Bourne, PE
Mr. John Pilipchuk, PE (Div 8-14) – Geotechnical (w/)
Mr. Neal Strickland - Right-of-Way (w/)
Mr. Barney Blackburn, PE - Erosion & Sed. Cont. (w/2)
Mr. Doug Taylor, PE - Roadway (w/)
Mr. Lonnie Brooks, PE - Structures (w/)
Mr. Cyrus Parker, LG - GeoEnvironmental (w/)
Mr. Mitch Hendee, PE - Traffic Control (w/)
Mr. Stephen Worthy - Utility Coordination (w/)
Mr. Clark Morrison, PhD, PE - Pavement Design (w/)
Mr. Tim Williams, PE - Signals (w/)
Mr. Neil Avery – Signal Communications (w/)
Ms. Michelle Long, PE - Public Information (w/)
Mr. Tim McFadden - Signing (w/)
Ms. Jackie Armstrong, EI - Roadway (w/)
Mr. Nilesh Surti, PE – Geotechnical (w/)
Mr. Tony Wyatt, PE (w/)
Mr. Wayne Johnson, PE (w/)
Mr. Roger Worthington, PE (w/)
Mr. Brian Mayhew, PE (w/)
Mr. Greg Perfetti, PE (w/)
Ms. Marsha Sample (w/)
Technical Review Committee Members (w/)
File (w/)

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

FINAL RFP

Includes
Addendum No. 1 August 15, 2006
Addendum No. 2 November 3, 2006

DESIGN-BUILD PROJECT

TIP R-2813B

November 3, 2006

VOID FOR BIDDING

DATE AND TIME OF TECHNICAL AND PRICE PROPOSAL SUBMISSION: **November 21, 2006** AT **4:00 PM**

DATE AND TIME OF PRICE PROPOSAL OPENING: **December 21, 2006** AT **10:00 AM**

CONTRACT ID:	C 201278
WBS ELEMENT NO.	34505.3.3
FEDERAL-AID NO.	STP-146(5)
COUNTY:	Buncombe
ROUTE NO.	NC 146
MILES:	1.012
LOCATION:	NC 146 (Long Shoals Rd.) from west of Clayton Road (SR 3501) To east of I-26
TYPE OF WORK:	DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE FINAL RFP

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.

_____

5% BID BOND OR BID DEPOSIT REQUIRED

_____

TABLE OF CONTENTS

STANDARD SPECIAL PROVISIONS (YELLOW SHEETS)

Monthly Payout Schedule shall parallel, and agree with, the project schedule the Design Build Team submits as a part of their Technical Proposal. The schedule shall include a monthly percentage breakdown (in terms of the total contract amount percentages) of the work anticipated to be completed. The schedule shall begin with the Date of Availability and end with the Actual Completion Date proposed by the Design Build Team. **If the Payout Schedule is not submitted as outlined above, the Technical and Price Proposals shall be considered irregular by the Department and the bid may be rejected.**

DB1 G13

MOBILIZATION (10-3-05)

Revise the 2002 *Standard Specifications* as follows:

Page 8-1, Subarticle 800-2, COMPENSATION

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

800-2 COMPENSATION

5 percent of the "Total Amount Bid for Entire Project" shall be considered the lump sum amount for Mobilization. Partial payments for Mobilization will be made beginning with the first partial pay estimate paid on the contract. Payment will be made at the rate of 50 percent of the lump sum amount calculated for Mobilization. The remaining 50 percent will be paid with the partial pay estimate following approval of all permits required in the Environmental Permits Scope of Work for this project.

DB1 G15

FUEL PRICE ADJUSTMENT (10-4-05)

Fuel price adjustments will be made to the payments due the Design-Build Team for specific items of work shown in the Fuel Usage Factor Chart, when the average terminal price has fluctuated from the Base Index Price contained in the contract. The Fuel Usage Factor Chart is located in the back of this RFP, following the Itemized Proposal Sheet. The average terminal price is the average of the F.O.B. price for diesel fuel at the terminals in Charlotte, Wilmington and Selma, North Carolina. When the average terminal price fluctuates upward or downward from the Base Index Price, an amount will be added to or deducted from the monies due the Design-Build Team as follows.

The quantity for the specified items for which payment is being requested will be multiplied by the respective Diesel Fuel Usage Factor contained in the contract to determine the theoretical diesel fuel usage for each specified item. The sum of the theoretical diesel fuel usage for all specified items will be multiplied by the algebraic difference between the average F.O.B. price for diesel fuel at the above specified terminals and the Base Index Price contained in the contract to determine the fuel price adjustment to be made on the partial payment estimate. Fuel Price Adjustments will apply only to Diesel #2 Fuel.

The following formula will be used to calculate the appropriate payment or credit on the estimate.

$$S = (A - B)(\Sigma QF)$$

Where: S = Fuel Price Adjustment for partial payment

B = Base Index Price
A = Average terminal price
Q = Partial payment quantity for contract item
F = Fuel factor for contract item

The average terminal price in effect on the first day of the month in which the partial payment period ends will be used to make payment adjustments for fuel whether or not more than one price fluctuation has occurred within a single partial payment period.

The fuel price adjustment for the specified item will be determined by multiplying the cumulative fuel price adjustment made for that specified item for the previous estimate period(s) by the adjusted quantity for that specified item and divided by the total quantity of work paid for the previous estimates for the specified item

The Design-Build Team shall prepare, and present with their Price Proposal, an Estimate of Quantities of which they anticipate incorporating into the completed project and upon which the Price Proposal was based. The quantity breakdown shall include all items of work, which appear in the Fuel Usage Factor Chart. This chart is found in the back of this RFP following the Itemized Proposal sheet. The quantity estimate submitted in the Price Proposal is the final total quantity for which fuel price adjustments will be made for each item, regardless of supplemental agreements. The Department shall review the Estimate of Quantities to insure its reasonableness to the proposed design. Agreement of quantities is a prerequisite prior to execution of the contract.

The Design-Build Team's Estimate of Quantities shall be utilized on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. A licensed Professional Engineer shall sign and seal that the quantities are reasonable for the specified period. Only those items of work which are specifically noted in the Fuel Usage Factor Chart will be subject to fuel price adjustments.

If the Design-Build Team elects **not** to pursue reimbursement for Fuel Price Adjustments, a quantity of zero shall be entered for all quantities in the Fuel Usage Factor Chart (found immediately after the Itemized Proposal Sheet) and the declination box checked. Failure to complete this form will be taken as declining Fuel Price Adjustments for this project.

The base index price for DIESEL #2 FUEL is **$ 1.8001 per gallon**.

DB1 G43

PARTNERING

As a part of its quality management program, the North Carolina Department of Transportation intends to encourage the formation of a cohesive relationship with the Design-Build Team and its principal subcontractors and suppliers. This relationship will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are safe, effective, and efficient contract performance; and completion within budget, on schedule, and in accordance with the plans and specifications.

VALUE ANALYSIS (9-27-05)

Value Engineering Construction Proposals (VECP), as identified in Article 104-12 of the Standard Special Provisions, Division 1 (found elsewhere in this proposal), will be accepted. Only proposals, which alter the requirements of the RFP issued by the Department, will be considered as Value Engineering Construction Proposals.

DB1 G57

SCHEDULE OF ESTIMATED COMPLETION PROGRESS (9-27-05)

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

Fiscal Year	Progress (Dollar Value)
2007 (7/01/06 – 6/30/07)	10 % of Total Amount Bid
2008 (7/01/07 – 6/30/08)	25 % of Total Amount Bid
2009 (7/01/08 – 6/30/09)	27 % of Total Amount Bid
2010 (7/01/09 – 6/30/10)	31 % of Total Amount Bid
2011 (7/01/10 – 6/30/11)	07 % of Total Amount Bid

The Design-Build Team shall also furnish his own progress schedule in accordance with the Project Special Provision entitled PROJECT SCHEDULE (found elsewhere in this proposal). Any acceleration of the progress as shown by the Design-Build Team's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

DB1 G58

DISADVANTAGED BUSINESS ENTERPRISE (2/24/04)

POLICY

It is the policy of the North Carolina Department of Transportation that Disadvantaged Business Enterprises shall have the opportunity to participate in the performance of contracts financed in whole or in part by Federal Funds in order to create a level playing field.

The Design-Build Team is also encouraged to give every opportunity to allow DBE participation in Supplemental Agreements.

OBLIGATION

The Design-Build Team, subcontractor, and sub-recipient shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Design-Build Team shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted contracts as approved by the Federal Highway Administration.. Failure by the Design-Build Team to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the Department deems necessary.

This obligation shall be incorporated into any subsequent contract at any level that is executed under the terms of this contract.

reconsideration. A committee appointed by the Department will hear administrative reconsideration. Members of this committee will be officials who did not take part in the original determination by the Goal Compliance Committee. The Proposer will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The Proposer will receive a written decision on the reconsideration. Explaining the basis for finding that the Proposer did or did not meet the goal or made adequate Good Faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department.

In the event that the Department does not award the contract to the apparent lowest responsive Proposer, the Department reserves the right to award the contract to the next lowest responsive Proposer that can satisfy the Department that the contract goal can be met or that adequate good faith efforts have been made to meet the goal.

DBE DIRECTORY

A searchable list of businesses that are DBE certified by the North Carolina Department of Transportation is available at the following website:

http://apps.dot.state.nc.us/Vendor/Directory/Cert.aspx

Only those DBE firms with current certification may be listed in the proposal form.

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

REPLACEMENT OF DBEs

A. Performance Related

If any DBE Subcontractor submitted on the form for listing of DBE Subcontractors, contained elsewhere in this proposal form, is terminated or fails to complete its work on the contract for any reason, the Design-Build Team shall take all necessary, reasonable steps to replace the DBE Subcontractor with another DBE Subcontractor to perform at least the same amount of work of the contract as the DBE that was terminated.

To demonstrate necessary, reasonable Good Faith efforts, the Design-Build Team shall document the steps it has taken to replace any DBE Subcontractor who is unable to perform successfully with another DBE Subcontractor. Such documentation shall include but not be limited to the following:

1. Copies of written notification to DBEs that their interest is solicited in subcontracting the work defaulted by the previous DBE subcontractor or in subcontracting other items of work in the contract.
2. Efforts to negotiate with DBEs for specific subbids including, at a minimum:
    a. The names, addresses, and telephone numbers of DBEs who were contacted;
    b. A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed; and
3. For each DBE contacted but rejected as unqualified, the reasons for the Design-Build Team's conclusion.

REPORTS

All requests for subcontracts involving DBE subcontractors shall be accompanied by a certification executed by both the Design-Build Team and the DBE subcontractor attesting to the agreed upon unit prices and extensions for the affected contract items. This document shall be on the Department's Form RS-1-D, or in lieu of using the Department's Form, copies of the actual executed agreement between the Design-Build Team and the DBE subcontractor may be submitted. In any event, the Department reserves the right to require copies of actual subcontract agreements involving DBE Subcontractors.

The RS-1-D certification forms may be obtained from the Department's Resident Engineer.

These certifications shall be considered a part of the project records, and consequently will be subject to penalties under Federal Law associated with falsifications of records related to projects.

REPORTING DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

When payments are made to Disadvantaged Business Enterprise firms, including material suppliers, contractors at all levels (prime, subcontractor, or second tier subcontractor) shall provide the Engineer with an accounting of said payments. 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 (1) withholding of money due in the next partial pay estimate; or (2) removal of an approved Design-Build team member from the Department's appropriate prequalified list or (3) the removal of other entities from the approved subcontractors list. The accounting shall list for each payment made to a Disadvantaged Business Enterprise firm the following:

- DOT Project Number
- Payee Design-Build Team Name
- Receiving Design-Build Team or Material Supplier
- DBE Certification Basis, e.g., Woman Owned, Native American, African American, etc.
- Amount of Payment
- Date of Payment

A responsible fiscal officer of the payee Design-Build Team, subcontractor, or second tier subcontractor who can attest to the date and amounts of the payments shall certify that the accounting is correct. A copy of an acceptable report may be obtained from the Engineer.

