STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 13, 2003

RE: Contract No. 200748
T.I.P. B-3463, B-3647, & B-3648
Guilford County
Bridge 171 on SR 2819 over South Buffalo Creek
Bridge 172 on SR 2770 over North Buffalo Creek
Bridge 158 on SR 2784 over North Buffalo Creek

To Whom It May Concern:

Reference is made to the final "Request for Proposal" (RFP) recently furnished to you on the above noted project.

Page No. 35, the method of calculating the "Quality Value ($)" has been clarified. The calculation will be based solely on the Lump Sum Amount submitted by the Design Builder for Line Item No.2 as noted on Page 396. Please void Page 35 in your RFP and replace with the attached Page 35.

Page No. 44, the first paragraph under "Roadway Foundations" has been revised. Please void Page 44 in your RFP and replace with the attached Page 44.

Page No. 47, the last paragraph on this page has been revised. Please void Page 47 in your RFP and replace with the attached Page 47.

Page No. 74, in the second paragraph under "Scope", the reference to "utility coordination" has been deleted. After the first paragraph under "Construction and CEI Work Performed by the Design-Builder", a new paragraph has been added. Please void Page 74 in your RFP and replace with the attached Page 74.

If you have any questions or need additional information, I can be reached by telephone at (919) 250-4124.

Sincerely,

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

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
DESIGN 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

RAG/fca

C: Mr. J. D. Goins, P.E.
Ms. D.M. Barbour, P.E.
Mr. J.V. Barbour, P.E
Mr. S.D. Dewitt, P.E.
Mr. S.D. Blevins, P.E.
Ron Davenport, P.E.
Mr. J.M. Mills, P.E.
Ms. Kim Canady
Ms. Yang Steelman
Technical Review Committee Members
file

Quality Credit Percentage for Technical Proposals

Technical Score	Quality Credit (%)	Technical Score	Quality Credit (%)
100	25.00	84	11.67
99	24.17	83	10.83
98	23.33	82	10.00
97	22.50	81	9.17
96	21.67	80	8.33
95	20.83	79	7.50
94	20.00	78	6.67
93	19.17	77	5.83
92	18.33	76	5.00
91	17.50	75	4.17
90	16.67	74	3.33
89	15.83	73	2.50
88	15.00	72	1.67
87	14.17	71	.83
86	13.33	70	0.00
85	12.50		

If any of the technical proposals were considered non-responsive, the manager of the Contract office will notify those Design-Builders of that fact. The Manager of the Contract Office shall publicly open the sealed price proposals and multiply each Design-Builder's Unit Cost for Design, Construction, and Inspection (B-3463 & B-3647) [**Line Item #2**] by the Quality Credit Percentage earned by the Design-Builder's technical proposal to obtain the Quality Value of each Design-Builder's technical proposal. The Quality Value amount will be subtracted from each Design-Builder's price proposal for **Line Item #2,** then the amount for **Line Item #1** (B-3648) will be added to obtain an Adjusted Price based upon Price and Quality combined. Unless all proposals are rejected, the Department will recommend to the State Transportation Board that the Design-Builder having the lowest adjusted price be awarded the contract. The cost of the design-build contract will be the amount received as the Total Bid Price for Line Item #1 and Line Item #2 combined.

The following table shows an example of the calculating Quality Adjusted Price Ranking.

Proposal	Technical Score	Quality Credit (%)	Line Item #2 Amount ($) B-3463/B-3647	Quality Value ($)	Line Item #1 Amount ($) B-3648	Adjusted Price ($)
A	95	20.83	3,000,000	624,900	753,200	3,128,300
B	90	16.67	2,900,000	483,430	842,990	3,259,560
C	90	16.67	2,800,000	466,760	767,560	3,101,800
D	80	8.33	2,700,000	224,910	812,400	3,287,490
E	70	0.00	2,600,000	0	796,870	3,396,870
* Successful Proposer – Contract Cost			$ 3,567,560			

elevation, whichever is higher, and the 500 year design scour elevation may be set 2 feet (600 mm) below the 100 year design scour elevation.

End bent fill slopes up to 35 feet (10.7 meters) in height (defined as the difference between grade point elevation and finished grade at toe of slope) must be 1.5:1 (H:V) or flatter. End bent slopes with heights greater than 35 feet (10.7 meters) or end bent cut slopes must be 2:1 or flatter. Extend end bent slope protection from the toe of slope to berm and to 1.75:1 (H:V) slope for 1.5:1 fill slopes or to the limits of the superstructure for cut slopes and for 2:1 or flatter fill slopes.

Design foundations for service loads using allowable stress design. The ultimate bearing capacity of all piles will be determined by "Method B - Wave Equation Analysis" outlined in Division II, Section 4.4 of the current allowable stress design AASHTO *Standard Specifications for Highway Bridges*.

Analyze drilled pier and pile bent foundations using either Lpile or FB-Pier. Drilled piers and vertical piles must be "fixed" in the soil/rock such that a decrease in pier or pile length will not significantly increase the top deflection. The D/B team structural engineer must approve deflections greater than 1 inch (25 mm) in the free head condition for either top of pile for a pile bent or top of column for post and beam construction on drilled piers. A minimum design diameter of 42 inches (1066 mm) is required for all drilled piers.

A. Roadway Foundations

Design all unreinforced fill slopes for a slope of 2:1 (H:V) or flatter except bridge end bent slopes (see Section A) and a minimum stability factor of safety of 1.3. Design all cut end slopes or side slopes for a minimum stability factor of safety of 1.5. Use limiting equilibrium methods, such as Modified Bishop, Simplified Janbu, Spencer or any other generally accepted method for slope stability analysis.

