

# Synopsis

## Multiple Bridge Replacements Statewide

### General

Twelve individual contracts will be used to replace roughly 120 bridges. Two of these contracts, one in Division 7 and one in Division 13, will be for the design and construction of culverts only. Five contracts include the construction of both bridges and culverts.

As development work is ongoing, it is possible that a few of these advertised bridges as shown in the interactive maps on the project website will be deleted or replaced with other sites. These substitutions may or may not occur prior to shortlisting.

Currently, the twelve contracts include the following number of bridges or culverts:

Division	Number of Bridges to be Constructed	Number of Culverts to be Constructed
1	8	
4 Set A	9	1
4 Set B	4	4
5 Set A	6	2
5 Set B	8	
6	11	4
7 Set A	9	
7 Set B		14
12	4	2
13 Set A	11	
13 Set B	10	
13 Set C		11

The majority of the bridges in these contracts are less than one hundred feet in length and many will be considered Low Impact Bridge Replacements.

Many of these bridges are also located on the Subregional Tier and/or are Low Impact Bridge Replacements, in such case, a general overview of the Roadway, Hydraulics, Geotechnical, and Structures Scope of Work is specified in the Sub Regional Tier Design Guidelines for Bridge Projects dated February 2008 and the Low Impact Bridge Replacement Process dated January 2010. An electronic copy of these documents is located at:

<http://www.ncdot.org/doh/preconstruct/highway/structur/subregional/STGFeb2008.pdf>  
<http://www.ncdot.gov/download/projects/nbridges/lowimpactbridge/finalmanual.pdf>

## **Planning**

The Department is currently preparing a Low Impact Project Data Sheet or a Minimum Criteria Checklist for each of the bridges. The Design-Build Team will not be responsible for completing these environmental documents.

## **Roadway**

Roadway plans will be the responsibility of the Design-Build Team. Pavement designs will be provided by the Department.

## **Hydraulics**

The Design-Build Team shall be responsible for all hydraulic designs and shall provide signed and sealed Bridge Survey Reports for all bridges. The Design-Build Team shall be responsible for all storm drainage design, State Stormwater permit, and construction and shall obtain FEMA compliance for the regulated floodways.

For culverts, the Department will provide information prior to issuance of the Final Request for Proposals to establish the culvert type and size to be bid.

## **Permitting**

The Design-Build Team shall be responsible for preparing design plan sheets and providing all data necessary for the Department to obtain the environmental permit for each bridge replacement. These will often include a Nationwide Permit 3 and a Water Quality Certificate.

## **Structures**

The Design-Build Team will be responsible for the design and construction of all structures necessary to complete the projects. Standard bridge plans will be made available and may be used at certain sites; however, the design must be signed and sealed by the Design-Build Team.

Certain structure types will be disallowed or prescribed within each individual contract.

## **Geotechnical**

The Department will provide 2 to 3 borings per bridge to the Design-Build Teams. The Design-Build Team shall be responsible for all geotechnical recommendations, as well as supplemental roadway and structural investigations.

## **Traffic Management**

Most bridge sites will be conducive to off-site detours, but some will require an on-site detour or staged construction. The Design-Build Team will be responsible for Traffic Control Plans as appropriate for the bridge site as will be detailed in the Requests for Proposals.

A list of parameters, such as lane closures, time restrictions and general guidelines will be provided in the Request for Proposals.

## **Erosion and Sedimentation Control**

The Design-Build Team shall be responsible for all erosion control designs and implementation.

## **Signing and Pavement Markings**

Pavement Marking plans will be the responsibility of the Design-Build Team. Permanent signing on these projects will be minimal and will be the responsibility of the Design-Build Team.

## **Right-of-Way and Utilities**

In general, the Design-Build Team will be responsible for acquisition of additional right of way, as necessary, to construct the projects. The Department may assist in this effort on a project-by-project basis as will be outlined in each Request for Proposals.

The Design-Build Team will be responsible for the coordination of all utility relocations necessary for construction. It is anticipated that the cost of utility relocations will be paid by the utility owners or the Department.

## **Surveys**

The Department will provide initial survey information pre-bid. The Design-Build Team shall be responsible for any supplemental location and construction surveys.

## **Construction Engineering Inspection**

It is anticipated that CEI work will be provided by the Design-Build Team for contracts in Divisions 5, 6, and 12. Independent Assurance will be provided by the NCDOT Division personnel. For the other Division contracts, CEI will be performed by the Department or its agent.

## **Provided Materials**

The Department will provide surveys, including property ties, geotechnical borings, pavement designs, pre-design hydraulic reports, and low impact data sheets or minimum criteria checklists, bridge inspection reports, and field scoping meeting minutes.

## **Contract Completion Date**

As these are Express Design-Build projects without a Technical Proposal, an overall contract completion date will be set in the contract, with associated liquidated damages. The date will be established to allow for greater flexibility in the Design-Build Team scheduling and completion of the work.

Intermediate contract times for road closures or for early completion of certain bridges, with associated liquidated damages, will be as outlined in the Request for Proposals.

## **Compensation**

To reduce the amount of work necessary to be performed pre-bid by the Design-Build Teams, and to ensure to the greatest extent possible that all Design-Build Teams are bidding on similar designs, the Department will include an estimated bridge length, bridge width, and assumed geotechnical design parameter (e.g. point of fixity, embedment, bearing elevation) in the Requests for Proposals. The Design-Build Team will then bid a unit price for these high level pay item quantities. However, the Department will consider allowing the Design-Build Team to bid a lump sum for all work at each bridge site to enhance the opportunity for innovation in the procurement.

It is likely that the bridge length will change from that estimated in the contract. In such event, a supplemental agreement will be entered into for the additional (or lesser) bridge length, foundation depth, etc. from those quantities placed in the Request for Proposals.

A lump sum item will most likely be included to provide for all design work and other ancillary construction work including but not limited to minor approach work, approach slabs, supplemental investigations, drainage, erosion control, traffic control, etc.

It is likely that all work necessary for culvert design and construction will be paid for on a lump sum basis.