EXPRESS DESIGN-BUILD

BRIDGE REPLACEMENT

SUBMITTAL GUIDELINES

March 18, 2013

The submittal process used in the Design-Build program is a critical link to the successful delivery of Design-Build projects. The submittal process is geared for rapid review, while ensuring that the project is safe, environmentally conscious, satisfies all national and state codes and manuals, and fulfills the requirements set forth in the Request for Proposals. This document outlines the procedures to be followed by both the Design-Build Team and the Design-Build Group in the submittal, distribution and review of Express Design-Build plan submittals.

GENERAL

DESIGN AND PERSONNEL EXPECTATIONS

The Design-Build Team shall be responsible for designing in accordance with the Request for Proposal.

Prior to any submittals, the Design-Build Team shall provide the Design-Build Project Manager with a list of key design and construction staff. The Department will reciprocate by providing the Design-Build Team with a list of Department contacts to be used when submitting plans for review. The list of Department contacts shall only be used to accurately complete the submittal forms. All submittal correspondence, both verbal and written, shall be directly among the Design-Build Team and the Design-Build Group, unless otherwise approved.

The comments, or lack thereof, provided by the Department in no way relieves the Design-Build Team of liability or the responsibility to correct any error in their plans, computations and / or construction. The Design-Build Team shall make design and field construction corrections without additional compensation.

SCHEDULING OF SUBMITTALS

The Design-Build Team shall prioritize submittals in the event that multiple submittals for the same bridge / culvert site or different bridge / culvert sites are made at the same time. Submittals for bridges and / or culverts over the same waterway may be submitted simultaneously.

SUBMITTAL PROCESS

Unless otherwise stated in the Request for Proposal's Scopes of Work, all submittals shall be simultaneously delivered to both the Transportation Program Management Director and the Resident Engineer. Separate submittals shall be required for each discipline at each individual bridge or culvert site. As noted herein or in the Request for Proposal, other concurrent submittals may be required. Submittals shall be made in the number of copies as noted herein or otherwise noted in the Request for Proposal. Pertinent submittals may also require design calculations, files and special provisions. No construction work shall be performed prior to the Department's review, receipt of satisfactory response to the Department's comments, and the subsequent production of sealed Release for Construction Plans. All Release for Construction Plans

shall be clearly labeled as RFC and signed and sealed by a Professional Engineer registered in North Carolina. The term RFC shall be solely reserved for those plans for which the Department agrees that no further review is necessary.

All submittals shall be accompanied with a standard color-coded submittal form. The Design-Build Team and the Design-Build Project Manager will decide on a color for each project prior to the first submittal.

The number of copies and the information transmitted shall be clearly noted on the submittal form. A submittal containing multiple copies of the same information shall be transmitted with the copies individually packaged and covered with the appropriate submittal form. For example, a submittal containing four sets of plans and cross-sections shall be submitted as four individual rolls each containing one set of plans and one set of cross-sections. Each roll shall have an identical color-coded submittal form.

Each submittal shall be assigned a submittal number. This submittal number shall not have suffixes other than those reflecting re-submittals of the same information. Specifically, “Revise and Resubmit” submittal responses require the Design-Build Team to correct and re-submit the same information with the original submittal number and an “R” suffix. For example, submittal S-001 shall be revised to S-001R1 to reflect the first re-submittal and S-001R2 to reflect the second re-submittal of submittal S-001.

Each submittal form, cover sheet and plan sheet submitted shall clearly denote the six digit bridge or culvert number.

Submittals shall contain information for only one discipline for each bridge or culvert site. For example, if Structure Plans and Traffic Control Plans for a given site are submitted on the same day, two separate submittals shall be required. The Department will then forward the submittals to the appropriate reviewing personnel.

If an individual is copied on a submittal, it shall be clearly noted whether that individual received the attachments or simply a copy of the submittal form.

For projects that specific disciplines are not included in the Design-Build Team’s or the Department’s Scope of Work, submittal copies for that discipline are not required as noted herein.

