

# MUNICIPAL BRIDGE PROGRAM GUIDELINES FOR FEDERAL-AID, HIGHWAY BRIDGE PROGRAM PROJECTS

November 17, 2010

## PROJECT INITIATION

1. The original request for a project to be placed in the State Transportation Improvement Program (STIP) is made to the Program Development Assistant Branch Manager - Programming, Transportation Building, 1534 Mail Service Center, Raleigh, NC 27699-1534. The Assistant Branch Manager will ask the Bridge Management Unit to review the sufficiency rating and eligibility of the bridge. Once it has been determined that the requested project is eligible for the Federal-Aid, Highway Bridge Program, a STIP project identification number will be assigned. The request to add the structure to the Municipal Bridge Program is then placed on the Board of Transportation Agenda for approval.

**\*\*Note: For Contact Names, Addresses, Phone Numbers, Email, etc. Refer To "CONTACTS AND WEB SITES FOR THE MUNICIPAL BRIDGE PROGRAM".**

2. Upon approval of the addition to the STIP, the Program Development Assistant Branch Manager - Programming will advise the Municipal Bridge Coordinator to request that a Municipal Agreement be prepared outlining all responsibilities. The Local Programs Management Office, will develop and transmit the Agreement to the Municipality for execution.
- The Municipality shall provide to NCDOT the estimated cost for planning, design, right of way, utility adjustments and construction. If requested, the Municipal Bridge Coordinator will assist the Municipality with cost estimates. The project shall be developed in accordance with NCDOT standards and specifications. The project plans will be designed using the current version of Microstation/Geopak software used by the Department and the plan sheet size will be the standard 22" x 34" used by the Department.
  - Once the Municipal Agreement is executed by the Municipality, the Local Programs Management Office will place it on the North Carolina Board of Transportation Agenda for approval. Upon Board approval and execution by the State Highway Administrator, a fully executed copy will be forwarded to the Municipality, the respective Division Office, Municipal Bridge Coordinator, the Special Studies Squad of the Roadway Design Unit, and a copy scanned into SAP by the Municipal Bridge Coordinator.
3. After execution of the Municipal Agreement, the Municipal Bridge Coordinator will request approval from the Federal Highway Administration (FHWA) for authorization of preliminary engineering (PE) funds, and a copy scanned into SAP by the Municipal Bridge Coordinator. Once FHWA approval is granted, the Municipal Bridge Coordinator will send the Municipality **written notification** to proceed with consultant selection process or in-house project planning efforts. A copy of the FHWA authorization letter depicting the appropriate project numbers and funding information will be attached. The Federal Aid number, STIP identification number, project contract and work breakdown structure (WBS) number should be noted on all transmittals, plans, and specifications. Preliminary engineering funds are approved based upon estimates provided by the Municipality. The Municipality may not proceed with the selection of a consultant until such *written* notification is received from the

North Carolina Department of Transportation. ***Any costs incurred prior to written notification to proceed will not be eligible for reimbursement.***

