



# Interagency Project Meeting

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## MEETING MINUTES FINAL

**Date:** November 13, 2014  
9:00 a.m. – 11:00 a.m.  
NCDOT Century Center – Structure Design Conference Room C

**Project:** STIP R-2721, R-2828, and R-2929 – Complete 540 - Triangle Expressway Southeast Extension (Raleigh Outer Loop)

### Attendees:

Clarence Coleman, FHWA	Matt Lauffer, NCDOT – Hydraulics
Cynthia Van Der Wiele, USEPA	Charles Smith, NCDOT – Hydraulics
Gary Jordan, USFWS	Kyle Pleasant, NCDOT – Utilities
Rob Ridings, NCDWR	Donald Proper, NCDOT – Utilities
Travis Wilson, NCWRC	Mark Staley, NCDOT – REU
Dolores Hall, SHPO (via telephone)	Kiersten Bass, HNTB
Alex Rickard, CAMPO	Fred Skaer, Dawson & Associates (via telephone)
Eric Midkiff, NCDOT – PDEA	John Studt, Dawson & Associates (via telephone)
Jennifer Harris, NCDOT – PDEA	Roy Bruce, Lochner
Maria Baez, NCDOT – PDEA	Brian Eason, Lochner
Tony Houser, NCDOT – Roadway Design Unit	Doug Wheatley, Lochner
Maira Ibarra, NCDOT – Roadway Design Unit	Kristin Maseman, Lochner
Nick Lineberger, NCDOT – TMSD	Wendee Smith, Mulkey
Colin Mellor, NCDOT – NES	Jonathan Scarce, Mulkey
Deanna Riffey, NCDOT – NES	Brian Dustin, Mulkey
Rachelle Beauregard, NCDOT – NES	

### Presentation Materials:

- Agenda
- Handout 20 – Approach to Interagency Coordination on Bridging Decisions
- Handout 21 – Hydraulic Conveyance Suggestions
- Handout 22 – Suggested Bridge Length Locations and Lengths
- Presentation

### Purpose:

Present project status update and review bridging suggestions to be used in evaluating Detailed Study Alternatives (DSAs).

### General Discussion:

The following information was discussed at the meeting:

- **Project Status Update:** Lochner provided an update on project activities that have occurred since the Interagency Meeting in December 2013, when the DSAs for the project were finalized. A CAMPO Working Group meeting was held on January 9, 2014. The project team has been completing various required technical studies and documenting the results of these studies in corresponding technical reports.

- **Approach to Interagency Coordination on Bridging Decisions (Handout 20):** There are a total of over 1,200 natural system sites, which include wetlands, streams or ponds, inside the study corridors along the roughly 100 total miles of the DSAs. Preliminary hydraulic analysis showed that there were 81 sites along the DSAs where hydraulic conditions and proposed designs require incorporation of a major hydraulic conveyance structure (defined as a 72-inch pipe or larger). Based solely on hydraulic analysis, 17 of these sites would require bridges, with the remaining 64 requiring culverts.

To increase the efficiency of interagency coordination on bridging decisions, the project team reviewed the preliminary hydraulic recommendations and the characteristics of the natural systems sites along the DSAs to make additional suggestions for bridging. The project team compiled this information and distributed it as part of the Interagency Meeting information distributed on October 9, 2014, and presented this information to USACE and NCDWR in consultation on October 23, 2014, to receive input on those suggestions. Based on the consultation with USACE and NCDWR, two handouts were revised and distributed to the agencies on November 6, 2014.

- **Hydraulic Conveyance Suggestions (Handout 21):** Of the original 17 sites found to require bridging on the basis of preliminary hydraulic analysis, the project team suggested extensions of 7 of the bridges; additional bridging was not recommended at the remaining 10 sites.

Of the 64 sites for which preliminary hydraulic analysis recommended culverts for hydraulic conveyance, the project team considered bridging 8 of the sites. Following consultation with USACE and NCDWR, 5 of the 64 sites were found to warrant additional interagency discussion. Following distribution of the Interagency Meeting information in October, USFWS requested that Site 74 be discussed during the Interagency Meeting.