RECORD DRAWINGS / AS-BUILT PLANS

For those projects that the Department provides Construction Engineering Inspection the Design-Build Team shall provide Record Drawings. Specifically, upon completion of the project, and in addition to the sets required by the Resident Engineer, two sets of Record Drawings, signed and sealed by a Professional Engineer registered

in North Carolina, shall be submitted to the Transportation Program Management Director. The Transportation Program Management Director will retain one set and distribute one set to the appropriate Maintenance Unit.

For those projects that the Design-Build Team provides Construction Engineering Inspection the Design-Build Team shall provide As-Built Plans. Specifically, upon completion of the project, and in addition to the sets required by the Resident Engineer, two sets of As-Built Plans, signed and sealed by a Professional Engineer registered in North Carolina, shall be submitted to the Transportation Program Management Director. The Transportation Program Management Director will retain one set and distribute one set to the appropriate Maintenance Unit.

REVIEW TIME

Unless otherwise noted herein or in the Request for Proposal Scopes of Work, submittals will be reviewed within ten working days (15 working days for FEMA compliance documents and temporary shoring) from the date of the Department's receipt. Submittals delivered to the Transportation Program Management Director shall be stamped in at the front desk before 2:00 p.m. to start the specified review period on that day. If submittals are received after 2:00 p.m., the review period shall begin on the following business day. The 10-day review period includes only NCDOT workdays.

NCDOT will respond to all submittals by contacting the contact person specified by the Design-Build Team and notifying them that plans and comments are available. The Design-Build Team will have the option to (1) pick up plans / comments from NCDOT; (2) receive plans / comments by regular mail at no charge; or (3) receive plans / comments by overnight FED-EX at the Design-Build Team's expense. If possible, comments will be e-mailed or faxed and the original copy sent by one of the above methods.

SUBMITTAL RESPONSES

The Transportation Program Management Director will respond to all submittals, with the exception of structure working drawings (Structure Design Unit will provide responses). The submittal response will include a standard response form that indicates whether the Department has comments or requires a re-submittal on that item.

The comments will be returned to the Design-Build Team as noted above. The Division Construction Engineer and the Resident Engineer will be notified by copy of all submittal response forms returned to the Design-Build Team. Copies of the comments,

particularly if made directly on the submitted plan sheets, will not be transmitted to either the Division Construction Engineer or the Resident Engineer, unless otherwise requested.

The Design-Build Group will maintain a database to ensure that all submittals are addressed within the allotted time. A copy of the log of all submittals for a given project is available to any Department staff upon request. The Design-Build Group will supply this log to the Resident Engineer periodically and upon request.

SUBMITTAL PREREQUISITES

The Department will not accept subsequent submittals until prior submittal reviews have been completed for that item. For example, the RFC submittal for a discipline shall not occur prior to the NCDOT final plan review, etc. for that same discipline.

Submittals shall be transmitted in a logical order and in accordance with the project CPM or submittal schedule most recently submitted by the Design-Build Team. However, if the Design-Build Team chooses to submit plans that require prerequisite reviews, the Design-Build Team assumes all risks should the prerequisite plan review result in comments that impact the current submittal. Should this occur, NCDOT will begin a new review period. Depending on the complexity of the project, certain iterations of these submittals may be waived by the Department.

The Design-Build Team shall notify the Department of any changes to previously reviewed submittals. For example, if the Department reviews the horizontal and vertical alignments, the Design-Build Team shall be required to advise of any subsequent revisions made to those alignments. A re-submittal of that item will generally be necessary. Similarly, any design / construction changes made after submittal of RFC Plans shall require a submittal for review and acceptance to ensure that dependent plan reviews are based on the most current and accurate information. At a minimum, this submittal shall follow the standard submittal guidelines, as well as the appropriate discipline prerequisites and review.

Any information included in a submittal for informational purposes shall be noted as such. For example, if the Roadway Plans are included to assist in reviewing the Traffic Control Plans, they shall be noted with “FYI”.