## **SELECTION OF PRIVATE CONSULTANT**

- Prior to selecting a consultant for Professional Services, municipalities must submit an electronic copy of a draft Request For Proposals ([RFP](#)) and their intended method of advertising to the Municipal Bridge Coordinator for review and approval. [RFP Templates are available on the NCDOT, Program Development web site]. The Municipal Bridge Coordinator shall send an electronic copy of the draft RFP to the Professional Services Management Manager for review and comments. The Municipal Bridge Coordinator shall return all comments received to the municipality.
- Construction Engineering and Inspection (CEI) RFP shall be issued separately from, but advertised in the same general way as, other RFPs for professional services (see sample CEI RFP templates). The Municipality shall begin to prepare the CEI RFP upon submitting 75% Plans to NCDOT for approval. The Municipality shall have a CEI Consultant under contract before the project is let for construction. The Consultant selected for CEI services shall not be the same Consultant selected for pre-construction (planning or design) services unless the Municipality's request for a project-specific exemption is granted by the NCDOT State Construction Engineer. For additional information and 'Exemption Request' submittal requirements, contact the Bridge Construction Estimates & Claims Engineer.
- After the Municipality selects the top ranking CEI RFP proposal, the top firm submits their proposal with hours and costs to the Municipal Bridge Coordinator. Independent of that submittal, and at the same time, the Resident Engineer and Materials and Test Unit jointly prepare an in-house cost estimate for CEI services and submit it to the Municipal Bridge Coordinator. After receiving both submittals, the Municipal Bridge Coordinator sends the Consultant's CEI proposal and the in-house estimate to the Senior Auditor for review. Based on the results of successfully completed negotiations between the Municipality, NCDOT, and Consultant, the Municipality may establish a "Cost Plus Fixed Fee" contract with the Consultant for CEI services.
- The recommended method of advertising for consultant services is for the Municipality to post the approved RFP Long Form on their web site for a minimum of two weeks, and one time use of Short Form for the newspaper at least two weeks prior to the Letter of Interest (LOI) due date. The Municipality also sends an electronic copy of the RFP to the Professional Services Management Manager for posting on the NCDOT web site. Projects are advertised there on the 1<sup>st</sup> and 15<sup>th</sup> of each month. The Professional Services Management Manager must receive an electronic copy of the RFP Long Form a minimum of 10 days prior to the advertising date. This will satisfy the state and federal advertising requirements for consultant services.
- The consultant selected must be on the NCDOT Pre-qualified Consultant List, in good standing with the Department and capable of managing the overall project. All sub-consultants selected shall likewise be pre-qualified by NCDOT for the specific type of work they will perform for the prime consultant. [A Link to the Web Site List of Pre-qualified consultants is located on the CONTACTS AND WEB SITES FOR THE MUNICIPAL BRIDGE PROGRAM sheet.] The selection process shall be in accordance with Federal and State Guidelines for procurement in conformance with

NCGS 143-64.31, and Title 23, Highways, of the Code of Federal Regulations (23 CFR 172).

- Once the municipality has selected a prospective consultant for the project, they shall send a letter to the Municipal Bridge Coordinator which includes: a statement that FHWA and NCDOT policies and procedures were followed, a copy of the RFP used, the advertising locations, number of LOI received, names of the proposed consultant/sub-consultants, RS-2 completed forms and justification for their selections.
- The Municipal Bridge Coordinator will review the municipality's letter with the Professional Services Management Manager and, if everything is acceptable, the Municipal Bridge Coordinator will schedule a scoping meeting with the municipality, their prospective consultant, the reviewing parties and the Division Engineer.

Project work and funding authorizations are programmed under the following 3 phases:

**PRELIMINARY ENGINEERING 'PE'**

Work under this phase involves preliminary engineering, planning, environmental studies, planning document, design and survey.

1. After the scoping meeting, the Municipality shall submit an electronic copy of the proposed engineering consultant agreement to the Municipal Bridge Coordinator for review and approval. The Municipality will address changes requested by Municipal Bridge Coordinator.

- Special Studies Squad will collect in-house estimates from appropriate units/division within NCDOT, compare with the proposed estimates to assure the hours are within 5% and the total cost is within 10% prior to the review by External Audit Unit. If the proposed estimates are higher, the consultant will be informed and other steps will be taken including negotiations by the Special Studies Squad.
- A pre-negotiation audit must be performed by the Office of Inspector General - External Audit Branch in the event that the expected architectural and/or engineering services exceed \$30,000.00. A pre-negotiation audit of a contract \$30,000.00 and under will be performed if the Municipality or the Municipal Bridge Coordinator requests it.
- The Municipality shall send a copy of the executed engineering consultant agreement to the Consultant and direct them to prepare the Draft Planning Document.
- The Municipality shall send two copies of the executed engineering consultant agreement to the Municipal Bridge Coordinator who will forward one copy to the Special Studies Squad, and a copy to file. The Municipal Bridge Coordinator also scans a copy into SAP.
- Upon approval of the engineering consultant agreement, invoices may be submitted by the Municipality for costs incurred as specified in the Municipal agreement. All **preliminary engineering, and design invoices** should be submitted by the municipality to the Municipal Bridge Coordinator for approval and payment processing. DBE-IS forms must be submitted with all invoices to report payments to DBE firms. On each invoice, please note the project contract number, (WBS) number, the STIP Project B- number, invoice number, whether the invoice is a partial or final, and include a copy of cancelled check or bank statement. Proof of Payment and supporting documentation will not be

necessary if the Municipality is reporting under the Single Audit Act. A final invoice is required at the conclusion of each level of authorization.

