



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

July 19, 2017

Memorandum To: Merger Team

From: Wilson Stroud, Project Development Engineer
Project Development and Environmental Analysis

Subject: Concurrence Point (CP) 1, CP 2 Merger Meeting Package for NC 73
Improvements from NC 16 Business to SR 2316 (Northcross Drive),
Lincoln and Mecklenburg Counties, Divisions 10 and 12, STIP Nos.
R-5710/R-5721/U-5765

The CP 1/CP 2 Merger Meeting for STIP Projects R-5710/ R-5721/ U-5765 is scheduled for August 9, 2017. During the meeting we will discuss the project's purpose and need (CP 1) and alternatives to be studied in detail (CP 2). Included in this Merger Meeting Package are the draft purpose and need statement, proposed study area, description of proposed alternatives to be studied in detail, and potential impacts.

If you have any questions, please contact Wilson Stroud, Project Development Engineer, at (919) 707-6045 or by email at wstroud@ncdot.gov. You may also contact Mark Reep of HDR|ICA at (919) 900-1635 or by email at mark.reep@hdrinc.com.

WS/mlr

MERGER TEAM MEETING
CONCURRENCE POINT 1 AND CONCURRENCE POINT 2

NC 73 IMPROVEMENTS – NC 16 BUSINESS TO NORTHCROSS DRIVE (SR 2316)
LINCOLN AND MECKLENBURG COUNTIES
STIP PROJECT NOS. R-5710, R-5721, U-5765

AUGUST 9, 2017

PURPOSE OF TODAY’S MEETING

The purpose of today’s meeting is to discuss the purpose and need, study area, and alternatives to be studied in detail for the proposed project. Concurrence will be requested on purpose and need and study area (Concurrence Point 1) and alternatives for detailed study (Concurrence Point 2).

PROJECT DESCRIPTION

North Carolina State Transportation Improvement Program (STIP) Project Nos. R-5710, R-5721, and U-5765 consist of widening NC 73 from NC 16 Business to Northcross Drive (SR 2316), a distance of approximately 7.9 miles. These projects are included in the 2016-2025 STIP and the Draft 2018-2027 STIP. The limits for each project are described as follows and are shown in Figure 1:

- R-5710 – Improve the Intersection of NC 73 and NC 16 Business, Lincoln County
- R-5721 – Widen NC 73 to multi-lanes from NC 16 Business to West Catawba Avenue (SR 5544), Lincoln and Mecklenburg Counties
- U-5765 – Widen NC 73 from West Catawba Avenue (SR 5544) to Northcross Drive, Mecklenburg County

PROJECT SCHEDULE/COST

The right of way acquisition and construction schedule for the project in the Revised Draft 2018-2027 STIP (June 2017) is currently:

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

Table 1: Cost Estimates (STIP)

	R-5710	R-5721	U-5765
ROW	\$180,000	\$75,000,000	\$3,900,000
Utilities	\$100,000	\$7,000,000	\$500,000
Construction	\$950,000	\$69,400,000	\$7,000,000
Total Cost	\$1,230,000	\$151,400,000	\$11,400,000
Grand Total	\$164,030,000		

EXISTING CONDITIONS

- Functional Classification: Principal Arterial
- Strategic Highway Corridor: N/A
- CTP Designation (Facility Type): Boulevard
- Type of Access Control: None
- Typical Section:
 - NC 16 to NC 16 Business: Four lanes with raised median
 - NC 16 Business to Pilot Knob Road (SR 1394): Three lanes
 - Pilot Knob Road (SR 1394) to Windaliere Drive/ Norman View Lane: Two-lanes with some turn lanes
 - Windaliere Drive/ Norman View Lane to West Catawba Avenue: Three lanes
 - West Catawba Avenue (SR 5544) to Northcross Drive: Five lanes and four lanes with raised median
- Right of Way: Variable, 60 – 220 feet
- Posted Speed: 45 – 55 MPH
- Structure Inventory
 - Culvert 0.5 mile west of Catawba River, 2 @ 9 foot x 8-foot RCBC
 - Bridge #50 over Catawba River, 28-foot x 883-foot bridge, Sufficiency Rating 56.99
 - 72” diameter pipe 0.85 mile west of I-77
 - Culvert #83 at McDowell Creek, 3 @ 8-foot x 9-foot RCBC
 - Culvert #84 at Caldwell Station Creek, 2 @ 10-foot x 9-foot RCBC
 - Culvert #16 at Caldwell Station Creek, 2 @ 10-foot x 8-foot RCBC
 - Culvert 0.2 mile west of I-77, 1 @ 8-foot x 5-foot RCBC

OTHER NEARBY STIP PROJECTS

Other nearby projects in the Draft 2018-2027 STIP include (see Figure 1):

- R-5859 – Widen NC 16 Business from NC 73 to Fairfield Forest Road (SR 1389), Lincoln County
- R-2555B – Widen West Catawba Avenue from NC 73 to Jetton Road (SR 2151), Mecklenburg County
- I-5715 – Upgrade the existing interchange at I-77 and NC 73 to a split diamond configuration, Mecklenburg County
- Various – Widen NC 73 in Mecklenburg and Cabarrus Counties (east of I-77)

MERGER SCREENING

A Merger Screening Meeting was held on July 6, 2016 (refer to attached summary). Preliminary jurisdictional impacts were presented for two 250-foot wide corridors, consisting of widen-existing and realignment options, which reflected a “worst case scenario.” The Merger team recommended that the project follow the Merger process based on these preliminary

impacts. However, it may be possible for the project to proceed without following the Merger process should more detailed analyses reduce jurisdictional impacts below the thresholds.