DB1 G61

CERTIFICATION FOR FEDERAL-AID CONTRACTS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

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

AFFIDAVIT

In addition to the bid documentation, an affidavit signed under oath by an individual authorized by the Proposer to execute the bid shall be included. The affidavit shall list each bid document with sufficient specificity so a comparison may be made between the list and the bid documentation to ensure that all of the bid documentation listed in the affidavit has been enclosed. The affidavit shall attest that the affiant has personally examined the bid documentation, that the affidavit lists all of the documents used by the Proposer to determine the bid for this project, and that all such bid documentation has been included.

VERIFICATION

Upon delivery of the bid documentation, the Department's Contract Officer and the Proposer's representative will verify the accuracy and completeness of the bid documentation compared to the affidavit. Should a discrepancy exist, the Proposer's representative shall immediately furnish the Department's Contract Officer with any other needed bid documentation. The Department's Contract Officer upon determining that the bid documentation is complete will, in the presence of the Proposer's representative, immediately place the complete bid documentation and affidavit in the container and seal it. Both parties will deliver the sealed container to a banking institution or other bonded document storage facility selected by the Department for placement in a safety deposit box, vault, or other secure accommodation.

DURATION AND USE

The bid documentation and affidavit shall remain in escrow until sixty (60) calendar days from the time the Design-Build Team receives the final estimate; or until such time as the Design-Build Team gives written notice of intent to file a claim, files a written claim, files a written and verified claim, or initiates litigation against the Department related to the contract; or until authorized in writing by the Design-Build Team. Upon the giving of written notice of intent to file a claim, filing a written claim, filing a written and verified claim, or the initiation of litigation by the Design-Build Team against the Department, or receipt of a letter from the Design-Build Team authorizing release, the Department may obtain the release and custody of the bid documentation. If the bid documentation remains in escrow sixty (60) calendar days after the time the Design-Build Team receives the final estimate and the Design-Build Team has not filed a written claim, filed a written and verified claim, or has not initiated litigation against the Department related to the contract, the Department shall instruct the banking institution or other bonded document storage facility to release the sealed container to the Design-Build Team.

The Proposer certifies and agrees that the sealed container placed in escrow contains all of the bid documentation used to determine the bid and that no other bid documentation shall be relevant or material in litigation over claims brought by the Design-Build Team arising out of this contract.

FAILURE TO PROVIDE BID DOCUMENTATION

The Proposer's failure to provide the original, unaltered bid documentation or a certified copy of the original, unaltered bid documentation within ten (10) days after the notice of award is received by the Proposer may be just cause for rescinding the award of the contract and may result in the removal of the Proposer from the Department's appropriate prequalified list for a period up to 180 days. Award may then be made to the next lowest responsible Proposer or the work may be

readvertised and constructed under the contract or otherwise, as the Board of Transportation may decide.

ESCROW AGREEMENT

The Proposer will be required to sign an Escrow Agreement within ten (10) days after the notice of award is received by the Proposer. A copy of this Escrow Agreement document will be mailed to the Proposer with the notice of award for informational purposes. The Proposer and Department will sign the Escrow Agreement at the time that the bid documentation is delivered to a Banking Institution or other facility as outlined above. The Proposer's failure to sign the Escrow Agreement at the time the bid documentation is delivered may be just cause for rescinding the award of the contract and may result in the removal of the Proposer from the Department's appropriate prequalified list for a period up to 180 days. Award may then be made to the next lowest responsible Proposer or the work may be readvertised and constructed under the contract or otherwise, as the Board of Transportation may decide.

CONFIDENTIALITY OF BID DOCUMENTATION

The bid documentation and affidavit in escrow are, and will remain, the property of the Proposer. The Department has no interest in, or right to, the bid documentation and affidavit other than to verify the contents and legibility of the bid documentation unless the Design-Build Team gives written notice of intent to file a claim, files a written claim, files a written and verified claim, or initiates litigation against the Department. In the event of such written notice of intent to file a claim, filing of a written claim, filing a written and verified claim, or initiation of litigation against the Department, or receipt of a letter from the Design-Build Team authorizing release, the bid documentation and affidavit may become the property of the Department for use in considering any claim or in litigation as the Department may deem appropriate.

Any portion or portions of the bid documentation designated by the Proposer as a "trade secret" at the time the bid documentation is delivered to the Department's Contract Officer shall be protected from disclosure as provided by *General Statutes 132-1.2.*

COST AND ESCROW INSTRUCTIONS

The cost of the escrow will be borne by the Department. The Department will provide escrow instructions to the banking institution or other bonded document storage facility consistent with this provision.

PAYMENT

There will be no separate payment for all costs of compilation of the data, container, or verification of the bid documentation. Payment at the lump sum price for the Design-Build project will be full compensation for all such costs.

DB1 G142

TWELVE-MONTH GUARANTEE (4-17-06)

A. The Design-Build Team shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department.

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

C. **NOTE** Deleted Bullet regarding mitigation sites

This guarantee provision shall be invoked only for major components of work for which the Design-Build Team would be wholly responsible under the terms of the contract. Examples would include pavement structures, bridge components, noise walls, and sign structures. This provision shall not be used as a mechanism to force the Design-Build Team to return to the project to make repairs or perform additional work for which the Department would normally compensate the Design-Build Team. 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. In addition, failure on the part of the responsible entity(ies) of the Design-Build Team to perform guarantee work within the terms of this provision shall be just cause to remove the responsible entity(ies) from the Department's corresponding prequalified list. The Design-Build Team will be removed for a minimum of 6 months and will be reinstated only after all work has been corrected and the Design-Build Team requests reinstatement in writing.

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

DB1 G145

OUTSOURCING OUTSIDE THE USA (9/21/04)

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

DB1 G150

DISQUALIFICATION OF BIDDERS (11/16/04)

The 2002 *Standard Specifications* are revised as follows:

Page 1-17 Article 102-16, replace No.12 with the following:

12. Failure to submit the documents required by Article 109-10 within 60 days after request by the Engineer.

III. Preconstruction Meeting

Furnish the names of *the Certified E&SC/SW Supervisor, Certified Foremen,* and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

IV. Ethical Responsibility

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

V. Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer - Operations to the certification entity, certification for Supervisor and Certified Foremen may be revoked or suspended with the issuance of a *Continuing Immediate Corrective Action (CICA), Notice of Violation,* or C*ease and Desist (C&D) Order* for E&SC/SW related issues.

Should any of the following circumstances occur, the Chief Engineer - Operations may suspend or permanently revoke such certification.

Failure to adequately perform the duties as defined within the certification program

Issuance of a CICA, NOV, or C&D Order

Failure to fully perform environmental commitments as detailed within the permit conditions and specifications

Demonstration of erroneous documentation or reporting techniques

Cheating or copying another candidate's work on an examination

Intentional falsification of records

Directing a subordinate under direct or indirect supervision to perform any of the above actions

Dismissal from a company for any of the above reasons
Suspension or revocation of one's certification within another state

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

A registrant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer - Operations within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer - Operations
1537 Mail Service Center
Raleigh, NC 27699-1537

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The registrant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer - Operations will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer - Operations will be final and will be made in writing to the registrant.

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

VII. Measurement and Payment

Certified E&SC/SW Supervisor is incidental to the project for which no direct compensation will be made.

Certified Foremen are incidental to the project for which no direct compensation will be made.

DB2 R01

CLEARING AND GRUBBING

Perform clearing on this project to the limits established by Method "II" shown on Standard No. 200.03 of the Roadway Standards.

In areas with Permanent Utility Easement clearing shall extend to the Right of Way.

The 2002 Standard Specifications shall be revised as follows:

Page 2-3, Article 200-5

Delete the first sentence of this article and insert the following:

The property owner will have no right to use or reserve for his use any timber on the project. All timber cut during the clearing operations is to become the property of the Design-Build Team, and shall be either removed from the project by the Design-Build Team, or else shall be satisfactorily disposed of as hereinafter provided by the Design-Build Team.

DB2 R01

BUILDING AND APPURTENANCE REMOVAL/DEMOLITION (9-18-06)

Unless otherwise noted in the GeoEnvironmental Scope of Work and as agreed upon by the Department, remove or demolish all buildings and appurtenances, in their entirety, that are located either partially or completely within the project's right of way limits or are located outside the project's right of way limits but within property purchased as an uneconomical remnant in accordance with Sections 210 and 215 of the *2002 Standard Specifications* and the following:

- Prior to removal or demolition of any building, comply with the notification requirements of *Title 40 Code of Federal Regulations*, Part 61, Subpart M, which are applicable to asbestos.

Give notification to the North Carolina Department of Health and Human Services, Division of Public Health Epidemiology Branch and/or the appropriate county agency when the county performs enforcement of the Federal Regulation. Submit a copy of the notification to the Engineer prior to the any building removal or demolition.

- Perform removal and disposal of asbestos in accordance with the requirements of *Title 40 Code of Federal Regulations*; comply with all Federal, State and local regulations when performing building removal and/or asbestos removal and disposal. Any fines resulting from violations of any regulation are the sole responsibility of the Design-Build Team and the Design-Build Team agrees to indemnify and hold harmless the Department against any assessment of such fines.

- It shall be the responsibility of the Design-Build Team to perform all asbestos assessment for buildings and appurtenances located either partially or completely within the project's right-of-way limits or located outside the project's right of way limits but within property purchased as an uneconomical remnant. The cost of all asbestos assessments required shall be borne by the Design-Build Team and included in the lump sum bid cost for the project. The cost of asbestos removal and disposal will be paid for in accordance with Article 104-7 of the Standard Special Provisions, Division 1 (found elsewhere in this RFP). When a building has had or will have asbestos removed and the Design-Build Team elects to remove the building such that it becomes a public area, the Design-Build Team shall be responsible for any additional costs incurred including final air monitoring.

DB2 R12

EMBANKMENT MONITORING (1-20-06)

SETTLEMENT GAUGES:

Settlement plates consisting of wood or metal shall be placed on a level surface near natural ground as shown in the plans. Extend a 2½" (63.5 mm) ø metal pipe by adding pipe sections at threaded couplings as the embankment is progressed. Make sure that the top of the extension section is no less than 1 ft. (0.3 m) above the embankment surface and no higher than 6 ft (1.8 m). Compact fill around the gauge pipes and plates to the same density as the surrounding material. Make the exposed length of pipe conspicuous to avoid chance of damage.

Conduct operations in such a manner that the gauges are not damaged. Restore or replace any settlement gauge pipe damaged or destroyed due to fault or negligence on the part of the Design-Build Team at no additional cost. No additional payment will be made for compaction of fill around and over the settlement gauges or for interference with the Design-Build Team's operations resulting from settlement gauge installations. Perform installation operations such that the 2½" (63.5 mm) ø pipe remains plumb.

Provide ASTM A53 type F 2½" (63.5 mm) ø pipe, threaded with a black finish.

MONITORING:

Settlement gauges shall be installed before any fill is placed. Settlement gauge elevations are to be surveyed weekly by the Design-Build Team. The initial elevation of the settlement gauge plate (at the top of the plate) shall be determined at the time of installation along with the embankment elevation. When new sections of pipe are added, elevations shall be recorded at the top of existing pipe and at the top of the new pipe. This is to take into account interim settlement,

variable pipe lengths and thread lengths in coupling. Results of settlement gauge readings shall be forwarded to NCDOT Geotechnical Engineering Unit along with the letter by the prequalified geotechnical firm releasing the embankment from the waiting period.

