

MERGER TEAM MEETING – CONCURRENCE POINT 2A **BRIDGING DECISIONS AND ALIGNMENT REVIEW**

**NC 73 IMPROVEMENTS – NC 16 TO NORTHCROSS DRIVE (SR 2316)
LINCOLN AND MECKLENBURG COUNTIES
STIP PROJECT NOS. R-5721 and U-5765**

JUNE 6, 2018

PURPOSE OF THIS MEETING

The purpose of today's meeting is to provide the Merger team with a project update and to discuss bridging locations and preliminary alignment. Concurrence will be requested on bridging decisions and alignment review for Concurrence Point 2A (CP 2A).

PROJECT DESCRIPTION

North Carolina State Transportation Improvement Program (STIP) Project Nos. R-5721 and U-5765 consist of widening NC 73 from NC 16 to Northcross Drive (SR 2316), a distance of approximately 8.5 miles. These projects are included in the 2018-2027 STIP. The limits for each project are described as follows and are shown on Figures 1 and 2:

- R-5710 – Improve the intersection of NC 73 and NC 16 Business, Lincoln County. ****Deleted at the December 2017 Board of Transportation meeting. Improvements to be included under R-5721.****
- R-5721 – Widen NC 73 to multi-lanes from NC 16 to West Catawba Avenue (SR 5544), Lincoln and Mecklenburg Counties
- U-5765 – Widen NC 73 from West Catawba Avenue to Northcross Drive, Mecklenburg County

PROJECT SCHEDULE/COST

The right of way acquisition and construction schedule for the project in the 2018-2027 STIP is currently:

Begin Right of Way Acquisition: Fiscal Year (FY) 2020
Begin Construction: FY 2022

Estimated costs are described in Table 1.

Table 1: Cost Estimates (STIP)

	R-5721	U-5765
ROW	\$75,180,000	\$3,900,000
Utilities	\$7,100,000	\$500,000
Construction	\$70,350,000	\$7,000,000
Total Cost	\$152,630,000	\$11,400,000
Grand Total	\$164,030,000	

PROJECT PURPOSE & STUDY AREA

Initial concurrence on the purpose of the project (CP 1) was reached at a NEPA/404 Merger Team meeting held on August 9, 2017. Due to minor study area expansions, CP 1 was revisited and formal concurrence on the changes was reached on March 22, 2018.

Purpose statement: *The purpose of the proposed project is to increase the traffic carrying capacity of NC 73 within the study area to operate at an acceptable level of service (LOS D or better) through the design year 2040 and preserve long-term mobility of the corridor. A secondary purpose is to safely accommodate multi-modal uses of the corridor.*

ALTERNATIVES FOR DETAILED STUDY

Initial concurrence on the alternatives for detailed study (CP 2) was reached at a NEPA/404 Merger Team meeting held on August 9, 2017. The alternatives were revisited and formal concurrence was reached on March 22, 2018. Team members agreed on the study alternatives described below:

- No-Build Alternative
- Alternative 1: Best Fit Widening Along Existing NC 73
- Alternatives 2A and 2B: Best Fit Widening Along Existing NC 73 with Realignment in the Vicinity of the McGuire Nuclear Station and Beatties Ford Road
 - Alternative 2A resembles an alignment proposed in local and regional plans
 - Alternative 2B provides a more shallow realignment than Alternative 2A

The Alternatives are compared in Table 2.

PUBLIC INVOLVEMENT

A Public Meeting for STIP Project Nos. R-5721, U-5765, and I-5715 was held on February 5, 2018 at Meadowlake Church in Huntersville. A second Public Meeting for STIP Project Nos. R-5721 and U-5765 was held on February 6, 2018 at East Lincoln Community Center.

The Town of Huntersville held a meeting with the Birkdale neighborhood on March 7, 2018 to provide information and answer questions.

The Town of Cornelius hosted a meeting on March 12, 2018. NCDOT gave a presentation on the project and answered questions from the public.

The Birkdale Homeowner's Association hosted a meeting on April 17, 2018. NCDOT gave a presentation on the project and answered questions from the public.