SUBMITTALS REQUIRED BY DISCIPLINE

All design submittals shall be made directly to the Transportation Program Management Director.

ROADWAY DESIGN

The submittal of Roadway Plans will generally be comprised of the steps as outlined below. The various Roadway Plans shall be submitted with plans for other disciplines, as noted throughout this document. Any changes to a stage of the Roadway Plans made after that stage's initial review and comment by the Department shall require re-submittal to ensure that dependent plan reviews are based on the most current and accurate Roadway Plans.

For guidance in preparing these plan submittals, see the document entitled "Roadway Design Guidelines for Design-Build Projects" located on the Design-Build website. All submittals shall adhere to the NCDOT Review requirements for Preliminary Plans and Release for Construction Plans (RFC) located on the Design-Build website.

The Design-Build Team shall develop plans using the current version of Microstation and Geopak software required by the Department and shall be in English units, unless otherwise noted in the Request for Proposal. The plans shall follow the Department's CADD standards including, but not limited to, file naming convention, leveling chart and file folder structure. These standards can be found through a link on the Design-Build website.

The Design-Build Team shall submit electronic files of the Roadway Plans upon request by the Department.

DESIGN CRITERIA / STRUCTURE RECOMMENDATIONS

The Design-Build Team shall submit Design Criteria / Structure Recommendations for review.

Total Number Required: (2 Sets)

- Transportation Program Management Unit (1 Set)
- Structure Management Unit (1 Set)

PRELIMINARY ROADWAY PLANS

The Design-Build Team shall provide Preliminary Roadway Plans for review. The Design-Build Team shall submit the Design Exception Process Checklist with this submittal.

Prerequisites:

- Accepted Design Criteria and Structure Recommendations

Total Number Required: (6 Full-size, 1 Half-size, 7 x-sections, Electronic Files)

- Division Construction Engineer (1 Full-size with x-sections)
  - Sent directly by the DBT
- Resident Engineer (1 Full-size with x-sections)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Full-size with x-sections)
  - Sent directly by the DBT
- Transportation Program Management (1 Full-size with x-sections, Design Calculations, & Electronic Files)
- Hydraulics Unit (1 Full-size with x-sections)
- Utilities Coordination Unit (If applicable) (1 Full-size with x-sections)
- Area Bridge Construction Engineer (1 Half-size with x-sections)
  - Sent directly by the DBT and for information only

RIGHT OF WAY PLANS / FINAL ROADWAY PLANS

The Design-Build Team shall provide either Right of Way Plans or Final Roadway Plans for review. If the Design-Build Team is acquiring the right of way, this submittal shall be noted as Right of Way Plans, otherwise this submittal shall be referred to as Final Roadway Plans. In this submittal, denote any design changes made

subsequent to the Preliminary Roadway Submittal. If applicable, provide a narrative of how the Design-Build Team has addressed conservation measures with this submittal.

If applicable, the Design-Build Team shall provide a copy of the Right of Way Plans for right of way recordation in both electronic and hard copy format. Note that parcel numbers shall not be repeated at various bridge sites within the same contract.

Prerequisites:

- Approved Bridge / Culvert Survey Reports
- Approved Design Exceptions
- Accepted Preliminary Roadway Plans
- Accepted MOA Package
- Accepted Erosion Control Plans

Total Number Required: (4 - 5 Full-size, 3 Half-size, 7 – 8 x-sections, Electronic Files)

- Division Construction Engineer (1 Half-size with x-sections)
  - Sent directly by the DBT
- Resident Engineer (1 Full-size with x-sections)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size with x-sections)
  - Sent directly by the DBT
- Transportation Program Management (1 Full-size with x-sections, & Electronic Files)
- Utilities Coordination Unit (if applicable) (1 Full-size with x-sections)
- Area Bridge Construction Engineer (1 Half-size with x-sections)
  - Sent directly by the DBT and for information only
- Right of Way Branch (1 Full-size with x-sections)
  - For information only
- Division Right of Way Agent (1 Full-size with x-sections)
  - Sent directly by DBT and for information only

RFC ROADWAY PLANS

The Design-Build Team shall provide a copy of the RFC Roadway Plans in both electronic and hard copy format. All final designs shall be signed and sealed by a Professional Engineer registered in North Carolina.