DB2 R75

PRICE ADJUSTMENTS FOR ASPHALT BINDER (11-21-00)

Adjustments will be made to the payments due the Design-Build Team for each grade of asphalt binder when it has been determined that the monthly average terminal F.O.B. Selling Price of asphalt binder, Grade PG 64-22, has fluctuated from the Base Price Index for Asphalt Binder included in this Project Special Provision. The methods for calculating a Base Price Index, for calculating the monthly average terminal F.O.B. Selling Price and for determining the terminals used are in accordance with procedures on file with the Department's Construction Unit.

When it is determined that the monthly average terminal F.O.B. Selling Price of asphalt binder on the first business day of the calendar month during which the last day of the partial payment period occurs, varies either upward or downward from the Base Price Index, the partial payment for that period will be adjusted. The partial payment will be adjusted by adding the difference (+ or -) of the base price index subtracted from the monthly selling price multiplied by the total theoretical quantity of asphalt binder authorized for use in the plant mix placed during the partial payment period involved.

The Base Price Index for this project is **$ 408.93** per ton

DB6 R25

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX (2-6-06)

Revise the 2002 Standard Specifications as follows:

Page 6-20, Article 609-8 and Page 6-36, Article 610-13

Add the following paragraph before the first paragraph:

The “Asphalt Price” used to calculate any price adjustments set forth in this section shall be $35 per theoretical ton. This price shall apply for all mix types.

FOOTING FOR SIGNS

Revise the 2002 Standard Specifications as follows:

Delete Section 902 and insert the following:

DESCRIPTION

The work covered by this provision consists of the design and construction of overhead sign foundations in accordance with the accepted plans developed by the Design-Build Team and this provision. Design and construct either spread footing type foundations and/or drilled pier type foundations for each overhead sign unless otherwise directed by the Engineer.

MATERIALS

Portland Cement Concrete Production and Delivery ...……...……....Section 1000
Reinforcing Steel ...……..Section 1070
Anchor Bolts ...……..Article 1072-6
Structural Steel and Overhead Sign Structures ……...Section 1072 and 1096

CONSTRUCTION METHODS

General

A North Carolina Licensed Professional Engineer must seal all design calculations, drawings and recommendations. Design foundations for the effects of dead, wind and ice loads in accordance with the wind zone load shown on the plans developed by the Design-Build Team and Section 3 of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals* (including interims). Use either spread footing or drilled pier foundations. In some instances, conflicts with drainage structures may dictate a certain type of foundation. Spread footings or dual drilled pier foundations are required for full span overhead signs (no single drilled pier foundations). When designing dual drilled pier foundations, a rectangular grade beam with a moment of inertia approximately equal to either of the drilled piers is required to connect the pier tops.

Provide reinforced concrete design in accordance with either Section 13.7.2 or 13.6.2 (whichever is applicable), allowable stress design method, of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals* (including interims).

Consider sloping ground in the design, if applicable. Do not exceed an allowable bearing pressure of 3 ksf for spread footings. For drilled pier foundations, do not exceed an allowable lateral soil pressure of 4 ksf for AASHTO Group II Loading. Use the following default soil parameters and groundwater elevation for foundation design in the absence of a site-specific subsurface investigation in accordance with this provision.

Total Unit Weight = 120 pcf
Friction Angle = 30 degrees
Cohesion = 0 psf

Assume the groundwater elevation is at a depth of 7 feet below the ground surface. If the groundwater is encountered at a depth shallower than 7 feet, the overhead sign foundation must be redesigned based upon the actual field conditions. The default soil parameters and allowable pressures do not apply to very soft or loose soil, muck (generally, SPT blow counts per foot less than 4), weathered rock or hard rock (generally, SPT refusal). If soft or loose soil, muck, weathered rock or hard rock conditions are present, a site-specific subsurface investigation and foundation design is required in accordance with this provision.

Design spread footings in accordance with Sections 4.4.1 through 4.4.10, allowable stress design method, of the *AASHTO Standard Specifications for Highway Bridges* (including interims).

Geotechnical Engineering Firm to conduct the subsurface investigation. Perform the investigation only after rough grade (within 3 feet of final grade) is achieved. Locate each boring within 3 feet of the center of the overhead sign foundation. Drill the boring to a minimum depth of 10 feet below the required spread footing bearing or drilled pier tip elevation, whichever is deeper. Conduct Standard Penetrating Tests at 1 ft, 2.5 ft, 5 ft, 7.5 ft, 10 ft, and every 5-ft after 10 ft below the rough grade in accordance with ASTM D-1586. A boring may be terminated above the minimum depth required (10 ft below the foundation elevation) if one of the following conditions occur: (a) a total of 100 blows have been applied in any 2 consecutive 6-in.intervals; (b) a total of 50 blows have been applied with less than 3-in. penetration.

FOUNDATION CONSTRUCTION

Excavate footings for overhead sign structures in accordance with the applicable provisions of Section 410 of the 2002 Standard Specifications. Construct footings for overhead sign structures in accordance with Section 825 of the 2002 Standard Specifications. Construct all footings with Class A concrete. Where rectangular forms are used, use forms that have a chamfer strip at all corners for at least that distance protruding above finished ground. Use chamfers, which measure one-inch along the diagonal face.

Securely brace anchor bolts positioned in the form and hold in proper position and alignment. Provide a rubbed finish on concrete surfaces to be exposed above finished ground in accordance with Section 825-6 (D) of the 2002 Standard Specifications. Do not erect overhead sign structures on foundations until the concrete has reached a minimum compressive strength of 3000 psi. Determine concrete compressive strength by nondestructive test methods or compressive strength tests made in accordance with AASHTO T22 and T23. Furnish equipment used for nondestructive tests and obtain Engineer's approval before performing the tests.

Drilled Pier Construction

A. Excavation

Perform excavations for drilled piers to the required dimensions and lengths including all miscellaneous grading and excavation necessary to install the drilled pier. Depending on the subsurface conditions encountered excavation in hard rock, weathered rock or removal of boulders and debris may be required.

Dispose of drilling spoils as directed by the Engineer and in accordance with Section 802 of the 2002 Standard Specifications. Drilling spoils consist of all material excavated including water or slurry removed from the excavation either by pumping or with augers.

Construct drilled piers within the tolerances specified herein. If tolerances are exceeded, provide additional construction as approved by the Engineer to bring the piers within the tolerances specified. Construct drilled piers such that the axis at the top of the piers is no more than 3 inches in any direction from the specified position. Build drilled piers within 1% of the plumb deviation for the total length of the piers. When a grade beam is not required at the top of a pier, locate the top of pier elevation between 18 inches above and

used for excavations in very soft or loose soils. If the excavation can not be stabilized with polymer slurry, the Engineer may require a site-specific subsurface investigation (if not done during design) and the use of steel casing. No additional time or compensation shall be provided if both steel casing and polymer slurry are required to stabilize the excavation.

Construct all drilled piers such that the piers are cast against undisturbed soil. If a larger casing and drilled pier are required as a result of unstable or caving material during drilling, backfill the excavation before removing the casing to be replaced. No additional time or compensation shall be provided for substituting a larger diameter drilled pier in order to construct a drilled pier cast against undisturbed soil.

Any temporary steel casing that becomes bound or fouled during pier construction and cannot be practically removed may constitute a defect in the drilled pier. Improve such defective piers to the satisfaction of the Engineer by removing the concrete and enlarging the drilled pier, providing a replacement pier or other approved means. All corrective measures including redesign as a result of defective piers shall not be cause for any claims or requests for additional time or compensation.

B. Bottom Cleanliness:

After a drilled pier excavation is complete and immediately before concrete placement, demonstrate acceptable bottom cleanliness of the drilled pier excavation to the Engineer for approval if the plans developed by the Design-Build Team indicate end bearing was used in the design. Provide any equipment, personnel and assistance required for the Engineer to inspect the drilled pier excavation. The pier excavation bottom is considered clean if no portion of the bottom area has more than 3 inches of sediment as determined by the Engineer.

C. Reinforcing Steel:

Completely assemble a cage of reinforcing steel consisting of longitudinal and spiral bars and place cage in the drilled pier excavation as a unit immediately upon completion of drilling unless the excavation is entirely cased. If the drilled pier excavation is entirely cased down to the tip, immediate placement of the reinforcing steel and the concrete is not required.

Lift the cage so racking and cage distortion does not occur. Keep the cage plumb during concrete placement operations and casing extraction. Check the position of the cage before and after placing the concrete.

Securely crosstie the vertical and spiral reinforcement at each intersection with double wire. Support or hold down the cage so that the vertical displacement during concrete placement and casing extraction does not exceed 2 inches.

Do not set the cage on the bottom of the drilled pier excavation. Place plastic bolsters under each vertical reinforcing bar that are tall enough to raise the rebar cage off the bottom of the drilled pier excavation a minimum of 3 inches.

In order to ensure a minimum of 3 inches of concrete cover and achieve concentric spacing of the cage within the pier, tie plastic spacer wheels at five points around the cage perimeter. Use spacer wheels that provide a minimum of 3 inches "blocking" from the outside face of the spiral bars to the outermost surface of the drilled pier. Tie spacer wheels that snap together with wire and allow them to rotate. Use spacer wheels that span at least two adjacent vertical bars. Start placing spacer wheels at the bottom of the cage and continue up along its length at maximum 10-foot intervals. Supply additional peripheral spacer wheels at closer intervals as necessary or as directed by the Engineer.

D. Concrete:

Begin concrete placement immediately after inserting reinforcing steel into the drilled pier excavation.

1) Concrete Mix

Provide the mix design for drilled pier concrete for approval and, except as modified herein, meeting the requirements of Section 1000 of the 2002 Standard Specifications.

Designate the concrete as Drilled Pier Concrete with a minimum compressive strength of 4500 psi at 28 days. The Design-Build Team may use a high early strength mix design as approved by the Engineer. Make certain the cementitious material content complies with one of the following options:

Provide a minimum cement content of 640 lbs/yd^3 and a maximum cement content of 800 lbs/yd^3; however, if the alkali content of the cement exceeds 0.4%, reduce the cement content by 20% and replace it with fly ash at the rate of 1.2 LB of fly ash per LB of cement removed.

If Type IP blended cement is used, use a minimum of 665 lbs/yd^3 Type IP blended cement and a maximum of 833 lbs/yd^3 Type IP blended cement in the mix.

Limit the water-cementitious material ratio to a maximum of 0.45. Do not air-entrain drilled pier concrete.

Produce a workable mix so that vibrating or prodding is not required to consolidate the concrete. When placing the concrete, make certain the slump is between 5 and 7 inches for dry placement of concrete or 7 and 9 inches for wet placement of concrete.

Use Type I or Type II cement or Type IP blended cement and either No. 67 or No. 78M coarse aggregate in the mix. Use an approved water-reducer, water-reducing retarder, high-range water-reducer or high-range water-reducing retarder to facilitate placement of the concrete if necessary. Do not use a stabilizing admixture as a retarder in Drilled Pier Concrete without approval of the Engineer. Use admixtures that satisfy AASHTO M194 and add admixtures at the concrete plant when the mixing water is introduced into the concrete. Redosing of admixtures is not permitted.

Place the concrete within 2 hours after introducing the mixing water. Ensure that the concrete temperature at the time of placement is 90°F or less.

1) Concrete Placement

Place concrete such that the drilled pier is a monolithic structure. Temporary casing may be completely removed and concrete placement may be temporarily suspended when the concrete level is within 42 to 48 inches of the ground elevation to allow for placement of anchor bolts and construction of grade beam or wings. Do not pause concrete placement if unstable caving soils are present at the ground surface. Remove any water or slurry above the concrete and clean the concrete surface of all scum and sediment to expose clean, uncontaminated concrete before inserting the anchor bolts and conduit. Resume concrete pouring within 2 hours.