BRIDGING DECISIONS AND ALIGNMENT REVIEW

CP 2A consists of the identification of potential impacts to jurisdictional areas including streams, wetlands, and other surface waters based on the preliminary design. CP 2A also includes a discussion of NCDOT hydraulic requirements and potential bridging locations being proposed at major stream or wetland crossings. Water resources in the study area are part of the Catawba River Basin. Based on a preliminary hydraulic study, eight crossings require structures that are 72 inches or greater in diameter. All other crossings can be contained in smaller pipes. The structure locations and hydraulic sites are described in Table 3 and illustrated on Figures 3.1-3.4 and 4.1-4.7. Jurisdictional areas have been surveyed and mapped using GPS. The impact area for streams and wetlands is defined as the slope stakes plus a 25-foot buffer area.

The Merger team's concurrence with the drainage structure recommendations included in this packet is requested.

DR/ws

Table 2. Detailed Study Alternative Comparison

Resource/Affected Environment	Alternative 1	Alternative 2 Realignments*	
		Alt 2A	Alt 2B
General Project Information			
Length of Alternative (miles)	8.5	1.8	1.1
Cultural Resources			
NRHP (eligible sites, districts, etc.) (#)	Stillwell-Hubbard Complex (DOE)		
Archaeology	<i>Archaeological Survey Of Federalized Permit Areas Is Recommended Prior To Construction Activities.</i>		
Human Environment			
Churches/Cemetery (#)**	4	0	1
Schools**	2	0	0
Public Parks	Blythe Landing Community Park	0	
Greenways, Game Lands, Land and Water Conservation Fund Properties, etc. (#)	3 – Hwy 73 Access Area, Cowans Ford Waterfowl Refuge, McDowell Creek Greenway	0	
High % Special Populations	Language Assistance (Spanish)		
Natural Environment			
Threatened or Endangered Species with a 'No Effect' Biological Conclusion	4 – Dwarf-flowered heartleaf, Michaux's sumac, Schweinitz's sunflower, Smooth coneflower		
Threatened or Endangered Species Requiring Additional Surveys	2 – Northern long-eared bat, Carolina heelsplitter		
Streams (linear feet)	1,560 - 2,475	1,360	860
Wetlands (acres)	2.11 - 4.08	0.00	0.92
Critical Water Supply Watersheds	2 – Lake Norman, Mountain Island Lake		
Riparian Buffer Rules	Catawba River Basin		
Identified Critical Habitat/ESA Spp. (# known)	None known		
Physical Environment			
Haz Mat (# suspected/known sites)	<i>Impacts To Be Determined</i>		
Utilities	McGuire Nuclear Station, electric, water, sewer, power transmission corridors and towers, phone		
Voluntary Agricultural District (VAD)	2 – VAD parcels (one operation)	0	
Noise	<i>Impacts To Be Determined</i>		
Federal Energy Regulatory Commission (FERC) Licensing			
3 – Highway 73 Access Area, Catawba-Wateree Project (Mountain Island Development and Cowans Ford Development)		N/A	

* The impacts for the Alternative 2 realignment options reflect only the section of realignment between approximately McGuire Nuclear Station and Beatties Ford Road.