- Municipalities and their consultants shall coordinate with the Bridge Project Development Unit on the Historic Preservation Act [Section 106], the Endangered Species Act [Section 7] and Native American Tribes requirements. All findings shall be included in the Planning Document for each project.
2. Upon completion of the draft Planning Document by the Consultant, the Municipality will send an electronic copy of the document to the Municipal Bridge Coordinator. The draft Planning Document and the 25% design plans (refer to Guideline 3 below) must be submitted for review at the same time so the two reviews can be coordinated. The Municipal Bridge Coordinator will send 2 copies to the Bridge Project Development Unit for review and keep one copy for file. The Bridge Project Development Unit will send comments directly to the Consultant. The Consultant will send 12 copies of the revised Draft Planning Document to the Bridge Project Development Unit for a second review and comment. The Bridge Project Development Unit will distribute copies of the second draft, including a copy to the Division Engineer, for review and comment, then collect the comments and return them to the Consultant. The Municipality and their Consultant will make revisions to the document and send one copy of the final Planning Document, with Municipal signatures, to the Bridge Project Development Unit for final approval and signatures. The Bridge Project Development Unit will process the Final Planning Document for signatures and return the executed document to the Consultant. The Consultant will provide the Bridge Project Development Unit with 5 copies of the executed Planning Document for distribution. The Bridge Project Development Unit will distribute the document, and a copy will be scanned into the SAP by the Municipal Bridge Coordinator. Upon receipt of the executed Planning Document, the Municipal Bridge Coordinator will send written authorization to the Municipality and they may then proceed with the final design phase of the project. The Municipality shall provide an estimated time schedule in month and year for the ROW and Construction to the Municipal Bridge Coordinator.

**\*\*NOTE: The Final Planning Document must be approved prior to proceeding to the final design phase of the project.**

3. Preliminary design plans, six (6) full size sets, will be submitted by the Consultant to the Special Studies Squad Leader for review and approval. The Consultant will submit a copy of the transmittal letter to the Municipal Bridge Coordinator. Special Studies Squad Leader will return reviewed plans and comments directly to the Consultant. At a minimum, preliminary plans are to show design, profiles, typical sections, construction limits, drainage, and proposed right of way and/or easements. The project shall be designed in accordance with NCDOT Design Standard and Specifications. The Consultant shall contact the Special Studies Squad Leader regarding the submission requirements for review plans (25%, 75%, 90% and 100% plans). The Special Studies Squad Leader is the primary contact within the Department regarding the project plans. All project review plans will be submitted to the Special Studies Squad Leader and they will distribute plans to other Units within the Department for their review and approval.
- Prior to the review and approval of the Right of Way (ROW) plans (75% plans), the Municipality shall provide a letter to the Special Studies Project Engineer indicating that public involvement was accomplished. It is essential that the Municipality provide this letter in the early stages of the project to eliminate possible delays in the project

schedule. The type of public involvement the Municipality uses will be agreed upon at the scoping meeting held between the Municipality, Consultant and the Department.

- The Special Studies Squad Leader will send a copy of the Location and Design Approval Letter to the Municipal Bridge Coordinator. This will signify approval of public involvement, and 75% (ROW) plans.
- In the event ROW is not authorized within 12 months from the date that the Planning Document is signed, the Municipality must complete a Project Environmental Consultation (PEC) form. This form assures DOT and FHWA that environmental commitments are being addressed and that no new environmental issues have surfaced. The form will be provided to the Municipality, when applicable, and the signed original must be returned to the Municipal Bridge Coordinator. A copy of the latest plan sheet must be attached to the PEC. The Bridge Project Development Unit and FHWA will review and approve the PEC as appropriate.

**\*\*NOTE: The ROW Plans must be approved prior to proceeding to the next phase of the project.**

## **RIGHT OF WAY AND UTILITY PHASE**

Work under this phase involves Right of Way Acquisition, Utility Relocation and Permits.

