



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

October 8, 2004

**Addendum No. 2**

RE: TIP I-2511CB  
Contract ID: C200929  
WBS # 34163.3.10  
Federal Aid No.: NHF-85-3(173)75  
Rowan County  
I-85 North of SR 1002 (Bringle Ferry Road)  
To North of SR 2120 near Spencer

**November 18, 2004 Letting**

To Whom It May Concern:

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

The Utilities Coordination Unit Scope of Work is being replaced. Please remove Page No. 97 through Page No. 102 and replace with revised Page Nos. 97 through Page No. 102.

The Pavement Design Scope of Work is being replaced. Please remove Page No. 50 and Page No. 51 and replace with revised Page No. 50 and Page No. 51.

Sincerely,

A handwritten signature in black ink, appearing to read "R.A. Garris".

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

Distribution:

Mr. W.S. Varnedoe, P.E.  
Mr. Pat Ivey, P.E.  
Ms. D.M. Barbour, P.E.  
Mr. S.D. DeWitt, P.E.  
Mr. J.V. Barbour, P.E.  
Mr. Art McMillian, P.E.  
Mr. S.D. Blevins, P.E.  
Mr. Jay Bennett, P.E.  
Mr. R.E. Davenport, P.E.  
Mr. J.A. Gay, P.E.  
Ms. Marsha Sample  
Mr. Rodger Rochelle, P.E. (w/attachment)  
Mr. Shannon Lassiter, P.E. (w/attachment)  
Technical Review Committee  
Project File (w/attachment)

**UTILITIES COORDINATION UNIT SCOPE OF WORK**

**Overview:** The Design Build Firm shall obtain the services of a firm knowledgeable in the NCDOT Utility Coordination Process involved with utility relocation/installation and highway construction. The Design Build Firm 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 will be responsible for the relocation cost if they can not furnish evidence of prior rights of way or a compensable interest in their facilities. The Design Build Firm will be responsible for determining the cost responsibility for the utility relocations. NCDOT will be the approving authority for all utility agreements and approval of plans.

The Bell South remote equipment site located in quadrant C of the Old Union Church interchange will need to be relocated outside the interchange quadrant.

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

- I. The Design Build Firm will be required to use the guide lines 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.*
  - G. *NCDENR Division of Water Quality - Title 15A - Environment and Natural Resources.*
  
- II. The Design Build Firm will be responsible for confirming the location of the utilities, type of facility, identify the utility owner and determine the cost responsibility in order to coordinate the relocation of any utilities in conflict with the project.

**Arrangements for Protection or Adjustments to existing utilities**

- I. The Design Build Firm will make the necessary arrangements with the utility owners for adjustments, relocating or removals where the Firm and Utility Company determine that such work is essential for safety measures and performance of the required construction.

The Design Build Firm shall not commence work at points where the highway construction operations are adjacent to utility facilities, until making arrangements with the utility company to protect against damage that might result in expense, loss, disruption of service or other undue inconvenience to the public or utility owner. The Design Build Firm shall be responsible for damage to the existing or relocated utilities resulting from his operations. In the event of interruption of any utilities by the project construction, the Design Build Firm will promptly notify the proper authority (Utility Company) and cooperate with the authority in the prompt restoration of service.

The Design Build Firm should plan to accommodate for certain utility adjustments, reconstruction, new installation and routine maintenance work that may be underway or take place during the progress of the contract.

- II. In the event of a utility conflict, the Design Build Firm will request that the utility company submit relocation plans (Highway Construction Plans to be provided by the Design Firm to Utility owners) showing existing utilities and proposed utility relocation for approval by the NCDOT.

The Firm will be required to submit (3) three copies of the Utility Relocation Plans to the NCDOT State Utility Agent for review and approval prior to relocation work beginning. If the Firm determines the cost to be borne by NCDOT, then the Firm will be required to submit three (3) copies of a detailed utility relocation estimate and copies of verification of compensable interest. The Firm will also be responsible for submitting the appropriate agreements to be used with the relocation plans (See Agreements under line items V. & VI.). After the review process is complete, the NCDOT Utility Unit will submit one (1) copy of the Utility Relocation Plans, executed agreements and any necessary comments back to the Firm. The Utility Unit will also submit a copy of the approved Utility Relocation plans to the Department's Resident Engineer. If the Utility Relocation Plans are approved subject to changes, it will be the Firm's responsibility to coordinate these changes with the appropriate utility company.

- III. The cost in relocating utilities due to the highway construction will be the responsibility of NCDOT. As stated in the overview, the Firm will be responsible to determine cost responsibility/compensable interest. A compensable interest is identified as follows:

- A. Existing or prior easement rights within the limits of the project, either by recorded right of way or adverse possession (Utility occupying the same location for twenty (20) plus years outside the existing highway rights of way).
- B. Entities covered under *General Statute* 136-27.1 and 136-27.2. Statute requires the NCDOT to pay the non-betterment cost for certain water, sewer and gas relocations.