Do not dewater any drilled pier excavations unless the Engineer approves the dewatering and the excavation is entirely cased down to tip. Do not begin to remove the temporary casing until the level of concrete within the casing is in excess of 10 feet above the bottom of the casing being removed. Maintain the concrete level at least 10 feet above the bottom of casing throughout the entire casing extraction operation except when concrete is near the top of the drilled pier elevation. Maintain a sufficient head of concrete above the bottom of casing to overcome outside soil and water pressure. As the temporary casing is withdrawn, exercise care in maintaining an adequate level of concrete within the casing so that fluid trapped behind the casing is displaced upward and discharged at the ground surface without contaminating or displacing the drilled pier concrete. Exerting downward pressure, hammering or vibrating the temporary casing is permitted to facilitate extraction.

Keep a record of the volume of concrete placed in each drilled pier excavation and make it available to the Engineer.

After all the pumps have been removed from the excavation, the water inflow rate determines the concrete placement procedure. If the inflow rate is less than 6 inches per half-hour, the concrete placement is considered dry. If the water inflow rate is greater than 6 inches per half-hour, the concrete placement is considered wet.

Dry Placement: Before placing concrete, make certain the drilled pier excavation is dry so the flow of concrete completely around the reinforcing steel can be certified by visual inspection. Place the concrete by free fall with a central drop method where the concrete is chuted directly down the center of the excavation.

Wet Placement: Maintain a static water or slurry level in the excavation before placing concrete. Place concrete with a tremie or a pump in accordance with the applicable parts of Sections 420-4 and 420-5 of the 2002 Standard Specifications. Use a tremie tube or pump pipe made of steel with watertight joints. Passing concrete through a hopper at the tube end or through side openings as the tremie is retrieved during concrete placement is permitted. Use a discharge control to prevent concrete contamination when the tremie tube or pump pipe is initially placed in the excavation. Extend the tremie tube or pump pipe into the concrete a minimum of 5 feet at all times except when the concrete is initially introduced into the pier excavation. If the tremie tube or pump pipe pulls out of the concrete for any reason after the initial concrete is placed, restart concrete placement with a steel capped tremie tube or pump pipe.

Once the concrete in the excavation reaches the same elevation as the static water level, placing concrete with the dry method is permitted. Before changing to the dry method of concrete placement, remove any water or slurry above the concrete and clean the concrete surface of all scum and sediment to expose clean, uncontaminated concrete.

Vibration is only permitted, if needed, in the top 10 feet of the drilled pier or as approved by the Engineer. Remove any contaminated concrete from the top of the drilled pier and wasted concrete from the area surrounding the drilled pier upon completion.

1) Concrete Placement Time:

Place concrete within the time frames specified in Table 1000-2 of the 2002 Standard Specifications for Class AA concrete except as noted herein. Do not place concrete so fast as to trap air, water, fluids, soil or any other deleterious materials in the vicinity of the reinforcing steel and the annular zone between the rebar cage and the excavation walls. Should a delay occur because of concrete delivery or other factors, reduce the placement rate to maintain some movement of the concrete. No more than 45 minutes is allowed between placements.

D. Scheduling and Restrictions:

If caving or sloughing occurs, no additional compensation shall be provided for additional concrete to fill the resulting voids.

During the first 16 hours after a drilled pier has achieved its initial concrete set as determined by the Engineer, do not drill adjacent piers, do not install adjacent piles and do not allow any heavy construction equipment loads or "excessive" vibrations to occur at any point within a 20 foot radius of the drilled pier.

In the event that the procedures described herein are performed unsatisfactorily, the Engineer reserves the right to shut down the construction operations or reject the drilled piers. If the integrity of a drilled pier is in question, use core drilling, sonic or other approved methods at no additional cost to the Department and under the direction of the Engineer. Dewater and backfill core drill holes with an approved high strength grout with a minimum compressive strength of 4500 psi. Propose remedial measures for any defective drilled piers and obtain approval of all proposals from the Engineer before implementation. No additional time or compensation shall be provided for losses or damage due to remedial work or any investigation of drilled piers found defective or not in accordance with this provision or the plans developed by the Design-Build Team.

SIGN SUPPORTS

Revise the 2002 Standard Specifications as follows:

Delete Section 903 and insert the following:

DESCRIPTION

Design, fabricate, furnish and erect various types of overhead sign assemblies with maintenance walkways, when specified in the plans developed by the Design-Build Team, in accordance with the requirements of the plans developed by the Design-Build Team. Fabricate supporting structures using tubular members of either aluminum or steel. Tubular members made of aluminum are not allowed for Dynamic Message Sign (DMS) structures. Only one type of material may be used throughout the project. The types of overhead sign assemblies included in this specification are span structures, cantilever structures, and sign structures attached to bridges. Dynamic Message Signs (DMS) shall be mounted on four (4) chord (box) truss. Cantilevered DMS signs shall not be allowed.

MATERIALS

Structural Steel……...……. Section 1072
Overhead Structures……. Section 1096
Signing Materials ……..……... Section 1092
Organic Zinc Repair Paint …… Article 1080-9
Reinforcing Steel ……..... Section 1070

CONSTRUCTION METHODS

A. General

Fabricate overhead sign assemblies in accordance with the details shown in the approved working drawings and the requirements of these specifications.

No welding, cutting, or drilling in any manner shall be permitted in the field, unless approved by the Engineer.

Drill bolt holes and slots to finished size. Holes may also be punched to finished size, provided the diameter of the punched holes is at least twice the thickness of the metal being punched. Flame cutting of bolt holes and slots shall not be permitted.

Erect sign panels in accordance with the requirements for Type A or B signs as indicated in the plans developed by the Design-Build Team or roadway standard drawings. Field drill two holes per connection in the Z bars for attaching signs to overhead structures. Use two bolts at each connection.

Use two coats of a zinc-rich paint to touch up minor scars on all galvanized materials.

A. Shop Drawings

Design the overhead sign supports, including foundations, prior to fabrication. Submit computations and working drawings for the designs to the Engineer for review and acceptance.

Have a professional engineer registered in the State of North Carolina perform the computations and render a set of sealed, signed, and dated drawings detailing the construction of each structure.

Submit to the Engineer for review and acceptance complete design and fabrication details for each overhead sign assembly, including foundations and brackets for supporting the signs, maintenance walkways (when specified in the plans developed by the Design-Build Team), electrical control boxes, and lighting luminaires. Base design upon the revised structure line drawings, wind load area and the wind speed shown in the plans developed by the Design-Build Team, and in accordance with the *Standard Specifications for Structural Structures for Highway Signs, Luminaires and Traffic Signals*.

Submit thirteen (13) copies of completely detailed working drawings and one (1) copy of the design computations including all design assumptions for each overhead sign assembly to the Engineer for approval prior to fabrication. Working drawings include complete design and fabrication details (including foundations); provisions for attaching signs, maintenance walkways (when applicable), lighting luminaries to supporting structures; applicable material specifications, and any other information necessary for procuring and replacing any part of the complete overhead sign assembly.

Allow 40 days (**15 days for Design-Build projects**) for initial working drawing review after the Engineer receives them. If revisions to working drawings are required, additional time shall be required for review and approval of final working drawings.

Approval of working drawings by the Engineer shall not relieve the Design-Build Team of responsibility for the correctness of the drawings, or for the fit of all shop and field connections and anchors.

C. Design and Fabrication

The following criteria governs the design of overhead sign assemblies:

Design shall be in accordance with the *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, 2001*, and the latest Interim Specifications.

Within this Specification, there are several design criteria that are owner specified. They include:

- The wind pressure map that is developed from the 3-second gust speeds, as provided in Article 3.8, shall be used.
- Overhead cantilever sign structures shall include galloping loads (exclude four-chord horizontal trusses), truck-induced gust loading and natural wind gust loading in the fatigue design, as provided for in Article 11.7.1, 11.7.4 and 11.7.3 respectively.
- The natural wind gust speed in North Carolina shall be assumed to be 11.6 mph for inland areas, 15.7 mph for coastal areas. The coastal area shall be defined as any area within 2 miles from the waterfront facing the ocean or sound and all area where the design basic wind speed is above 120 mph, as shown in Figure 3-2.
- The fatigue importance category used in the design, for each type of structure, as provided for in Article 11.6, Fatigue Importance Factors, shall be Category II unless otherwise shown on the contract plans developed by the Design-Build Team.
- Wind drag coefficient for Dynamic Message Sign enclosures shall be 1.7.

The following Specification interpretations or criteria shall be used in the design of overhead sign assemblies:

- For design of supporting upright posts or columns, the effective length factor for columns "K", as provided for in Appendix B, Section B.5, shall be taken as the following, unless otherwise approved by the Engineer:

Case 1 - For a single upright post of cantilever or span type overhead sign structure, the effective column length factor, "K", shall be taken as 2.0.

Case 2 - For twin post truss-type upright post with the post connected to one chord of a horizontal truss, the effective column length factor for that column shall be taken as 2.0.

Case 3 - For twin post truss-type upright post with the post connected to two truss chords of a horizontal tri-chord or box truss, the effective column length factor for that column shall be taken as 1.65

camber in accordance with the *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. Indicate on the shop drawings the amount of camber provided and the method employed in the fabrication of the support to obtain the camber.

Use cantilever sign structures that meet the following design criteria:

a. Do not exceed an L/150 vertical dead load deflection at the end of the arm due to distortions in the arm and vertical support, where L is the length of the arm from the center of the vertical support to the outer edge of the sign.

b. Do not exceed an L/40 horizontal deflection at the end of the arm due to distortions in the arm and vertical support, as a result of design wind load.

Attach the overhead sign assemblies to concrete foundations by the use of galvanized anchor bolts with galvanized nuts, flat washers, and lock washers. For cantilever structure use a minimum of eight anchor bolts. Provide anchor bolts that have an anchor plate with nut at the end to be embedded in concrete.

Fabricate attachment assemblies for mounting signs in a manner that allows easy removal of sign panels for repair. Provided adequate supporting frames for mounting the lighting luminaires in the positions shown in the plans developed by the Design-Build Team or approved shop drawings for all overhead sign assemblies to be illuminated.

Maintenance Walkways

Deleted section regarding maintenance walkways.

MATERIALS

(A) General:

Refer to Division 10:

Sign Lighting Systems ..... Section 1097
Organic zinc repair paint ..... Article 1080-9

(B) Submittals:

Submit for approval catalog cuts and/or shop drawings for materials propose for use on the project. Allow 30 days (**10 days for Design-Build projects**) for review on each submittal. Do not use materials that have not been approved on the project. Submit eight copies of each catalog cut and/or drawing and show on each the material description, brand name, stock number, size, rating, and manufacturer's specification. Include in the submittals sufficient information to verify compliance with the specifications, and reference each material to the appropriate contract pay item. In addition to catalog cuts, include in submittals for luminaires the manufacturer's isofoot-candle charts and coefficient of utilization graphs, ballast replacement part numbers, and wiring diagrams.
Catalog cut transmittals shall be generated using the NCDOT Signing Section's online qualified products list (SQPL). The online SQPL is located at:

http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/SIGN/qpl/qpl.html

If a product complies with the requirements of the *NCDOT Standard Specifications for Roads and Structures* and isn't contained in the online SQPL, the submittal process guidelines are online at:

http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/SIGN/qpl/equipment_submittal.html

CONSTRUCTION METHODS

(A) Layout:

The Engineer shall establish the actual location of service poles. Mark the proposed location of circuits, ducts, and all other components for approval prior to installation.

Submit a drawing showing all underground conduits and cable dimensioned from fixed objects or station marks.