** Does not indicate relocation – only potential impact.

Table 3. Major Drainage Structures

Site No.	Name/ Map ID	Drainage Area (mi ²)	Existing Structure	FEMA Stream	Hydraulic Recommendation	Estimated Minimum Bridge Dimensions	Culvert Extension / Total Length	Culvert Cost	Bridge Cost	Stream Classification	Impacts to Streams / Wetlands*	Intermittent or Perennial	Channel Dimensions	Riparian Buffer Impacts	Figure #
1	Catawba River Tributary 6/SDD	2.4	2@9'X8' RCBC	Yes; Limited Detailed Study	(1A) 2@9'x10' RCBC	(1A) 45'X407' Dual Bridges	(A) N/A / 453'	\$1.7 mil	\$6.7 mil	WS-IV	(1A) 585' / 1.7 ac.	Perennial	Bank width 10-12 ft., water depth 10-20 in.	N/A	3.1, 4.1-4.4
					(1B) 2@9'x10' RCBC	(1B) 45'X1063' Dual Bridges	(B) N/A / 802'	\$3.0 mil	\$14.3 mil		(1B) 1,340' / 3.5 ac.				
					(1C) Retain Existing and Extend and New 2@9'x10' RCBC	(1C)** 45'X185' Single Bridge	(C) Existing 127' / 297' New N/A / 195'	\$700K	\$1.5 mil		(1C) 905' / 2.5 ac.				
					(1D) 2@9'x10' RCBC	(1D) 45'X454' Dual Bridges	(D) N/A / 583'	\$2.2 mil	\$7.4 mil		(1D) 875' / 2.3 ac.				
2	Catawba River	1,778	Bridge No. 50, 33'X883'	Yes; Redelineated	Dual Bridges	45'X883'	N/A	N/A	N/A	WS-IV; CA	0' / 0 ac.	Perennial	Bank width 743 ft., water depth 12 ft.	Catawba River	3.1, 4.1-4.4
3	UT to McDowell Creek/SBB	0.16	72" CMP	No Study	Retain Existing and Extend Upstream	Not Practical	30' / 780'	N/A	N/A	WS-IV	10' / 0 ac/	Perennial	Bank width 3 ft., water depth 6-12 in.	N/A	3.3, 4.7
4	McDowell Creek	3.52	Culvert #83, 3@8'X9' RCBC	Yes; Detailed Study; 100 yr. flood event overtops roadway	Retain Existing RCBC and Extend Each Side	Not Practical	50' / 167'	N/A	N/A	WS-IV	135' / 0.1 ac.	Perennial	Bank width 12 ft., water depth 6-12 in.	N/A	3.3, 4.7
5	Caldwell Station Creek	3.16	Culvert #84, 2@10'X9' RCBC	Yes; Detailed Study	Retain Existing RCBC and Extend Each Side	Not Practical	50' / 184'	N/A	N/A	WS-IV	345' / 0.1 ac	Perennial	Bank width 12 ft., water depth 4-16 in.	N/A	3.3, 4.7
6	Caldwell Station Creek	3.14	Culvert #16 2@10'X8' RCBC	Yes; Detailed Study	Retain Existing RCBC and Extend Each Side	Not Practical	24' / 111'	N/A	N/A	WS-IV	205' / 0 ac.	Perennial	Bank width 12 ft., water depth 4-16 in.	N/A	3.3, 4.7
7	UT to Caldwell Station Creek/SCC	0.36	1@8'X5' RCBC	No Study	Retain Existing RCBC and Extend Upstream	Not Practical	30' / 453'	N/A	N/A	WS-IV	55' / 0 ac.	Perennial	Bank width 3-5 ft., water depth 2-12 in.	N/A	3.3, 4.7
8	UT9 to Catawba River/SJ	0.32	N/A	No Study	1@8'x7' RCBC	45'x131' Dual Bridges	0' / 192'	\$325K	\$2.2 mil	WS-IV; CA	260' / 0 ac.	Perennial	Bank width 7-9 ft., water depth 6-12 in.	N/A	3.2, 4.5

Notes:

* Impacts are based on 25' beyond the slopestakes for culvert construction. There are additional wetland impacts beyond those documented near the major drainage structure areas.

** Only one bridge is feasible at Site 1C (split median concept) for eastbound traffic.

Other impacted streams that do not require a major drainage structure 72" or greater in diameter include: SD, SE, SF, SFF, SG, SI, and SK.

Impacted wetlands across all possible alternative scenarios include: WB, WS, WR, WN, WO, WQ, WL, WK, WI, and WJ.

All impacted streams and wetlands are illustrated on Figures 3.1-3.3.

Alternative 2 realignment 2B does not involve crossings that require a major drainage structure.

CMP = Corrugated Metal Pipe, RCBC = Reinforced Concrete Box Culvert

SITE 1



SITE 2



SITE 3



SITE 4



SITE 5



SITE 6



SITE 7



SITE 8