The cost in relocating CATV due to the highway construction will be the responsibility of the CATV Company; however, under the following conditions NCDOT will bear the relocation expense:

- A. If the Company can validate a recorded easement for facilities outside the maintained NCDOT Rights of Way.
- B. The adjustment is needed on existing utility poles to accommodate for a proposed NCDOT Traffic Management System Fiber Optic Communication Cable Project.

The NCDOT will not permit CATV to place poles within the Highway Rights of Way but will allow down guys for their facilities within the Rights of Way. Under most circumstances the CATV Company will continue a joint-use attachment with the local Power and Telephone Company. If the CATV proposed relocation places buried facilities within the highway rights of way then plans and encroachment agreements will be required by the NCDOT.

- IV. If the Design Build Firm elects to make arrangements with a utility company to incorporate a new utility installation or relocation as part of the highway construction, the utility work done by the firm and the associated cost for the work will be negotiated and agreed upon between the firm and the utility company.

It is recommended that the Design Build Firm make arrangements to relocate water or sewer line facilities in which the entities are covered under General Statute 136-27.1 or occupying a compensable interest. The non-betterment cost associated with this work will be borne by NCDOT and pursuant to a Supplemental Agreement between the Firm and NCDOT.

If the Design Build Firm is requested, in writing, by an entity to relocate, upgrade or incorporate new water and sewer facilities as part of the highway construction, designs shall be coordinated with the Utility Owner and NCDOT Utility Unit. Coordination shall include preparation of all plans for needed agreements and permits. The Firm would be responsible for all permit fees.

If the Design Build Firm elects to make arrangements with a Governmental Agency or any other utility owner for proposed utility construction, in which the Agency/Utility Owner will participate in the cost for work to be performed by the Firm, the Firm will be responsible for negotiating all cost associated with the proposed construction. Once the Firm and the Agency/Utility Owner agree on a plan and a lump sum estimated cost for the utility construction, the Firm will be responsible in submitting five (5) sets of 11" x 17" utility construction drawings to the State Utility Agent for further handling. Each set should include a title sheet, plan sheets, profiles and special provisions if available. Also, a letter from the Agency/Utility Owner agreeing to the plans and lump sum cost must accompany this package. The NCDOT will reimburse the Firm the estimated lump sum cost under a supplement agreement. The necessary Utility Agreement to the Agency/Utility Owner for reimbursement will be a two party agreement between the NCDOT and the Agency/Utility Owner.

- V. The Design Build Firm will be required to utilize the NCDOT Standard Utility Encroachment Agreements as necessary in relocating utilities. The Encroachment Agreements will be used under the following conditions:
- A. If a utility company is not occupying a valid right of way/compensable interest and the proposed relocation will place the relocated utilities with the existing or proposed highway rights of way.
  - B. For all new utility installations within the existing or proposed highway rights of way. This includes all water, sewer and gas lines owned by entities covered under *General Statute* 136-27.1 and 136-27.2.
- VI. The NCDOT State Utility Agent must execute approved agreements on Design Build highway projects. The Utility Relocation Agreements (Cost Agreement) and encroachment agreements are available from the NCDOT Utility Unit. See Pages 59 and 60 of the *NCDOT Utility Manual on Policies & Procedures for Accommodating Utilities on Highway Rights of Way* for the different types of encroachment agreements available for use.

#### **Requirements for attachments to existing and/or proposed structures**

- I. Attachments to structures should be avoided where feasible. Attachments should only be considered when other alternatives are cost prohibitive or not feasible due to environmental or geographical features. Attachments are prohibited under the following conditions:

- A. No attachments will be allowed to a bridge located parallel within the C/A carrying the freeway over streams, other roadways or railroads. (No parallel utility installations within the C/A)
  - B. No attachments will be allowed to cored-slab bridges.
  - C. No attachments will be allowed to curved bridges.
- II. Attachments to structures, if allowed, shall meet the following criteria.
- A. No attachments will be allowed below the bottom of the beams and/or girders.
  - B. Drilling of or attachments to beams and/or girders will not be allowed. Attachments will only be allowed to the bottom of the bridge deck.
  - C. For water and sewer force mains, only restrained joint ductile iron pipe will be allowed.
  - D. A minimum of 18" of clearance to beams and/or girders shall be maintained if possible.
- III. Documentation of adverse conditions or cost estimates of all feasible alternatives should be submitted to the NCDOT State Utility Agent when seeking approval of a structure attachment. Cost estimates should consider all costs involved with each alternative and impacts to the utility and the highway project as a whole.

**Preparation for Communication Cables/Electrical Services for Lighting, Signing & ITS Devices**

- I. Prior to establishing the location for new meter poles, the Design Build Firm will coordinate with the local Power Distribution Company concerning accessibility of E/C Service and safety in maintenance of the meter.
- II. All service taps that require a parallel installation within the C/A will require plans for review and approval by the NCDOT prior to the installation.  
  
Preferably, parallel service installations within a C/A should be buried and located as close to the R/W line as practical. However, due to unusual circumstances the NCDOT may approve aerial installations.
- III. The NCDOT will be responsible for any cost concerning service taps provided by the utility company.