(B) Conduit Installation:

Install conduit as shown in the plans developed by the Design-Build Team, and in accordance with *NEC* requirements for an approved watertight raceway.

Attach the conduit system to and install along the structural components of the overhead sign assembly. Attach conduit to structural components with beam clamps or stainless

steel strapping. Install strapping according to the strapping manufacturer's recommendations. Do not use welding or drilling to fasten conduit to structural components.

Support conduit suspended from concrete portions of a bridge by galvanized clamps. Attach clamps to the concrete with 1/4 inch concrete expansion anchors.

Space the conduit fasteners at no more than 4 feet for conduit 1 1/2 inch and larger, or at no more than 6 feet for conduit 1 1/4 inches and smaller. Place fasteners no more than 3 feet from the center of bends, fittings, boxes, switches, and devices.

Locate underground conduit as shown in the plans developed by the Design-Build Team at a minimum depth of 30 inches and extend a minimum of 2 feet past the edge of pavement or paved shoulder. Either metallic or nonmetallic underground conduit may be used.

Where conduit is required beneath pavement, bury the conduit at the required depth prior to paving, or bore and jack the conduit beneath the pavement. Do not cut pavement to install conduit or use "water jetting" as an installation method. Produce openings by boring and jacking which are not more than 1 inch larger than the outside diameter of the conduit. Plug any abandoned opening for bored and jacked conduit as the Engineer directs.

Install buried conduit in a trench with essentially vertical walls that is no wider than necessary for easy installation of the conduit. Backfill in accordance with *Article 300-7*.

Clean conduit after installation by "snaking" with a mandrel of a diameter not less than 85% of the nominal diameter of the conduit. Seal the ends of underground conduit with temporary caps and, after installation of circuits; plug the ends with oakum. Coat field cut threads and other uncoated metal or damaged galvanizing with 2 coats of organic zinc repair paint. Ream the ends of rigid conduit.

(C) Wiring Methods:

Bury underground circuits at the depth shown in the plans developed by the Design-Build Team and surrounded with at least 3 inches of sand or earth backfill free of rocks and debris. Compact backfill in 6 inch layers. Do not splice underground circuits unless specifically noted in the plans developed by the Design-Build Team.

Color code all conductors per the *NEC* (grounded neutral-WHITE; grounding-BARE or GREEN), and use BLACK and RED phase conductors. Approved marking tape, paint, or sleeves may be used in lieu of continuous colored conductors for No. 8 AWG and larger. Do not mark a white conductor in a cable assembly any other color. It is permissible to strip a white, red, or black conductor to be used as a bare equipment grounding conductor.

Install joints, taps, and splices only at locations indicated in the plans developed by the Design-Build Team.

Make joints, taps, and splices in junction boxes and enclosures by either of the following methods:

1. Cut and remove the insulation only as far as necessary to make a secure mechanical and electrical connection. Use a removable type connector (split-

bolt, set screw, wire nut, etc.), and cover with self-vulcanizing rubber tape, applied in half-lap layers to give a smooth covering at least twice the thickness of the original insulation. Use a self-fusing type putty rubber tape in tape form that can be wrapped, stretched, or molded around irregular shapes for smooth insulation build-up. Apply two layers of vinyl plastic tape, half-lap, over the rubber tape. Use vinyl plastic tape that is 7-mil, (0-2200 degrees F, and ultraviolet, abrasion, moisture, alkali, acid, and corrosion resistant.

2. Install an approved manufactured mechanical or compression connector, with factory-made waterproof insulating boots, in accordance with procedures and tools specified by the manufacturer.

Make joints, taps, and splices located underground in direct buried circuits as follows: Cut and remove the insulation only as far as necessary to make a secure mechanical and electrical connection. Use a compression type connector, installed according to procedures and tools specified by the manufacturer. Apply vinyl plastic tape over the connector and bare conductor. Encase the entire connection with a manufactured splicing kit. Use a kit with an insulating and moisture-sealing field-mixed epoxy resin compound and snap-together mold forms. Install the kit as specified by the manufacturer. Encase no more than one "leg" (phase, neutral, or equipment grounding conductor) in each epoxy resin compound mold for individual conductor circuits. For cabled conductor circuits, encase no more than one circuit in each epoxy resin compound mold.

(D) Grounding and Bonding:

Include an equipment grounding conductor of the type and size shown in the plans developed by the Design-Build Team, with each set of circuit conductors.

Bond all metal conduit, enclosures, luminaires, and structures together and ground with the equipment grounding conductor to the grounding electrode.

Protect grounding electrode conductors with rigid galvanized steel conduit that is bonded to the grounding electrode conductor at each end.

(E) Equipment Mounting:

Mount equipment securely at locations and dimensions shown in the plans developed by the Design-Build Team and make sure it is plumb and level. Install fasteners as recommended by the manufacturer, and space them evenly. Use all mounting holes and attachment points for attaching enclosures to structures.

Locate straps and buckles as shown in the plans developed by the Design-Build Team and install them per the manufacturer's instructions.

Use holes for expansion anchors that are the size recommended by the manufacturer of the anchors. Drill and thoroughly clean them of all debris.

Provide one key operated, pin tumbler, dead bolt padlock, with brass or bronze shackle and case, conforming to *Military Specification MIL-P-17802E* (Grade I, Class 2, Size 2, Style A), for each electrical panel and switch on the project. Key all padlocks alike and provide 6 keys to the Engineer.

If a new sign is to replace an existing sign, adjust the position of the luminaires in accordance with the plans developed by the Design-Build Team for the new sign if necessary.

(F) Luminaires and Lamps:

Provide lamps for all luminaires and clearly mark the installation date on the mogul base of High Intensity Discharge (HID) lamps.

(G) Inspection:

Comply with all local ordinances and regulations. Prior to the start of any electrical work, apply for and obtain all permits and/or licenses required by local regulation. Be responsible for having each system inspected and approved by the licensed city, county, or state electrical inspector who has jurisdiction where the systems are located.

Inspection by the local electrical inspectors shall neither eliminate, nor take the place of, inspection by the Department.

Furnish written certification to the Engineer that the local electrical inspector having jurisdiction has approved the system(s). Provide this approved electrical inspection certificate prior to final acceptance of the project.

Be responsible for having the power turned on.

(H) Electrical Service:

Coordinate all work to ensure that electrical power of the proper voltage, phase, frequency, and ampacity is available to complete the project. Contact the utility company, make application, pay all deposits and other costs to provide necessary electrical service. Reference the Utilities Coordination Scope of Work found elsewhere in this RFP for additional coordination / approval requirements.

The Engineer shall provide authorization to the Design-Build Team for electrical service to be obtained in the name of the Department and for the monthly power bills to be sent directly from the utility company to the Department. The Department shall be responsible for direct payment of monthly power bills received from the utility company.

(I) Performance Tests:

The Engineer shall not accept lighting systems for overhead sign structures until the lighting system is operational, including automatic control equipment and all other apparatus, without interruption or failure attributable to poor workmanship or defective material for a period of 2 consecutive weeks. The Engineer shall inspect all lights and equipment for normal operation. Perform these tests and make all repairs and replacements needed.

LUMINAIRE RETRIEVAL SYSTEMS

Luminaire retrieval system shop drawings shall be submitted directly to the NCDOT signing section for review and approval. The retrieval system must be capable of holding all sign luminaires at their designed positions and to allow all luminaires and electrical connections to be maintained from the roadway shoulder without lane closures. The system shall be capable of utilizing more than one circuit if required by the plans developed by the Design-Build Team.

ALTERNATE LUMINAIRES

If the Design-Build Team elects to use alternate luminaires, prepare and submit for approval a complete design for the proposed lighting system for each overhead sign assembly (Reference the Signing Scope of Work found elsewhere in this RFP). Base such design on high pressure sodium luminaires and conform to *Illuminating Engineering Society (IES)* criteria. Design the luminaries for signs sized and spaced as shown in the plans.

Submit designs for alternate luminaires for approval prior to submitting shop drawings for the overhead sign structures. Coordinate the design for the lighting system with the design of the overhead sign assembly, and show any changes necessitated by the alternate luminaire design on appropriate shop drawings.

Provide photometric data for each sign for review of the alternate luminaire design. Include in the data a point-by-point foot-candle chart showing readings along the sign face at one-foot intervals, vertically and horizontally, based on the proposed alternate luminaire design spacing. Submit an isofoot-candle diagram for the luminaire. State the mounting height on the isofoot-candle diagram. If the mounting height shown on the isofoot-candle chart differs from the horizontal distance from the bottom of the sign face to the center of the luminaire, furnish the correction multiplier.

CRANE SAFETY (08-15 -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 in writing and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

Crane Safety Submittal List

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.

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.

Crane Inspections: Inspection records for all cranes shall be current and readily accessible for review upon request.

Certifications: 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.

GENERAL

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

NO CONTACT CLAUSE

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

USE OF TERMS

Throughout this Request For Proposals and all manuals, documents and standards referred to in the Request For Proposals the terms Contractor, Bidder, Design-Builder, Design-Build Team, Team, Firm, Company, and Proposer are synonymous. Throughout this Request For Proposals and all manuals, documents and standards referred to in the Request For Proposals, the terms NCDOT, Department, Engineer, and State are synonymous.

DESIGN REFERENCES

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

REVIEW OF SUBMITTALS

Major design milestones and required design submittals shall be identified as activities on a CPM, bar chart, or other scheduling tool. This schedule shall be submitted to the State Alternative Delivery Systems Engineer and Resident Engineer concurrently with the first design submittal, or within 30 days of the contract award, whichever is earlier. The schedule shall be revised and resubmitted as design milestones change or as directed by the State Alternative Delivery Systems Engineer. Submittals will be reviewed within 10 working days (15 days for temporary structures, overhead sign assemblies, MSE walls, and temporary shoring) from the date of receipt by NCDOT unless otherwise stipulated in the scope of work. All submittals shall be prepared and submitted in accordance with the "*Design-Build Submittal Guidelines*", which by reference are incorporated and made a part of this contract. All submittals shall be made simultaneously to the State Alternative Delivery Engineer and the Resident Engineer. The Department will not accept subsequent submittals until prior submittal reviews have been completed for that item. The Design-Build Team shall inform the State Alternative Delivery Engineer in writing of any proposed changes to the NCDOT preliminary designs, Technical Proposal and / or previously reviewed submittals and obtain approval prior to incorporation. The Design-Build Team shall prioritize submittals in the event that multiple submittals are made based on the current schedule. All submittals shall include pertinent Special Provisions. No work shall be performed prior to Department review of the design submittals.

the work shall be performed by an office other than the one that is prequalified, that office shall be prequalified prior to any design submittals.

ETHICS POLICY

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

APPROVAL OF PERSONNEL

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

The Design-Build Team or any subcontractor for the Design-Build Team which are employed to provide services for this project shall not discuss employment opportunities or engage the services of any person or persons, now in the employment of the State during the time of this contract, without written consent of the State.

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

Drafting the contract
Defining the scope of the contract
Selection of the Design-Build Team
Negotiation of the cost of the contract (including calculating manhours or fees); and
Administration of the contract.

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

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

- Bridge No. 53 on NC 146 (Long Shoals Road) over the French Broad River shall be removed to satisfy permit conditions and in accordance with Section 402 of the Standard Specifications. The Design-Build Team shall remove and dispose of debris that has accumulated around the existing bridge piers in the French Broad River.
- Existing RCBC at approximately Station 24+15 -L-.
- Bridge Nos. 113, 114, and 53 all have paint systems containing red lead paint. The Design-Build Team shall be responsible for handling, removing, shipping, and disposing of these materials in accordance with the *Standard Specifications*.