Prerequisites:

- Submittal of Typical Sections for the Pavement Design Unit to sign and seal the pavement design, if applicable
- Accepted Right of Way Plans or Final Roadway Plans

Total Number Required: (4 Full-size, 4 Half-size, 7 x-sections, Electronic Files)

- Resident Engineer (2 Full-size with x-sections)
  - Sent directly by the DBT
- Transportation Program Management (1 Full-size, 1 Half-size with x-sections, & Electronic Files)
- Pavement Management Unit (1 Full-size)
- Area Bridge Construction Engineer (1 Half-size with x sections)
  - Sent directly by the DBT
- Division Construction Engineer (1 Half-size with x-sections)
  - Sent directly by DBT
- Division Bridge Program Manager (1 Half-size with x-sections)
  - Sent directly by the DBT

TEMPORARY ROADWAY ALIGNMENTS

The Design-Build Team shall submit all temporary roadway alignments for review. The submittal of temporary roadway alignments shall adhere to the Final Plans requirements noted above.

Prerequisites:

- Accepted appropriate Traffic Control Phase

STRUCTURE DESIGN

Plan submittals for bridges shall be submitted in three stages, Preliminary General Drawings, Final Bridge Substructure / Superstructure Plans and RFC Plans. Culvert plans may be submitted in one stage.

PRELIMINARY BRIDGE / CULVERT GENERAL DRAWINGS

Preliminary General Drawings shall contain sufficient details (drawings or narrative) to explain the scope of design and construction intended for the bridge and shall list all anticipated special provisions and notes describing design data and material properties. For guidance on preparing Preliminary Bridge / Culvert General Drawings, reference submittal link on the Design-Build website.

Prerequisites:

- Approved Hydraulic Bridge / Culvert Survey Report
- Accepted Preliminary Roadway and 100% Hydraulic Design Plans
- Provide one set of Half-size plans and reports / recommendations of the above to Transportation Program Management concurrently with this bridge submittal

Total Number Required: (2 Full-size, 5 Half-size)

- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Structure Design Unit (2 Half-size)
- Area Bridge Construction Engineer (1 Half-size)
  - Sent directly by DBT
- Geotechnical Engineering Unit (1 Half-size)
  - For information only

BRIDGE SUBSTRUCTURE / SUPERSTRUCTURE FINAL PLANS

Final Plans shall have all plan details and notes completed for final review. The Final Plans may be separated into substructure and superstructure or other submittals as necessary to accommodate construction schedules.

The Design-Build Team shall address all comments in writing and revise all designs and / or drawings accordingly before construction of those elements begins.

Prerequisites:

- Accepted Preliminary Bridge General Drawings
- Accepted Bridge Geotechnical Foundation Recommendations
- Provide one set of Structure Recommendations to Transportation Program Management concurrently with this bridge submittal

Total Number Required: (2 Full-size, 6 Half-size)

- Division Construction Engineer (1 Half-size)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Structure Design Unit (2 Half-size)
- Area Bridge Construction Engineer (1 Half-size)
  - Sent directly by DBT

BRIDGE / CULVERT RFC PLANS

One complete full size original set of RFC Plans shall be submitted to the Transportation Program Management Unit. A complete set of original design files and one complete set of Project Special Provisions (PSP) shall be submitted concurrently with the RFC Plans. Structure Project Special Provisions may be found through the Design-Build website. The record plan set, design files and Project Special Provisions shall be signed and sealed by a Professional Engineer registered in North Carolina.