Design and construct embankments such that a minimum of 90% of primary consolidation occurs after the embankment has reached finished grade. Embankment monitoring in accordance with the Embankment Monitoring Special Provision and the Standard Settlement Plate Detail is required when a waiting period of more than one month is recommended in the foundation design recommendation reports. Two settlement plates are required at each location. Space settlement plate locations no more than 200 feet (61 meters) apart or at each bridge end bent location, whichever is closer. Reinforced bridge approach fills in accordance with the NCDOT standard are required for end bents on all bridges.

B. Permanent Retaining Wall Structures

Extensible reinforcement is not allowed for any permanent retaining walls. Modular block walls are not allowed for critical wall structures. Critical wall

foundation design recommendation reports, plans, special provisions and calculations by a registered professional engineer licensed in the state of North Carolina.

Submit each retaining wall separately as two submittals, the wall layout and wall design. Do not submit wall layouts until 25% roadway plan submittal (line and grade) have been approved by the Engineering Coordination Section of the NCDOT Design Services Unit. Do not submit wall designs until the wall layouts have been approved by the NCDOT Geotechnical Engineering Unit. If temporary shoring is required to construct a retaining wall, submit the temporary shoring design as part of the wall design submittal. A review time of 20 business days is required for each retaining wall layout. A review time of 20 business days is also required for each retaining wall design.

IV. CONSTRUCTION REQUIREMENTS:

All construction and materials must be in accordance with the NCDOT 2002 *Standard Specifications* and current NCDOT *Project Special Provisions*. The D/B team is responsible for investigating and proposing remedial measures for any construction problems related to foundations, retaining walls, subgrades, settlement and slopes. The NCDOT Geotechnical Engineering Unit will review and approve these proposals.

The prequalified geotechnical firm that did the foundation designs must review the embankment monitoring data a minimum of once a month. Waiting periods may not be ended until less than 0.1 inches (2.5 mm) of settlement is measured over a period of four weeks.

The prequalified geotechnical firm that did the bridge foundation design must review and approve all pile driving hammers and drilled pier construction sequences and the NCDOT Geotechnical Engineering Unit will review these approvals. Perform hammer approvals with GRLWEAP Version 2002 or later and in accordance with the NCDOT 2002 *Standard Specifications*. Provide pile driving inspection charts or tables for all approved pile hammers. A minimum of 30 blows per foot (300 mm) is required to verify bearing, and stresses during driving shall not exceed the limits outlined in the FHWA "Design and Construction of Driven Pile Foundations. Provide field quality control for all bridge foundations including pile driving records and drilled pier inspection forms. Use current NCDOT inspection forms for drilled piers available on the DOH website under Soils and Foundation Design Section Forms in "Doing Business with NCDOT". Verify bearing on rock for spread footings in the field during construction. If prestressed concrete piles are used, test a minimum of one prestressed concrete pile for each bridge for bearing and stresses with a pile driving analyzer (PDA).

Crosshole sonic logging (CSL) tubes are required for all drilled piers. The NCDOT and/or the CEI firm will determine which piers will be CSL tested. The CSL testing will be performed in accordance with the CSL Special Provision. CSL testing may be required for up to a third of the drilled piers for each bridge. The NCDOT Geotechnical Engineering Unit will determine if the CSL results are acceptable. The first drilled pier excavation that is not hand cleaned for each bridge location will be inspected by the Department with the shaft inspection device (SID) in accordance with the Drilled Piers Special Provision.

B-3648 – SCOPE OF WORK

OVERVIEW:

This Scope of Work is for the replacement of Bridge 158 over North Buffalo Creek and Approaches on SR 2784 (Dicks Mill Road) which is a 2-lane facility

Project services shall include:

Construction Services – necessary to build and ensure workmanship of the designed facility.

SCOPE:

The scope of work for this project will include construction and construction engineering and management of the project in accordance with the plans provided by the Department.

Construction will include but is not limited to all necessary roadway work, drainage, erosion and sediment control work items, substructure work and superstructure work. Construction engineering and management, including quality control and quality assurance, except as specified in the Construction Engineering Inspection Scope of Work, will be the responsibility of the Design Builder. Construction will comply with NCDOT Standard Specifications for Roadways and Structures Edition of 2002 and any special provisions.

CONSTRUCTION AND CEI WORK PERFORMED BY DESIGN-BUILDER:

The Department has completed all the design for this project and has obtained the necessary environmental permits. It will be the Design-Builder's responsibility to review all plans, specifications, and engineering data furnished to him.

The Department has purchased the Right of Way and negotiated utility relocations in accordance with the plans provided. Any deviation from these plans, and all costs associated with same, will be the responsibility of the Design Builder. These costs shall be included in the Lump Sum Amount bid for Construction and Inspection for B-3648.

All work by the Design-Builder is to be done in a manner satisfactory to the State and in accordance with the established customs, practices, and procedures of the North Carolina Department of Transportation and in conformity with the standards adopted by the American Association of State Highway Transportation Officials, and approved by the Secretary of Transportation as provided in Title 23, US Code, Section 109 (b).

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.

If the Design Builder chooses to alter the provided plans, the firms chosen to do this work shall be prequalified by the Department for the work they are identified to perform. Design firms, and Natural Systems firms, are prequalified by the particular office doing the work. If the work is to be done by an office other than the one that is prequalified, it will be necessary to have that office prequalified prior to any design submittals.