TVA Coordination:

The Design-Build Team shall be responsible for acquiring a Section 26a Permit from the Tennessee Valley Authority (TVA) for the culvert replacement, construction of bridge over the French Broad River and any additional stream obstructions created by the project. The Design-Build Team shall act as agent on the TVA permit application and the Department shall be the applicant. The Design-Build Team shall supply said approval to the State Alternative Delivery Systems Engineer prior to beginning work on Bridge No. 53 over the French Broad River, culvert replacement and any additional stream obstructions. The Design-Build Team shall coordinate with the following TVA contacts:

Harold Draper 400 West Summit Hill Dr. Knoxville, TN 37902-1499 (423) 632-6889 hmdraper@tva.gov	and	Watershed Team Leader 3726 E. Morris Boulevard, MOC 1A-MOT Morristown, TN 37814-1270 423-585-2120 sbfuhr@tva.gov

General

The Design-Build Team's primary structural design firm shall be on the Highway Design Branch's list of firms qualified for Structure Design and maintain an office in North Carolina.

Design shall be in accordance with the Seventeenth Edition AASHTO Standard Specifications for Highway Bridges, NCDOT Structure Design Manual (including policy memos), and NCDOT Bridge Policy Manual. Construction and Materials shall be in accordance with 2002 NCDOT Standard Specifications For Roads and Structures, NCDOT Structure Design Unit Project Special Provisions, and NCDOT Structure Design Unit Standard Drawings.

Bridge design and construction shall adhere to the May 1, 2006 *Designing for HS25 Live Loads* memo from Mr. G. R. Perfetti, PE, located at the website noted below:

http://www.ncdot.org/doh/preconstruct/highway/structur/polmemo/

The Design-Build Team is permitted to design the bridges on this project using software that accounts for the structural effects of soil / pier interaction.

Alternate designs, details, or construction practices (such as those employed by other states, but not standard practice in NC) are subject to Department review and will be evaluated on a case by case basis. Non-standard prestressed concrete girder shapes may be used, provided they have been previously used in North Carolina or other states, and they are detailed with a concrete cover consistent with that used on the North Carolina standard shapes.

All bridges shall meet approved roadway typical sections and grades, unless otherwise noted herein. Bridge geometry (width, length, skew, span arrangement, typical section, grade,

- In the Technical Proposal, the Design-Build Team shall address the Pre and Post Analysis methodology for increases in discharge. The Design-Build Team shall be responsible for taking appropriate action, in accordance with the above referenced guidelines, to make sure additional drainage is adequately handled.

The following additional items shall be required of the Design-Build Team:

- Bridge Survey Report for the bridge over the French Broad River
- Storm drainage design and installation
- Culvert Survey Reports for all culverts with conveyance greater than a 72" diameter pipe that are extended, replaced, or rehabilitated
- Stormwater Management Plan
- Permit Drawings
- FEMA CLOMR and FEMA LOMR Forms, Letters and Mapping for NCDOT submittal. No construction activity shall occur in FEMA regulated floodplains prior to obtaining an approved CLOMR.

The development of Traffic Control and Pavement Marking Plans shall adhere to the "*Design-Build Submittal Guidelines*" and the "*Guidelines for Preparation of Traffic Control and Pavement Marking Plans for Design-Build Projects*", which by reference are incorporated herein and made a part of the contract. These documents are available on the Design-Build website, **http://www.ncdot.org/doh/preconstruct/wztc/**.

II. Project Operations Requirements

The following are Time Restrictions and Notes that shall be included with the Traffic Control Plans General Notes:

A. Time Restrictions

1. Intermediate Contract Time for Lane Narrowing, Closure, Holiday and Special Event Restrictions.

As a minimum, the Design-Build Team shall maintain the traffic patterns set forth in Section I-A listed above and shall not close or narrow a lane during the times below:

Road name	Times
I-26 (-Y3-)	Monday through Friday - 6:00 a.m. to 8:00 p.m. Saturday - 10:00 a.m. to 8:00 p.m. Sunday – 7:30 a.m. to 8:00 p.m.
NC 146 (Long Shoals Rd) and SR 3501 (Clayton Rd.)	Monday through Friday - 6:00 a.m. to 9:00 a.m. and 2:00 p.m. to 8:00 p.m. Saturday - 10:00 a.m. to 8:00 p.m. Sunday – 7:30 a.m. to 2:00 p.m.

The Design-Build Team shall not install or remove any traffic control device required for narrowing or closing a lane during the times listed above.

During holidays, holiday weekends, special events, special events at Biltmore Baptist Church, T. C. Roberson High School, or any other time when traffic is unusually heavy on any of the roadways listed above, the Design-Build Team shall not close or narrow a lane of traffic, detain the traffic flow or alter the traffic flow. As a minimum, these requirements / restrictions apply to the following schedules:

(a) For Easter Sunday, between the hours of 6:00 a.m. the Thursday before and 8:00 p.m. the Monday after Easter.

(b) For Memorial Day, between the hours of 6:00 a.m. the Friday before and 8:00 p.m. the Tuesday after Memorial Day.

(c) For Independence Day, between the hours of 6:00 a.m. July 3rd and 8:00 p.m. July 5th.

SIGNING SCOPE OF WORK (04-20-06)

General: The Signing Plans shall be prepared by the Design-Build Team in accordance with the latest edition of the *2003 Manual on Uniform Traffic Control Devices (MUTCD), the 2004 NC Supplement to the MUTCD, NCDOT Standard Specifications for Roads and Structures* (January 2002), the NCDOT Roadway Standard Drawings (January 2002) for the design and development of signing plans, the latest Standard Specifications for *Structural Supports for Highway Signs, Luminaires, and Traffic Signals* published by AASHTO, and the contract requirements for signing plan design, preparation and construction. All electrical installations and coordination shall be the responsibility of the Design-Build Team and must meet NEC, State, and local codes. All electrical / electronics equipment and devices must be UL approved and listed.

Signing Plan Requirement: The Design-Build Team shall select a Private Engineering Firm (PEF) that has experience in designing and sealing Signing Plans for NCDOT on comparable projects. The Technical Proposal shall list projects, including description and similarity to the subject project. **The Design-Build Team shall include preliminary signing plans for this project in their Technical Proposal.**

The development of the Signing Plans shall adhere to the "Design-Build Submittal Guidelines" and the "Guidelines for Preparation of Signing Plans for Design-Build Projects", which by reference are incorporated herein and made a part of the contract. These documents are available on the Design-Build website.

Signs Furnished by Design-Build Team: With the exception of Logo Signs, all signs shall be furnished by the Design-Build Team according to the specifications provided by the Department.

Signing Project Limits: The Design-Build Team shall be responsible for the design, fabrication and installation of all signs required through the construction limits of the mainline, all –Y- Lines and ramps, including advance guide signs.

The Design-Build Team shall coordinate the posted speed limit for NC 146 (Long Shoals Road) with the Regional Traffic Engineer.

Sign Design: The Design-Build Team shall be responsible for the design, fabrication and installation of all signs required for the mainline, as well as all -Y- Lines and ramps. The Design-Build Team shall be responsible for all Type A, B, and D sign designs, fabrication and installation for ground mounted and overhead signs. The Design-Build Team shall be responsible for determining, sizing, fabricating, locating and installing all Type E signs (warning and regulatory signs) and Type F signs (route marker assemblies). The Design-Build Team shall be responsible for the design, fabrication, location and installation of all milemarkers.

All sign designs shall be included in the Signing Plans. Sign designs shall be prepared using the latest version of GuideSign software.

Logo Signs: The Division will provide new Logo Signs for the Design-Build Team to install on I-26 and the exit ramps to Long Shoals Road. The Design-Build Team shall be responsible for locating the signs, designing the supports, fabricating the supports and attaching the existing Logo business panels and mileage panels to the Logo Signs. The Design-Build Team shall coordinate delivery of the Logo Signs with the Division Traffic Engineer.

Team elects to mount overhead sign structures on the French Broad River bridge, the Design-Build Team shall use option C. Depending on the option chosen, the Design-Build Team shall adhere to the Sign Lighting Systems Project Special Provision found elsewhere in this RFP and the appropriate provisions of A, B, or C below.

A. Overhead Sign Lighting: The Design-Build Team shall be responsible for designing and installing lighting for all overhead sign assemblies. The Design-Build Team shall provide lighting design and submittals electronically to the Department upon request. The Design-Build Team shall submit for review and acceptance the installation of junction boxes for overhead sign structures and the plan design for installing the messenger cable for the sign structures.

B. Solar Lighting:

The solar system shall meet the following minimum requirements:

System operating temperature must be between -40 degree F and 185 degree F.
The system must operate within 0 to 100% humidity with full condensation and precipitation.
All metallic parts must be aluminum or stainless steel.
The system must be protected with adequate overcurrent protection and grounding equipment.
Power generator system must carry a minimum twenty-five (25) year's warranty.
Power storage system must carry a minimum of six (6) year's warranty and must be completely sealed and maintenance free and equipped with pressure release vent(s).
Power storage system must have capacity to light signs for five (5) of the longest nights, with no solar input.
The system must have a charge controller with a high voltage disconnect of 15.5V and a low voltage disconnect of 10.75V for a 12V system.
The charge controller must have a Dusk to Dawn voltage detection of 1 and 8 to operate the system, eliminating the need far an external photocell.
The light source must have a minimum life of 24,000 hours.
Solar panel brackets shall have vertical rotation of 90 degrees and horizontal rotation of 360 degrees with a tilt angle per manufacturer recommendation.

The Design-Build Team shall provide a detailed system specification that describes the following:

System and sub-system's parts Material's specification
Electrical, mechanical, chemical, and environmental characteristics
Operational and functional requirements
Design and testing requirements

The Design-Build Team shall provide the following documents, drawings, and calculations:

UTILITIES COORDINATION SCOPE OF WORK (08-15-06)

- **General**

There are existing Progress Energy and BellSouth pole lines running along Long Shoals Road that may or may not be in conflict with the design and construction of this project. There are also CATV lines running along Long Shoals Road. The Design-Build Team shall, to the greatest reasonable extent possible, avoid relocating or adjusting these utilities. If avoidance is not possible, the Design-Build Team shall be responsible for coordinating the relocation or adjustment of these facilities in accordance with the requirements of this scope of work.

Should any utilities not described in this scope of work or the Utility Construction Scope of Work be encountered during design or construction of this project, the Design-Build Team shall coordinate the relocation or adjustment of these utilities in accordance with this scope of work. Payment for coordination of unknown utilities shall be made in accordance with Article 104-7 of the Standard Special Provisions found elsewhere in this RFP

- **Overview**

The Design-Build Team shall obtain the services of a Private Engineering Firm (PEF) knowledgeable in the NCDOT Utility Coordination Process, involved with utility relocation / installation and highway construction. The Design-Build Team shall be responsible for coordinating all utility relocations. Coordination shall include any necessary utility agreements when applicable. The NCDOT will be responsible for non-betterment utility relocation cost when the utility company has prior rights of way / compensable interest. The utility company shall be responsible for the relocation costs if they can not furnish evidence of prior rights of way or a compensable interest in their facilities. The Design-Build Team shall be responsible for determining the cost responsibility for the utility relocations. The Design-Build Team shall be responsible for all costs associated with utility relocations due to haul roads and / or any other temporary conditions resulting from the Design-Build Team's methods of operation or sequence of work. NCDOT will be the approving authority for all utility agreements and approval of plans.