1. After receipt of ROW plan approval from the Special Studies Squad Leader in the Roadway Design Unit (and PEC approval from the Bridge Project Development Unit when applicable), the Municipal Bridge Coordinator will request FHWA authorization of right of way funds. Upon FHWA approval, the Municipal Bridge Coordinator will advise the Municipality **in writing** to conduct a preliminary acquisition process meeting. The Municipality shall comply with all rules and regulations and ROW must be certified in accordance with the Uniform Relocation Assistance and Real Property Act of 1970. Certification of existing municipally owned ROW shall be in accordance with all rules, regulations and procedures governing the acquisition of ROW.
  - After receipt of **written notification** authorizing ROW acquisition, the Municipality must meet with the Division ROW agent prior to initiating any ROW acquisition. The meeting is to review the required approved negotiation and relocation processes that must be followed by the Municipality. No reimbursement for ROW costs shall be made to the Municipality until this meeting has been held and the Agent has notified the Municipal Bridge Coordinator in writing.
  - A ROW certification letter is required from the Division ROW Agent stating that all ROW issues have been resolved.
  - The Municipality shall accomplish, or cause to be accomplished the relocation and/or adjustment of any and all publicly or privately owned utilities in conflict with the project. A plan showing utility conflicts shall be included with the 90% completed plans.
  - The non-betterment costs associated with the relocation of municipally-owned water and sewer lines located within municipally-owned ROW are reimbursable.
  - The Municipality shall submit the utility cost estimates to the Municipal Bridge Coordinator who will forward to Special Studies Squad for review, comments and reimbursement eligibility. The municipality must receive in writing the cost authorization for relocating the utilities from the Program Development prior to any relocation.

- The Municipality is responsible for all permits on the project.
  - The Erosion Control plans are to be reviewed and approved by the Land Quality Section of the NC Department of Environment and Natural Resources (NCDENR).
2. After each Unit reviews and approves the plans and prior to the Municipality advertising for bids, the Consultant shall submit two (2) sets of approved 100% plans, calculation of final quantities and a quantity estimate to the Special Studies Squad Leader. Special Studies will submit one (1) copy each of these items, a copy of the Planning Document and the Special Studies Project Notebook to the Department's Plan Checking Section for review and comments.

After incorporating the Plan Checking Section review comments into the plans and updating the quantity estimates, the Consultant shall submit to the Special Studies Squad Leader, two (2) half size sets of approved final plans signed and sealed by a licensed North Carolina Professional Engineer, two (2) copies of the contract documents, and two (2) copies of the quantity estimates. Special Studies will submit one (1) copy each of these items to the Department's Proposals and Contracts Section for their review and comments pertaining to the contract document. The Special Studies Squad Leader will submit one (1) copy of the quantity estimates to the Department's Estimating Section to obtain an updated engineering cost estimate for the Department.

In the event construction of the project is not initiated within 12 months from the date that the ROW is authorized, the Municipality must complete a Project Environmental Consultation (PEC) form. This form assures DOT and FHWA that environmental commitments are being addressed and that no new environmental issues have surfaced. The form will be provided to the Municipality, when applicable, and the signed original must be returned to the Municipal Bridge Coordinator. A copy of the latest plan sheet must be attached to the PEC. The Bridge Project Development Unit and FHWA will review and approve the PEC as appropriate.

The Municipality shall obtain all required permits for the project and verify to the Municipal Bridge Coordinator that all permits have been obtained and have not expired prior to project construction advertisement.

3. After the Special Studies Squad has reviewed and approved the final plans and contract proposals for the project, and the Municipal Bridge Coordinator receives a copy of the right of way field certification, verified construction cost estimates and a valid planning document or PEC, he/she will request FHWA approval to proceed with the construction advertisement.

## **CONSTRUCTION PHASE**

The construction phase will include activities such as advertising, project letting and Construction Engineering and Inspection 'CEI'.

1. Upon receipt of approval by FHWA, the Municipal Bridge Coordinator shall notify the Municipality **in writing** that it may proceed with advertisement. Letting of contracts for construction and purchases shall be in accordance with NCGS 143-129 and 23 CFR 635.
- Four (4) weeks prior to the Municipality advertising the project for letting, the Municipality or Consultant will submit to the Special Studies Squad Leader two (2) copies of the contract documents, which address comments previously received from the Contract Standards and Development Unit. The contract documents shall include the Disadvantaged Business Enterprise (DBE) goal as required by NCDOT, all Federal

provisions, permits and permit drawings. The Special Studies Squad Leader will forward a copy of the contract documents and a copy of the environmental commitments (Green Sheets) taken from the Planning Document to the Contract Standards and Development Unit for final review and approval. The Special Studies Squad and the Contract Standards and Development Unit will retain a final copy of the contract documents for their records. The Special Studies Squad Leader will notify the Municipality once the contract documents are approved by NCDOT and send a copy of the notification to the Municipal Bridge Coordinator. The project can then be advertised.