Total Number Required: (2 Full-size, 8 Half-size, 8 sets of PSPs)

- Resident Engineer (2 Full-size and 2 sets of PSPs)
  - Sent directly by the DBT
- Transportation Program Management Unit (1 Half-size and 1 set of PSPs)
- Structure Design Unit (2 Half-size and 2 sets of PSPs)
- Materials and Tests Unit (2 Half-size)
  - For Prestressed Concrete Bridges only
- Area Bridge Construction Engineer (1 Half-size and 1 set of PSPs)
  - Sent directly by DBT
- Division Construction Engineer (1 Half-size and 1 set of PSPs)

- Sent directly by DBT

- Division Bridge Program Manager (1 Half-size and 1 set of PSPs)
  - Sent directly by the DBT

WORKING DRAWING SUBMITTALS

Working drawing submittals shall be in accordance with the 2012 "Submittal of Working Drawings" Project Special Provision available at the following site:

https://connect.ncdot.gov/resources/Structures/Pages/Project-Special-Provisions.aspx

Sufficient data and one set of the applicable RFC Plans shall be submitted prior to, or with, the working drawings to facilitate review.

These submittals shall be routed in one of two ways. The manner in which the submittal will be routed will be at the discretion of the Resident Engineer and will be determined shortly after award of the contract. The submittal routing will be either Type "A" or Type "B" and will be consistently used for all working drawing submittals throughout the project's duration.

Type "A" working drawing submittals shall be submitted directly to the Structure Design Unit as directed by the aforementioned Project Special Provision. These submittals will not be routed through the Transportation Program Management Director and need not have the color-coded transmittal form.

Type "B" working drawing submittals shall be submitted to the Transportation Program Management Director and shall be covered with a color-coded transmittal form. All other aspects of the aforementioned Project Special Provision apply, including the number of copies and concurrent submittal to the Resident Engineer. All Type "B" working drawing submittals shall include a submittal number with the prefix "WD-"

Responses to both Type "A" and Type "B" working drawing submittals will be routed directly to the Resident Engineer, with a copy of the response to the Transportation Program Management Director.

HYDRAULIC DESIGN

Hydraulic designs shall be incorporated into the Roadway Plans and submitted to the Department for review. Unless noted otherwise in the Request for Proposals, the Design-Build Team shall provide all Bridge and Culvert Survey Reports.

PRELIMINARY BRIDGE / CULVERT SURVEY REPORTS

The Design-Build Team shall provide Preliminary Bridge / Culvert Survey Reports for review.

Prerequisites:

- Accepted Preliminary Roadway Plans

Total Number Required: (2 Copies)

- Transportation Program Management Unit (1 Copy)
- Hydraulics Unit (1 Copy)

APPROVED BRIDGE / CULVERT SURVEY REPORTS

Upon acceptance from the Department, the Design-Build Team shall provide Bridge / Culvert Survey Reports that are signed and sealed by a Professional Engineer registered in North Carolina for each of the Units noted below. **Any design modifications made after a Bridge / Culvert Survey Report has been approved by the Department shall require the Design-Build Team to revise, resubmit and redistribute the Report upon Department approval.**

Total Number Required: (5 Copies)

- Transportation Program Management Unit (1 Copy)
- Hydraulics Unit (1 Copy)
- Structure Design Unit (1 Copy)
- Geotechnical Engineering Unit Regional Office (1 Copy)
  - Sent directly by the DBT
- Resident Engineer (1 Copy)
  - Sent directly by the DBT

100% HYDRAULIC DESIGN PLANS

The Design-Build Team shall provide Hydraulic Design Plans.

Total Number Required: (5 Full-size, 5 x-sections, Electronic Files)

- Division Construction Engineer (1 Full-size with x-sections)
  - Sent directly by the DBT
- Resident Engineer (1 Full-size with x-sections)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Full-size with x-sections)
  - Sent directly by the DBT
- Transportation Program Management (1 Full-size with x-sections, Design Calculations, & Electronic Files)
- Hydraulics Unit (1 Full-size with x-sections)

MOA PACKAGE

The Design-Build Team shall submit the MOA Package to the Transportation Program Management Unit. The Department will submit the MOA package to NC Floodplain Mapping.