**Preparation for Adjusting Existing Utilities due to Proposed Traffic Management Systems  
Fiber Optic Communication Cables**

- I. See Traffic Management Scoping Outline
- II. The NCDOT will be responsible for all cost in coordinating and adjustments of utilities for any proposed ITS Communication Cable.



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**PAVEMENT DESIGN SCOPE OF WORK**

The pavement design for the mainline and mainline shoulders will consist of the following:

- 14.0" doweled jointed concrete with 15' uniform joint spacing
- 3.0" B25.0B
- 1.5" S9.5B
- Subgrade Stabilization

The Design-Builder may use either properly secured dowel baskets or a dowel bar inserter, provided the ability to correctly locate and align the dowels at the joints is demonstrated as described below.

If a dowel bar inserter is used, the Design-Builder will provide equipment that will document dowel bar location and alignment. Dowel bar locations and alignment will be verified each time the Design-Builder mobilizes for paving. Twenty percent of the joints in the initial 1.0 mile will be evaluated at randomly selected locations.

If mislocated dowels are detected, an additional 25 percent of the dowel locations will be checked. If mislocated dowels are detected in the additional 25%, NCDOT will have the option of suspending the use of the selected method, and requiring the team to use the alternate method.

If mislocated dowel bars are not detected in the initial 20%, the Design-Builder will evaluate 10% of the remaining dowel bar locations at random intervals.

Subgrade stabilization will be to a depth of 8 inches for lime and 7 inches for cement. The type of subgrade stabilization and amount of stabilizing agent will be based on the geotechnical report. Typically, projects adjacent to this one have been stabilized with lime.

The Design/Build team may use crushed concrete aggregate on -Y-lines or service roads if the required specifications can be met.

The crushed material must meet all source approval requirements such as LA Abrasion and Deleterious Substances with the exception of the Sodium Sulfate test requirement, which is waived. For approval as a source, the Producer must have a stockpile containing at least 300 tons of material meeting a NCDOT standard gradation before samples will be obtained by the Materials Inspector for evaluation.

For use as ABC: The material must meet the ABC gradation. The Liquid Limit of the material is raised 5 points to a maximum of 35. Material that is transported to a project from an offsite crushing facility is subject to the requirements of the Aggregate Quality Control/Quality Assurance Program.

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Other pavement designs for this project are listed in the table below:

<b>LINE</b>	<b>Surface</b>	<b>Intermediate</b>	<b>Base</b>	<b>ABC</b>
Y13REV	3.0" S9.5B	4.0" I19.0B	-----	8.0"
Y13 and Y13REV,narrow widening	3.0" S9.5B	4.0" I19.0B	4.0" B25.0B	-----
RP1A and RP1D @ Y13REV	3.0" S9.5B	3.0" I19.0B	-----	8.0"
RP1B and RP1C @ Y13REV	3.0" S9.5B	3.0" I19.0B	-----	8.0"
PDPS for Ramps @ Y13REV	3.0" S9.5B	-----	-----	*Var.
Y25REV and Y25REV1	3.0" S9.5B	2.5" I19.0B	-----	8.0"
Y25 and Y25REV,narrow widening	3.0" S9.5B	2.5" I19.0B	4.0" B25.0B	-----
SR1	3.0" S9.5B	-----	-----	*10.0"
Y48REV	3.0" S9.5B	-----	4.5" B25.0B	-----
Y14REV	3.0" S9.5B	3.0" I19.0B	-----	8.0"
Y14 and Y14REV,narrow widening	3.0" S9.5B	3.0" I19.0B	4.0" B25.0B	-----
RP2A and RP2D @ Y14REV	3.0" S9.5B	3.0" I19.0B	-----	8.0"
RP2B and RP2C @ Y14REV	3.0" S9.5B	3.0" I19.0B	-----	8.0"
PDPS for Ramps @ Y14REV	3.0" S9.5B	-----	-----	*Var.
SRA and SRB	3.0" S9.5B	-----	-----	*6.0"
SRCREV and SRC	3.0" S9.5B	-----	-----	*6.0"
SRDREV and SRD	3.0" S9.5B	-----	-----	*10.0"

\* - Prime coat required over ABC

The minimum depth for overlaying the existing pavement shall be the full thickness of surface course as given above.

The Design/Build team will be responsible for the design of all temporary pavements and for evaluation of existing shoulders regarding their suitability for carrying traffic during construction, if necessary. Temporary pavements will be designed in accordance with the most recent version of the North Carolina DOT Pavement Design Procedure. Temporary pavement designs are to be submitted for review and comment using the contract submittal process. The expected duration for traffic on temporary pavement must be included as part of the submittal.

The Design/Build team will be responsible for design of continuous shoulder drains and outlets for the mainline. The shoulder drain design and outlet locations are to be submitted for review and comment using the contract submittal process. The shoulder drain design will be according to Standard Drawing 816.02 of the Roadway Standard Drawings, NCDOT.