- **Preparation for relocating utilities within the existing or proposed highway Rights of Way**

I. The Design-Build Team shall be required to use the guidelines as set forth in the following:

(A) *NCDOT Utility Manual - Policies & Procedures for Accommodating Utilities on Highway Rights of Way*

(B) *Federal Aid Policy Guide- Subchapter G, Part 645, Subparts A & B*

(C) *Federal Highway Administration's Program Guide, Utility Adjustments & Accommodations on Federal Aid Highway Projects*

(D) *NCDOT Construction Manual Section 105-8*

(E) *NCDOT Right of Way Manual - Chapter 16 Utility Relocations*

(F) *NCDENR Public Water Supply - Rules governing public water supply*

Mitigation Responsibilities of the Design-Build Team

The N. C. Ecosystem Enhancement Program (EEP) has agreed to provide compensatory mitigation for unavoidable impacts to wetlands and surface waters resulting from the project's construction. Compensatory mitigation for the impacts resulting from the Department's Preliminary Roadway Plans, which do not incorporate utility construction / relocations, will be provided in accordance with the Memorandum of Agreement (MOA) between the North Carolina Department of Environment and Natural Resources, the NCDOT and the US Army Corps of Engineers. The Design-Build Team will not be responsible for any portion of the work performed at these mitigation sites.

Any changes proposed by the Design-Build Team to any design or construction details provided by the Department shall be approved by the Department prior to being submitted to the resource agencies for their approval.

Should additional jurisdictional impacts result from revised design / construction details, including utility impacts, suitable compensatory mitigation for wetlands and / or streams shall be the sole responsibility of the Design-Build Team. Therefore, it is important to note that additional mitigation shall be approved by the agencies and such approval shall require, at a minimum, the preparation and approval of a mitigation plan before permit modification(s) is / are approved and before construction shall commence.

The Design-Build Team shall analyze all new areas to be impacted that have not been analyzed during the NEPA process and preparation of permit applications. This analysis shall include performing all environmental assessments. These assessments shall require the Design-Build Team to engage the services of a competent environmental consultant to conduct a full environmental investigation to include, but not be limited to, Federally Listed Threatened and Endangered Species, wetlands, streams, avoidance and minimization in jurisdictional areas, compensatory mitigation, FEMA compliance, and historical, archaeological, and cultural resources surveys in these areas. The environmental consultant shall obtain concurrence through PDEA-NEU from the United States Fish and Wildlife Service to document compliance with Section 7 of the *Endangered Species Act* for those species requiring such concurrence. In addition, the Design-Build Team shall identify additional mitigation required; identify the amount of time the modification will take beyond the 9-month period; and fulfill any other requirements that may be imposed by the permitting agencies to obtain the permit modification. Any contract extensions resulting from additional environmental assessments required by the Design-Build Team's design and / or construction details impacting areas outside those previously analyzed through the NEPA Process shall be solely at the Department's discretion.

If any staging areas are located outside the project right-of-way, the Design-Build Team shall engage the services of a competent environmental consultant to conduct a full environmental investigation to include, but not be limited to, Federally Listed Threatened and Endangered Species, wetlands, streams, avoidance and minimization in jurisdictional areas, compensatory mitigation, FEMA compliance, and historical, archaeological, and cultural resources surveys in these areas.

EROSION AND SEDIMENTATION CONTROL SCOPE OF WORK (05-02-06)

The NCDOT REU shall review and accept all Erosion and Sedimentation Control Plans. Release for Construction (RFC) Erosion Control Plans shall be submitted to all NCDOT Personnel listed in the Design-Build Submittal Guidelines before **any** land disturbing activities can commence. If the Design-Build Team chooses to perform the work in discrete sections, then a complete set of RFC Erosion Control Plans shall be submitted, accepted, and distributed as noted above prior to land disturbing activities commencing in that section. No land disturbing activities shall occur in any location that does not have accepted RFC Erosion Control Plans.

Erosion and Sedimentation Control Plans shall at a minimum address the following:

I. Complete Set of Plans
   A. Clearing and Grubbing Phase
      1. Use correct NCDOT symbology
      2. Protect existing drainage structure inlets with Rock Inlet Sediment Trap Type 'A' (RIST-A), Rock Inlet Sediment Trap Type 'C' (RIST-C), Rock Pipe Inlet Sediment Trap Type 'A' (PIST-A), etc.
      3. Utilize adequate perimeter controls (temporary diversions, silt fence, etc.)
      4. Utilize rock measures with sediment control stone at drainage outlets (Temporary Rock Sediment Dam Type 'B' (TRSD-B), Temporary Rock Silt Check Type 'A' (TRSC-A), etc.)
      5. Take into account existing topography and show contour lines
      6. Utilize Temporary Rock Silt Checks Type 'B' (TRSC-B) to reduce velocity in existing ditches with spacing of 300 feet. divided by percentage of ditch grade
      7. Protect existing streams
      8. Provide adequate silt storage for 1800 cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 0.01 times the peak inflow rate, Q10, using 10-year peak runoff data *(NCDENR- Erosion and Sediment Control Planning and Design Manual*). A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request
      9. Design Riser Basins to the following standards:
         a. Surface Area shall be determined by Equation A(sq. feet.) = Q10(cfs) * 435.6
         b. Riser Pipe shall have a cross-sectional area 1.5 times that of the barrel pipe
         c. Perforations in the riser pipe shall be reduced to increase dewatering time to twenty-four (24) hours
         d. See *NCDENR- Erosion and Sediment Control Planning and Design Manual* for additional design criteria

   B. Final Grade Phase
      1. Use correct NCDOT symbology
      2. Protect existing and proposed drainage structure inlets with RIST-A, RIST-C, PIST-A, etc.
      3. Utilize TRSC-B's to reduce velocity in existing and proposed ditches with spacing of 300 feet divided by percentage of ditch grade

4. Utilize temporary slope drains and earth berms at top of fill slopes 8 feet or higher and a fill slope grade of 3:1 or steeper, or where there are super elevations above 0.04 and fills are greater than 5 feet. Maximum slope drain spacing shall be 200 feet
5. Utilize rock energy dissipater and / or silt basin at outlet of slope drain
6. Devices at all drainage turnouts shall utilize sediment control stone (TRSD-B, TRSC-A, etc.)
7. Provide adequate silt storage for 1800 cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 0.01 times the peak inflow rate, Q10, using 10-year peak runoff data *(NCDENR- Erosion and Sediment Control Planning and Design Manual*) A Sediment Basin Designer Spreadsheet will be provided by NCDOT REU upon request
8. Provide matting for erosion control in all ditch lines where Shear Stress is greater than 0.15 psf, but less than or equal to 1.55 psf. For ditch lines with a Shear Stress above 1.55 psf, Permanent Soil Reinforcement Mat or Rip Rap shall be utilized
9. Design Riser Basins to the following standards:
    a. Surface Area shall be determined by Equation A(sq. feet.) = Q10(cfs) * 435.6
    b. Riser Pipe shall have a cross-sectional area 1.5 times that of the barrel pipe
    c. Perforations in the riser pipe shall be reduced to increase dewatering time to twenty-four (24) hours
    d. See *NCDENR- Erosion and Sediment Control Planning and Design Manual* for additional design criteria
10. **NOTE** Deleted Bullet No. 10

C. Intermediate Phase

Intermediate Erosion Control Plans shall only be required if design modifications and / or site conditions require additional erosion control design or design revisions to the RFC Clearing and Grubbing and / or RFC Final Grade Erosion Control Plans. Intermediate Plans shall be submitted for review and shall be accepted prior to construction of any aspect impacted by the revised erosion control design. For any intermediate phase, comply with Section B, "Final Grade Phase" above.

II. Detail Sheets and Notes

A. Provide construction entrance detail
B. Provide project specific special details and notes
C. Provide reforestation sheet(s): regular, wetland, streambank showing appropriate species

III. Title Sheet

A. Show correct notes: HQW, ESA, clearing and grubbing, etc.
B. Show correct standards for project
c. List of standard NCDOT symbology

IV. Special Provisions

A. Erosion Control Special Provisions are available at the following website: **http://www.ncdot.org/doh/operations/dp_chief_eng/roadside/soil_water/special_provisions/**
B. References in Erosion Control Special Provisions from the aforementioned website to Method of Measurement, Basis of Payment, or any other statement regarding direct payment for Erosion & Sediment Control measures shall be disregarded.
C. Erosion Control / Stormwater Certification found elsewhere in this RFP.

V. Miscellaneous

A. Plan submittals shall include all pertinent design information required for review, such as design calculations, drainage areas, etc.
B. The NCDOT REU will provide a sample set of Erosion and Sedimentation Control Plans (including any special details or special provisions used by the NCDOT REU) and MicroStation Erosion Control Workspace to the Design-Build Team for reference upon request.
C. Plans shall address any environmental issues raised during the permitting process.
D. Sufficient time shall be allowed for the Design-Build Team to make any changes to the Erosion and Sedimentation Control Plans deemed necessary by the NCDOT REU.
E. **NOTE** Revised and relocated Bullet E
F. Temporary access and haul roads, other than public roads, constructed or used in connection with the project shall be considered a part of the project and addressed in the Erosion and Sedimentation Control Plans.
G. Borrow or waste areas that are part of the project shall require a separate Erosion and Sedimentation Control plan, unless the borrow or waste activity is regulated under the *Mining Act of 1971*, or is a landfill regulated by the Division of Solid Waste Management (NCDENR). The Design-Build Team shall submit the permit number for waste / borrow sites covered by the Mining Act or regulated by DSWM (DENR) concurrently to the State Alternative Delivery Engineer and the Resident Engineer.
H. Whenever the Engineer determines that significant erosion and sedimentation continues despite the installation of approved protective practices, the Design-Build Team shall be required to and shall take additional protective action.
I. **NOTE** Delete Bullet I
J. An approved Erosion and Sedimentation Control Plan does not exempt the Design-Build Team from making every effort to contain sediment onsite.
K. Any Erosion Control Design revisions made during the construction of the project shall be submitted to NCDOT REU by the 15th of the month via the State Alternative Delivery Engineer. At anytime requested by the Engineer or the Roadside Environmental Unit, the Design-Build Team shall provide an updated version of the Erosion and Sedimentation Control Plans for distribution to all parties involved in the construction process.
L. The Design-Build Team shall comply with the *North Carolina Administrative Code Title 15 A Department of Environment and Natural Resources Chapter 4, Sediment Control*.
M. A pre-design meeting shall take place between the NCDOT REU Soil & Water Engineering Section, the Design Build Team, and any other pertinent NCDOT personnel before Erosion and Sedimentation Control Design begins. Erosion and Sedimentation Control Plan submittals shall only be reviewed and accepted by NCDOT REU after the Erosion Control Pre-Design Meeting.

N. All RFC Erosion and Sedimentation Control Plans, including any red line revisions, shall be kept on site at all times throughout the duration of the project.
O. Erosion Control / Stormwater Certification shall be required according to the Project Special Provision found elsewhere in this RFP.

EROSION CONTROL LIQUIDATED DAMAGES:

The Design-Build Team shall take all reasonable precautions to comply with all regulations of all authorities having jurisdiction over public and private land governing the protection of erosion and sedimentation. Any fines, remediation required or charges levied against the Department for failing to comply with all rules and regulations concerning erosion and sediment control, due to the Design-Build Team's negligence, carelessness, or failure to implement the erosion and sediment control plan and specifications; or failure to maintain an approved Storm Water Pollution Prevention Plan (SWPPP), regardless of absence of neglect, shall be deducted from monies due the Design-Build Team. In addition to said fines, remediation required, or charges levied, any associated engineering costs or actions taken by the Department in order for the Department to comply with rules and regulations, as a result of the Design-Build Team's negligence, carelessness, or failure to implement the Erosion and Sediment Control Plans and Specifications; and / or the SWPPP, regardless of absence of neglect, shall be deducted from the monies due to the Design-Build Team.