Prerequisites:

Accepted 100% Hydraulic Design Plans

Total Number Required: (Electronic Files via FTS)

- Hydraulics Unit (Electronic Files via FTS))

PERMIT DRAWINGS REVIEW SUBMITTAL

This submittal shall include all permit drawings and documentation necessary for the Department to obtain the environmental permit(s) for each bridge. Prior to this submittal, the Design-Build Team is encouraged to coordinate with the Division Environmental Officer in order to ensure the correct permit drawings and documentation are being developed.

Prerequisites:

- Accepted Final Roadway Plans and 100% Hydraulic Plans
- Approved MOA Package (If Applicable)
- Accepted Erosion and Sedimentation Control Plans
- Accepted Utility Relocation Plans
- Accepted Preliminary Bridge General Drawings

Total Number Required: (7 Half-size and assoc. documentation)

- Transportation Program Management Unit (1 Half-size)
- Hydraulic Unit (1 Half-size)
- Division Environmental Officer (4 Half-size)
  - Sent directly by the DBT
- Resident Engineer (1 Half-size)
  - Sent directly by the DBT
- Area Bridge Construction Engineer (1 Half-size and 1 set of PSPs)
  - Sent directly by DBT

GEOTECHNICAL DESIGN

The Geotechnical submittals shall consist of permanent retaining wall layout, permanent retaining wall design, foundation design recommendation reports and soil improvement and reinforced fill designs.

Permanent Retaining Wall Layout

With the exception of standard gravity retaining walls, the Design-Build Team shall submit a wall layout and design for each retaining wall. The wall layout submittal shall include (1) wall envelope with top and bottom of wall, existing ground and finished grade elevations at incremental stations; (2) wall alignment with stations and offsets; (3) typical sections showing top and bottom of wall, drainage, embedment, slopes, barriers, fences, etc.; and (4) details of conflicts with utilities and drainage structures. This submittal shall also include calculations for bearing capacity, global stability and settlement.

Prerequisites:

- Accepted Preliminary Roadway Plans and x-sections at wall locations
- Provide 1 Half-size set of each of the above concurrently with the wall layout

Total Number Required: (4 Full-size)

- Resident Engineer (1 Full-size)
  - Sent directly by the DBT
- Transportation Program Management Unit (2 Full-size)
- Geotechnical Engineering Unit Regional Office (1 Full-size)
  - Sent directly by the DBT

Permanent Retaining Wall Design

If temporary shoring is required to construct a retaining wall, submit the temporary shoring design as part of the permanent retaining wall design submittal.

Prerequisites:

- Accepted Retaining Wall Layout - Provide 1 with each Retaining Wall Design

Total Number Required: (5 sets)

- Resident Engineer (1 set)
  - Sent directly by the DBT

- Transportation Program Management Unit (2 sets)
- Geotechnical Engineering Unit Regional Office (1 set)
  - Sent directly by the DBT
- FHWA , if applicable (1 set)
  - Sent directly by the DBT

FOUNDATION DESIGN RECOMMENDATION REPORTS

A Structure Foundation Design Recommendation Report and a Roadway Foundation Design Recommendation Report shall be required for each bridge site. All Foundation Design Recommendation Reports, plans, Project Special Provisions and calculations shall be signed and sealed by a Professional Engineer registered in North Carolina.

Total Number Required: (6 sets of all reports, PSPs, and calculations)

- Division Construction Engineer (1 set)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 set)
  - Sent directly by the DBT
- Resident Engineer (1 set)
  - Sent directly by the DBT
- Transportation Program Management (2 sets)
- Geotechnical Engineering Unit Regional Office (2 sets)
  - Sent directly by the DBT

SOIL IMPROVEMENT AND REINFORCED FILL DESIGNS

Submit each soil improvement and reinforced fill design in two stages. The first shall be a conceptual design and the latter shall be a final design. The conceptual design shall be reviewed and accepted prior to submission of the final design. All designs shall be signed and sealed by a Professional Engineer registered in North Carolina.