- Unless specified otherwise in the municipal agreement, the municipality is responsible for Construction Engineering and Inspection (CEI) for the project. The Municipality may hire a consultant to perform these services (follow procedures under 'Selection of Private Consultant'). The use of a consultant does not relieve the Municipality of ultimate responsibility for the proper administration and inspection of the construction contract. The Municipality shall oversee the consultant's work.
  - Upon receipt of bids and prior to award of the construction contract by the Municipality, the Municipality shall submit a bid package to the Special Studies Squad and copied to the Municipal Bridge Coordinator. The bid package shall contain One (1) copy of the following: The resolution from the municipality recommending award, a detailed summary letter, bid tabulations, the Engineer's Estimate for a line by line comparison to the bidder's estimate, Good Faith documentation (if applicable), and one copy of the low bidder's Bid Proposal.
  - The State Contract Officer, upon review and approval of bid package information will issue a concurrence letter authorizing the Municipality to proceed with award of the construction contract.
  - Upon award of the project to contract, the Municipality shall furnish the State Contract Officer 5 copies of the executed contracts and 5 sets of plans.
  - The Municipality shall send six copies of the CEI agreement to the Municipal Bridge Coordinator for distribution to Special Studies Squad of the Roadway Design Unit, Bridge Project Development Unit, Division Engineer and file.
2. The Division Engineer will assign a Resident Engineer to oversee that project construction is in compliance with NCDOT standards and specifications. All **construction invoices**, including ones for CEI, and supporting documentation should be submitted to the Division Construction Engineer for review and approval subject to all conditions contained within the Municipal Agreement. DBE-IS forms must be submitted with all invoices to report payments to DBE firms. An inspection log will be maintained for review in the Resident Engineer's office indicating project review prior to payment of invoices in accordance with 23 CFR 635.105(a). The Municipality must adhere to Cost Principles as contained in OMB Circular A-87, Administrative Requirements as contained in 49 CFR 18 and shall arrange for an independent audit in compliance with NCGS 159-34 and in accordance with OMB Circular A-133. The Division personnel will enter the invoice into the SAP database for reimbursement to the Municipality. All support documentation will be scanned.
- Six copies of all shop drawings shall be sent to the Special Studies Squad Leader for review and approval. The Department's approval is required before materials are purchased.
  - The funding of a typical project is as follows: eighty percent (80%) from Federal-Aid, Highway Bridge Program Funds as allocated by the FHWA; twenty percent (20%)

Municipal matching funds. The Department shall have no liability for project costs that are disallowed by the FHWA and the Municipality shall bear all project costs for which it is unable to substantiate actual cost.

- In the event that the Municipality does not undertake construction of the project for which sums of Federal Funds have been paid for preliminary engineering and/or right-of-way acquisition by the end of the tenth year following execution of the project Municipal agreement, then the Municipality shall repay any such expended Federal Funds in accordance with the terms of the project Municipal agreement. Further, in the event that funding is withdrawn or adjusted by FHWA, the NCDOT shall have no further obligation to the Municipality or liability for the project.
  - Prior to construction completion approval and final payment by the Department, the Division Engineer and FHWA will make a final inspection of the completed work.
  - Any moneys due from the Municipality or any costs not reimbursed to the NCDOT by FHWA shall be borne by the Municipality and are subject to deduction from the Municipality's Powell Bill Allocation as allowed by NCGS 136-41.3.
  - Upon completion of the project, the Municipality shall furnish five complete half size sets of As Built Plans. One will be sent to the Bridge Management Unit and the rest to the Special Studies Squad Leader.
  - The Municipal Bridge Coordinator will request closure through the Federal Funds Management Unit for each Work Breakdown Structure (WBS) after final payment of the construction invoice.
3. The Municipality shall be responsible for the proper maintenance of the completed improvements and the costs thereof. Further, the Department is indemnified and held harmless from any and all claims that might arise on account of such project, to the extent allowed by law.
  4. The Municipality shall be responsible for complying with the National Bridge Inspection Standards (NBIS) 23 CFR Part 650. These standards include completion of a safety inspection and report within 90 days of a bridge being opened to traffic. Bridges must be inspected by a qualified engineer approved by the NCDOT Bridge Management Unit. Inspections are also required every 24 months throughout the life of the structure. The cost of these mandatory inspections is eligible for Federal funding (80% FHWA, 20% Municipality).

***\*\*NOTE: PLEASE MAKE SURE YOU HAVE OBTAINED PROPER WRITTEN AUTHORIZATION AND/OR APPROVAL BEFORE BEGINNING WORK ON ANY PHASE OF THE PROJECT.***