- **Suggested Bridge Locations and Lengths (Handout 22):** The project team presented a detailed table compiling the original preliminary hydraulic recommendations and any suggested modifications for each hydraulic site along the DSAs. The project team also presented aerial mapping of the sites recommended for bridging (including those recommended for extended bridges), the sites where a bridge is suggested instead of the originally recommended culvert, and the sites noted by USACE, NCDWR, and USFWS for additional discussion.
- **Discussion:**  
The meeting discussion focused on certain hydraulic sites identified by agency representatives. For some of the sites, agency representatives requested a field visit in order to better understand conditions at the site—a field meeting is scheduled for December 2, 2014, to view these sites. Discussion according to site number as shown on the meeting handouts was as follows:

**Site 34** (Swift Creek, Red Corridor) – The project team recommendation was an extended bridge. USFWS asked if it would be feasible to lengthen the bridge further or to shift the service road proposed in this location in order to minimize the encroachment into the floodplain with the service road. Minimization of impacts in this area could be beneficial for dwarf wedgemussel habitat. The project team will investigate possible minimization and will also try to determine the property value of the adjacent undeveloped residential parcel. *A field review of this site was requested prior to making any final determinations about bridging at this site.*

**Site 35** (Yates Branch, Red Corridor) – NCDOT Roadway Design Unit staff indicated that the interchange design at this site may need to be modified to better accommodate the ramp terminals with respect to the end of the bridges. The interchange design will be coordinated with the NCDOT Roadway Design Unit now that approximate bridge lengths have been identified at this location.

**Site 63** (Tributary to Swift Creek, Orange Corridor) – NCDWR asked if it would be possible to make modifications at this site so that stream SEW (as shown on mapping) would be under the

bridge. These modifications could include extending the proposed bridge or possibly relocating the stream. This would require bridge extensions on both the mainline and the ramp. Mulkey noted that the stream is intermittent and that its quality may not warrant this modification. No additional changes will be needed at this site beyond what was suggested in the meeting materials.

**Site 21** (Tributary to Swift Creek, Orange Corridor) – Habitat connectivity was raised by NCWRC and NCDWR as a consideration for this site. There was discussion about ways to maintain habitat connectivity while possibly shortening the bridge to reduce costs. At this site, NCDWR indicated that maintaining stream integrity would have a higher priority than minimizing the total wetland impact. *A field review of this site was requested prior to making any final determinations about bridging at this site.*

**Site 24** (Tributary to Swift Creek, Orange Corridor) – USFWS and NCWRC indicated that it is important to consider this site from the perspective of aquatic and terrestrial habitat connectivity. Depending on the size, stability and condition of this stream, placing the mainline and the ramps on the north side of the site on bridges could be a preferred modification. *A field review of this site was requested prior to making any final determinations relative to bridging at this site.*

**Site 33** (Tributary to Neuse River, Green Corridor) – The project team explained the proposed bridge could be shortened slightly, providing a cost savings, while only slightly increasing the wetland impact at the site. There was consensus that this would be a worthwhile modification.

**Site 43** (White Oak Creek, Red Corridor) – The project team also proposed shortening the recommended bridge slightly to provide a notable cost savings, with a small increase in wetland impact. There was consensus that this would be a worthwhile modification.

**Site 1** (Middle Creek, Orange Corridor) – This site, currently proposed to have a culvert, had been noted for further bridging consideration at the October 23 meeting with USACE and NCDWR. It was explained that there is substantial urban development in this area, with a culvert downstream of this location, and that a bridge would add roughly \$3.5 million to the construction cost. *A field review of this site was requested prior to making any final determinations about bridging at this site.*

**Site 3** (Rocky Branch, Orange Corridor) – USEPA asked why a culvert is proposed for this site instead of a bridge. It was explained that the interchange design in this location already minimizes the total project footprint in this area. To modify the design to include a bridge, the footprint would need to expand to accommodate the bridge ramps, which would increase impacts to wetlands and streams downstream of the site. The consensus at the meeting was that no bridging will be included at this site.