Total Number Required: (6 sets of designs)

- Division Construction Engineer (1 set)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 set)
  - Sent directly by the DBT
- Resident Engineer (1 set)

- Sent directly by the DBT

- Transportation Program Management (2 sets)
- Geotechnical Engineering Unit Regional Office (2 sets)
  - Sent directly by the DBT

TRAFFIC CONTROL

The Traffic Control Plans shall be designed in accordance with the Request for Proposals.

TRAFFIC CONTROL PHASE SUBMITTALS

A separate submittal shall be required for each Traffic Control Phase unless prior approval of another submittal process is obtained from the Transportation Program Management Director.

Prerequisites:

- Accepted Preliminary Roadway and 100% Hydraulic Design Plans and x-sections
- Accepted Bridge / Culvert Preliminary General Drawings

Total Number Required: (3 Full-size and 5 Half-size)

- Division Construction Engineer (1 Half-size)
  - Sent directly by the
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Work Zone Traffic Control Unit (1 Full-size and 1 Half-size)
- Division Traffic Engineer (1 Half-size)
  - Sent directly by the DBT

TRAFFIC CONTROL RFC PLANS

The Design-Build Team shall release Traffic Control Plans for construction one phase at a time, unless prior approval is obtained from the Transportation Program Management Director.

Total Number Required: (3 Full-size and 5 Half-size)

- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Work Zone Traffic Control Unit (1 Full-size, 1 Half-size)
- Division Construction Engineer (1 Half-size)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Division Traffic Engineer (1 Half-size)
  - Sent directly by the DBT

SIGNING

The Signing Plans shall follow the "Signing Design Guidelines for Design-Build Projects" located on the Design-Build website. Signing submittals shall be reviewed by the Signing Review Engineer at the following milestones:

100% FINAL SIGNING PLANS

This submittal shall include signing plan view sheets with all signs located by station reference, sign designs, completed Type E and F sign sheets, ground-mounted sign support chart with support designs and design calculation information. This submittal shall also include the General Notes sheet with list of applicable Roadway Standard Drawings, a draft of Project Special Provisions (other than those prepared and sealed by NCDOT), and all signing sheets and supporting documentation. A 4½" x 4½" area for full size sheets, directly below the project information block in the upper right corner of all sheets, shall be left blank and unobstructed.

Total Number Required: (2 Full-size, 6 Half-size)

- Division Construction Engineer (1 Half-size)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (2 Half-size)
- Division Traffic Engineer (1 Half-size)
  - Sent directly by the DBT
- Regional Traffic Engineer (1 Half-size)
  - Sent directly by the DBT

RFC SIGNING PLANS

This set of plans shall be clearly marked as RFC. All copies shall be signed and sealed by a Professional Engineer registered in North Carolina. This submittal shall include (1) original set of Project Special Provisions signed and sealed by a Professional Engineer registered in North Carolina (see the Project Special Provision section of the Signing Design Guidelines for Design-Build Projects); (2) design files on CD that have name of the Professional Engineer, registration number, and seal date inserted where

seal, signature, and date are located on original plans; and (3) all other supporting documentation.

Prerequisites:

- Field verification of “S” Dimensions for ground mounted and overhead sign assemblies

Total Number Required: (2 Full-size and 4 Half-size)

- Division Construction Engineer (1 Half-size)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Resident Engineer (2 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Division Traffic Engineer (1 Half-size)
  - Sent directly by the DBT
- Regional Traffic Engineer (1 Half-size)
  - Sent directly by the DBT

EROSION CONTROL DESIGN

All Erosion and Sedimentation Control Plans shall be reviewed and accepted by the Department for each bridge or culvert site before **any** land disturbing activities, including clearing and grubbing, can commence on that site. The RFC Erosion Control Plans shall only be deemed final after the roadway drainage design has been finalized and accepted by the Department. Specifically, acceptance of all Erosion Control submittals shall be contingent on acceptance of the roadway drainage design. Design modifications developed after acceptance of the RFC Erosion Control Plans shall require the Design-Build Team to submit Intermediate Erosion Control Plans for review and acceptance as noted below. Each plan submittal shall include all pertinent design information required for review, such as design calculations, drainage areas, etc.