OPEN BURNING

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

PUBLIC INFORMATION SCOPE OF WORK (3-15-06)

The Design-Build Team shall take the lead role on this project and be responsible for the public information efforts through the NCDOT Construction Unit's IMPACT Team. The Design-Build Team's responsibilities shall include:

- Providing advance notice to the Department of upcoming project impacts
- Organizing public meetings, if deemed necessary
- Attending and / or speaking at public meetings
- Providing media announcements
- Providing details surrounding the project impacts to the public
- Developing, producing and reproducing for distribution informational print materials
- Hand delivery of informational materials

NCDOT, through the Construction Unit's IMPACT team, will be responsible for reviewing and approving all of the public information materials created by the Design-Build Team prior to distribution. The NCDOT will also be responsible for any postage necessary for mailings to the identified target audiences.

The Design-Build Team shall coordinate with the Department to promote public awareness for this project. This process shall begin with the Design-Build Team developing a Public Information Plan with the Department's assistance for the project detailing target audiences, project impacts and proposed efforts to notify the public about the impacts. The Design-Build Team shall develop the specific list of target audience for this project. The following groups are identified as typical target audiences to receive informational materials regarding the project:

- Governmental Agencies
- Municipalities Directly Affected by Construction
- Transportation Services
- Emergency Services
- Daily Commuters
- Holiday Travelers
- Trucking Industry
- AAA Carolinas
- Area Hospitals
- Neighborhood Groups and Private Homes
- Industry and Businesses
- Chamber of Commerce
- Individual Schools Affected by the Project
- County / City School Systems
- Any other organization as deemed necessary by the Department.

The Design-Build Team shall hold an initial project coordination meeting with NCDOT one month prior to start of construction to discuss project impacts to the public and the Public Information Plan.

The Design-Build Team shall inform the Department, in writing, at least three weeks in advance of any construction activity that will have significant impact on the public, including, but not limited to, the start of construction, major traffic shifts, road closures, ramp closures, detours, night work and project completion.

The amount of public involvement required for this project is directly based on the Design-Build Team's Traffic Control Plan and construction details. As a minimum, the Design-Build Team shall be responsible for the following involvement:

- Public Meetings – Should the Design-Build Team's Traffic Control Plans and / or construction details include major traffic shifts or closures that significantly affect the target audience on the project, public information meetings may be deemed necessary. If a meeting is deemed necessary by NCDOT, the Design-Build Team shall be responsible for organizing, securing the facility, attending and / or speaking at this event. The Department will approve and be responsible for any costs associated with the facility.

- Informational Materials - The Design-Build Team shall be responsible for developing, producing and reproducing handouts regarding construction details for public informational meetings. For beginning of construction and for all road / ramp closures with detour routes, the Design-Build Team shall be responsible for developing, producing, reproducing, and delivering time sensitive informational material directly to the appropriate portions of the target audience. Distribution responsibilities shall include all resources necessary to hand deliver the informational materials to the affected target audience. The NCDOT Construction Unit's IMPACT Team will approve all materials prior to reproduction and distribution.

The Design-Build Team shall include in their Lump Sum Bid price for the project all costs associated with their involvement in the Public Information Scope of Work.

A web site is not required for this project. However, if the Design-Build Team proposes a project web site, all web site development shall use the current NCDOT construction project web design template and shall adhere to current software development, security and technical infrastructure standards. All web site design and implementation shall be coordinated with Mr. Ryan Nolan, Internet Web Content Manager, NCDOT Emerging Technologies. The Design-Build Team shall indicate in their Technical Proposal their intent to utilize a web site for this project. All costs associated with setting up and maintaining a web site for this project shall be included in the lump sum bid for this project.

*** STANDARD SPECIAL PROVISIONS ***

PROMPT PAYMENT OF MONIES DUE SUBCONTRACTORS, SECOND TIER SUBCONTRACTORS AND MATERIAL SUPPLIERS AND RELEASE OF RETAINAGE

The Design-Build Team, subcontractor, or second tier contractor, shall within seven calendar days of receipt of monies, resulting from work performed on the project or services rendered, pay subcontractors, second tier subcontractors, or material suppliers, as appropriate. This seven-day period begins upon knowledgeable receipt by the contracting firm obligated to make a subsequent periodic or final payment. These prompt payment requirements will be met if each firm mails the payment to the next level firm by evidence of postmark within the seven-day period.

This provision for prompt payment shall be incorporated into each subcontract or second tier subcontract issued for work performed on the project or for services provided.

The Design-Build Team may withhold up to 3% retainage if any subcontractor does not obtain a payment and performance bond for their portion of the work. If any retainage is held on subcontractors, all retainage shall be released within seven calendar days of satisfactory completion of all work. For the purpose of release of retainage, satisfactory completion is defined as completion of all physical elements and corresponding documentation as defined in the contract, as well as agreement between the parties as to the final quantities for all work performed in the subcontract. The Department will provide internal controls to expedite the determination and processing of the final quantities for the satisfactorily completed subcontract portions of the project.

Failure of any entity to make prompt payment as defined herein may result in (1) withholding of money due to that entity in the next partial payment until such assurances are made satisfactory to this provision; or (2) removal of an approved Design-Build Team from the prequalified bidders list or the removal of other entities from the approved subcontractors list.

DB1 G73

BORROW AND WASTE SITE RECLAMATION PROCEDURES (9/6/05)

The Department's Borrow and Waste Site Reclamation Procedures for Contracted Projects have been revised and are available on the website at:

http://www.ncdot.org/doh/preconstruct/ps/contracts/borrowwastesite20jan05.doc

In accordance with Article 230-4 and Section 802 of the *Standard Specifications*, the Design-Build Team shall utilize these revised procedures for all borrow and waste sites on this project.

DB1 G120

PLANT AND PEST QUARANTINES (3-18-03)
(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)

Within quarantined area
This project may be within a county regulated for plant and/or pests. If the project or any part of the Design-Build Team's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by

PORTABLE CONCRETE BARRIER (9-6-05)

Portable Concrete Barrier used on this project must meet one of the following:

- NC Approved NCHRP 350 Portable Concrete Barrier (design can be found at **http://www.ncdot.org/doh/preconstruct/wztc/** or can be obtained by calling the Traffic Control Section at (919) 250-4159)
- Other NCHRP 350 Portable Concrete Barrier as approved by the Engineer and the Traffic Control Section
- NC Approved NCHRP 230 Portable Concrete Barrier in *Roadway Standard Drawing* 1170.01 manufactured before October 1, 2002

DB11 R10

WORK ZONE SIGNS (1/18/05)

Revise the *Standard Specifications* as follows:

DESCRIPTION

Page 11-5, **Article 1110-1 Description**

Replace the second paragraph with the following:

> Furnish, install, maintain and relocate portable work zone signs and portable work zone sign stands in accordance with the plans and specifications. When portable work zone signs and portable work zone sign stands are not in use for periods longer than 30 minutes, collapse sign stand and reinstall once work begins.

Replace the last sentence in the third paragraph with the following:

> Use work zone signs (portable) only with portable work zone sign stands specifically designed for one another. Work Zone Signs (portable) may be roll up or approved composite.

MATERIALS

Page 11-5, **Article 1110-2 Part (A) General**:

Add the following:

> Barricade Mounted Signs.....……Article 1089-3

MATERIAL QUALIFICATIONS

Page 11-5, **Article 1110-2 Part (B) Material Qualifications**.

Delete the first sentence in the first paragraph and replace with the following:

> Provide portable work zone sign stands, portable signs and sign sheeting which are listed on the North Carolina Department of Transportation's approved product list or accepted as traffic qualified by the Traffic Control Unit.

Delete "Traffic Control Section" in the second sentence of the first paragraph and insert "Traffic Control Unit".

CONSTRUCTION METHODS

Page 11-6, Article 1110-3 CONSTRUCTION METHODS.

Replace **Article 1110-3 (B) Work Zone Signs (Barricade Mounted)** with the following:

Mount approved composite or roll-up signs to barricade rails so that the signs do not cover more than 50 percent of the top two rails or 33 percent of the total area of the three rails. Signs are to be mounted a minimum of 1' from the ground to the bottom of the sign.

Replace **Article 1110-3 (C, 2) Work Zone Signs (Portable)** with the following:

Install portable work zone signs to carry roll-up or approved composite at a minimum height of 1' from the bottom of the sign to the ground on two lane-two way roadways.

Install portable work zone signs to carry roll-up or approved composite at a minimum height of 5' from the bottom of the sign to the ground on multi-lane roadways.

DB11 R15

BARRICADES (1/18/05)

Revise the *2002 Standard Specifications* as follows:

Page 11- 12, **Article 1145-2 Materials**, delete the contents and substitute the following:

(A) General

Refer to Division 10:

Barricades…….. Article 1089-3

(B) Material Qualifications

Provide Type III barricades and barricade rails that are listed on the North Carolina Department of Transportation's approved product list or accepted as traffic qualified by the Traffic Control Unit. For more information on the Traffic Qualification process, contact the Traffic Control Unit at Century Center Building B, 1020 Birch Ridge Drive, Raleigh, NC 27610; (919) 250-4159, or see the approved product list on the NCDOT web site at: **http://www.ncdot.org/doh/preconstruct/wztc/**

(C) Historical Performance:

Historical performance of Type III barricades and barricade rails will be used in determining future use of the material by the NCDOT, even if the Type III Barricade is traffic-qualified. Poor past or poor current performance of Type III Barricades at any site, whether or not related to a specific contract may be grounds for non-acceptance of a product on any project under contract.

DB11 R20

PAVEMENT MARKING GENERAL REQUIREMENTS (9-6-05)

Revise the 2002 Standard Specifications as follows:

Page 12-10, Subarticle 1205-3(J)

Delete the first (1st) sentence of the first (1st) paragraph and insert the following:

"Have at least one member of every pavement marking crew working on a project certified through the NCDOT Pavement Marking Technician Certification Process. For more information contact the Traffic Control, Marking and Delineation Section of the North Carolina Department of Transportation at 919-250-4159 or **http://www.ncdot.org/doh/preconstruct/wztc/"**

DB12 R01

SECTION 105

CONTROL OF WORK

105-1 AUTHORITY OF THE ENGINEER.

The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the contract; and all questions as to the acceptable fulfillment of the contract on the part of the Design-Builder. His decision shall be final and he shall have executive authority to enforce and make effective such decisions and orders as the Design-Builder fails to carry out promptly.

The Engineer shall have the authority to issue any written order to the Design-Builder which he considers necessary to the prosecution of the work, and shall have executive authority to enforce such written orders as the Design-Builder fails to carry out promptly. Failure on the part of the Design-Builder to comply with any written order issued by the Engineer may be justification for disqualifying the Design-Builder from further bidding in accordance with Article 102-16.

105-2 PLANS AND WORKING DRAWINGS.

See Scope of Work and the Design-Build Submittal Guidelines

105-3 CONFORMITY WITH PLANS AND SPECIFICATIONS.

All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the plans, or indicated in the specifications.

In the event the Engineer finds the materials or the finished product in which the materials are used not within reasonably close conformity with the plans and specifications but that reasonably acceptable work has been produced, he will then make a determination if the work is to be accepted and remain in place. If the Engineer determines that the work is to be accepted, he will have the authority to make such adjustment in contract price as he deems warranted based upon his engineering judgment and the final estimate will be paid accordingly.

In the event the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by the contractor at no cost to the Department.

The Design-Builder shall bear all the costs of providing the burden of proof that the nonconforming work is reasonable and adequately addresses the design purpose. The Design-Builder shall bear all risk for continuing with nonconforming work in question until it is accepted.

The Engineer may impose conditions for acceptance of the nonconforming work. The Design-Builder shall bear all costs for fulfilling the conditions.

The decisions whether the product satisfies the design purpose, whether the nonconforming work is reasonably acceptable and the conditions for acceptance are within the sole discretion of the Engineer.