**Site 4** (Camp Branch, Orange Corridor) – This site, currently proposed to have a culvert, had been noted for further bridging consideration at the October 23 meeting with USACE and NCDWR. Mulkey explained that this stream channel is notably incised and has minimal connectivity to nearby wetlands, so the quality of the site was relatively low, suggesting that a bridge would not be necessary. The consensus at the meeting was that no bridging will be included at this site.

**Site 17** (Tributary to Guffy Branch, Orange Corridor) – This site is in the vicinity of a National Register historic site known as the Panther Branch School. HPO has requested that bridging not be incorporated in the vicinity of this site in order to minimize the project's visual impacts to the site. NCDWR suggested that alternative minimization techniques (other than bridging) could be considered at this site and expressed a willingness to work together with HPO to achieve impact minimization to both the historic site and the natural systems in this area. The consensus at the meeting was that no bridging will be included at this site.

**Site 76** (Guffy Branch, Blue Corridor) – This site, currently proposed to have two culverts, was noted for further discussion about bridging. Agency representatives noted that this site's location along a continuous wooded segment of Guffy Branch make habitat connectivity upstream and downstream of the site an important consideration. USFWS and NCWRC have reviewed all of the hydraulic sites with respect to habitat connectivity considerations and noted this site and Site 74 (discussed below) as the two sites where this is a particularly important consideration. Lochner explained that notable design modifications would be needed at this site to accommodate a bridge. These modifications would include raising the profile at this site to the extent that it would also affect profiles of grade separated highways east and west of this site. NCWRC indicated that it will be very important for the project team to document the design constraints that would make bridging this site difficult and to note that further strategies for minimizing habitat connectivity impacts at this site will be considered if the Preferred Alternative includes the Blue Corridor. Alternative conveyance structures, such as dry floodplain barrels, might be preferable because they could accommodate some upstream/downstream permeability to wildlife. The consensus at the meeting was that no bridging will be included at this site at this time.

**Site 74** (Little Creek, Blue Corridor) – This site, currently proposed to have a culvert, was noted for further discussion about bridging. As for Site 76, USFWS and NCWRC noted that this was one of the two sites noted where habitat connectivity considerations are an important factor. Mulkey indicated that the wetland at this site is isolated and the stream channel is somewhat incised. USFWS and NCWRC noted this site as a particularly good candidate for modification to provide a means for wildlife to cross the site. The agencies suggested that the project team investigate the possibility of a single span slab bridge at this site. The consensus at the meeting was that bridging will be included at this site.

**All Other Sites** – No issues of concern were raised at the meeting with the hydraulic conveyance suggestions for all other sites. Hydraulic conveyance for these sites will be as described in the meeting materials.

Meeting attendees also briefly discussed the timeframe for Section 7 consultation for the dwarf wedgemussel. NCDOT anticipates completing subsequent phases of the dwarf wedgemussel studies after the Draft EIS is prepared. It was noted that the Draft EIS will likely indicate that the Biological Opinion is unresolved, and then formal consultation with USFWS will begin once a Preferred Alternative is selected. USFWS noted that this sequence of events would not impede their ability to appropriately consider the Preferred Alternative or determine the LEDPA.

**Previous Action Items:**

- NCDOT will indicate in the final Alternatives Development Analysis and Report that the required archaeological studies will be completed and documented in the Draft Environmental Impact Statement. (*Completed*)

**New Action Items:**

- NCDOT will arrange a field review meeting on December 2, 2014. At this meeting, agency representatives will view Sites 1, 21, 24, and 34. Final determinations about bridging at these sites will be made during the field review meeting.
- Lochner will investigate possible minimization and modifications at Site 76 as noted above.

**Next Steps:**

- Complete technical study reports – January 2015
- Prepare Draft Environmental Impact Statement – Spring 2015