The NCDOT Roadside Environment Unit (REU) will provide a sample set of Erosion and Sedimentation Control plans and MicroStation Erosion Control workspace to the Design-Build Team upon request. The Design-Build Team shall coordinate a pre-design meeting between the NCDOT REU Soil and Water Engineering Section, the Design-Build Team and other pertinent NCDOT personnel before beginning the erosion control design. The Department shall only review Erosion and Sediment Control Plans after the aforementioned pre-design meeting. Release for Construction (RFC) Erosion Control Plans shall be accepted by the NCDOT REU and submitted to all NCDOT personnel listed below before **any** land disturbing activities, including clearing and grubbing, shall commence.

EROSION AND SEDIMENTATION CONTROL PLANS

Prerequisites:

- Accepted Preliminary Roadway and 100% Hydraulic Design Plans and x-sections
- Provide two sets of half-size Roadway Plans, that delineate the proposed slope / stake lines and drainage, as well as x-sections to Transportation Program Management concurrently with this submittal
- Provide one set of half-size Roadway Plans, that delineate the proposed slope / stake lines and drainage, as well as x-sections to the Roadside Environmental Field Operations Engineer concurrently with this submittal

Total Number Required: (3 Full-size and 4 Half-size)

- Division Construction Engineer (1 Half-size)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size)
  - Sent directly by the DBT
- Resident Engineer (1 Full-size)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size)
- Roadside Environmental Unit (1 Full-size)
  - Sent directly by the DBT
- Roadside Environmental Field Operations Engineer (1 Full-size)
  - Sent directly by the DBT
- Division Environmental Officer (1 Half-size)
  - Sent directly by the DBT

RFC Erosion Control Plans

This submittal shall include eight sets of Project Special Provisions. Erosion Control Special Provisions are available through the Design-Build website.

Prerequisites:

- Provide two sets of half-size RFC Roadway Plans, that delineate the proposed slope / stake lines and drainage, as well as x-sections to Transportation Program Management concurrently with this submittal.
- Provide two sets of half-size Roadway Plans that delineate the proposed slope / stake lines and drainage, as well as x-sections to the Area Roadside Environmental Field Operations Engineer (Sent directly by DBT) concurrently with this submittal.
- Provide one set of half-size Permit Drawings to the Roadside Environmental Field Operations Engineer (Sent directly by DBT) concurrently with this submittal.

Total Number Required: (2 Full-size, 9 Half-size and 9 sets of PSPs)

- Resident Engineer (2 Full-size and 2 sets of PSPs)
  - Sent directly by the DBT
- Transportation Program Management (1 Half-size and 1 set of PSPs)
- Roadside Environmental Unit (2 Half-size and 1 set of PSPs)
  - Sent directly by the DBT

- Roadside Environmental Field Operations Engineer (2 Half-size and 1 set of PSPs)
  - Sent directly by the DBT
- Division Environmental Officer (1 Half-size and 1 set of PSPs)
  - Sent directly by the DBT
- Division Construction Engineer (1 Half-size and 1 set of PSPs)
  - Sent directly by the DBT
- Division Bridge Program Manager (1 Half-size and 1 set of PSPs)
  - Sent directly by the DBT
- Area Bridge Construction Engineer (1 Half-size and 1 set of PSPs)
  - Sent directly by the DBT

FINAL SUBMITTAL

Upon completion of the project, the Design-Build Team shall provide both electronic and hard copies of all bridge replacement plans included in the project. The hard copies shall adhere to the NCDOT Design Manual's plan preparation format.

Total Number Required: (3 Full-size and 3 Half-size, Electronic Files)

- Resident Engineer (1 Full-size and 1 Half-size)
  - Sent directly by the DBT
- Transportation Program Management (2 Full-size and 2 Half-size, DVD of all Microstation and GeoPak Files)