The Merger team also requested that the draft Purpose and Need be streamlined to include only those measures of effectiveness that are readily quantifiable.

PUBLIC INVOLVEMENT AND LOCAL GOVERNMENT AGENCY COORDINATION

A landowner letter was mailed in January 2016 to notify property owners of natural resource field studies.

Members of the project team attended a NC 73 Council of Planning (COP) Meeting in September 2016. The team provided a status update on the projects and discussed issues/concerns. The project team also participated in a NC 73 COP Meeting in May 2017 to provide project updates.

A meeting was held with staff from the Town of Huntersville and Mecklenburg County in February 2017 to discuss greenway accommodations for the planned McDowell Creek greenway across NC 73 in Huntersville. Two greenway concepts have been developed and reviewed and the team is preparing to obtain cost estimates. Additional information about the greenway will be provided at the CP2A Merger meeting.

A project newsletter and webpage are planned for late September or October 2017 upon completion of NCDOT's webpage redesign. These resources will inform the public of the project and next steps. A Public Workshop is to be scheduled in late 2017 to engage the public and solicit input on the project corridors. A Public Meeting is anticipated in April 2018 before CP3 and CP4A to present refined alignments. A second newsletter will be mailed in August 2018, after the approval of the State EA/FONSI, to inform the public of the preferred alternative.

Several development-related inquiries and general inquiries from citizens have been received, particularly concerning the realignment option. A proposed rezoning for a storage unit facility is located in the southeast quadrant of the Brown Mill Road/Beatties Ford Road intersection, and a redevelopment project is progressing in the southwest quadrant of the NC 73/Birkdale Commons Parkway intersection. Residents in the neighborhoods north of NC 73 adjacent to Lake Norman have indicated they favor the realignment option as a way to reduce traffic near existing residential areas.

CONCURRENCE POINT 1 – PURPOSE AND NEED AND PROJECT STUDY AREA

PROPOSED PROJECT PURPOSE STATEMENT

The purpose of the proposed project is to increase the traffic carrying capacity of NC 73 within the study area (see Figures 1 and 2) to operate at an acceptable level of service (LOS D or better) through the design year 2040. A secondary purpose is to safely accommodate multi-modal uses of the corridor.

PROJECT BACKGROUND AND RELATED STUDIES

The Mecklenburg-Union Metropolitan Planning Organization (MUMPO) *Thoroughfare Plan* (2004) proposes new roadways and other improvements in Mecklenburg and Union Counties. It was amended in November 2011 to include a NC 73/ future Vance Road realignment (see page 6).

The *Beatties Ford Road Corridor Small Area Plan* (2007) proposes new roadways to enhance the existing network in the vicinity of Beatties Ford Road (SR 2128). It proposes a future multi-lane Vance Road that realigns and extends the existing Gilead Road (SR 2136) to NC 73 (see page 6).

The *Northwest Huntersville Transportation Study* (2011) began as an effort to reconcile transportation recommendations contained in MUMPO's *Thoroughfare Plan* and the *Beatties Ford Road Small Area Plan*. The locally endorsed alternative includes a realignment of NC 73 from the McGuire Nuclear Station east to Beatties Ford Road. The proposed realignment as presented in that study is a six-lane divided facility that travels south of the existing alignment. This realignment option was also included in the Charlotte Regional Transportation Planning Organization (CRTPO) *Comprehensive Transportation Plan* (see map excerpts on page 6).

NEED FOR PROJECT

NC 73, a regionally important route, experiences poor levels of service (LOS), extended delays, and queue spillbacks at numerous intersections along the corridor.

- Congestion, due to limited roadway capacity and multiple traffic signal cycles, prevents users from being able to travel from one end of the project corridor to the other without extensive delays. The proposed action is needed to reduce congestion and improve traffic operations.
- NC 73 the only crossing of the Catawba River between NC 150 and NC 16.
- NC 73 is an evacuation route for the McGuire Nuclear Station.

The NC 73 corridor lacks access management and is experiencing rapid growth.

- The proposed action is needed to reduce turning conflicts as development continues along the corridor and the number of access points increase.

Traffic estimates and analyses for various segments of NC 73 were performed by NCDOT Congestion Management in 2014 and 2015 to identify potential interim improvements along NC 73. According to these analyses, NC 73 will require additional capacity and improvements to provide adequate LOS for users by the year 2021 (see anticipated intersection LOS data in Figure 3).

- If no improvements are made, the following signalized intersections are anticipated to operate at an overall unacceptable LOS (LOS E or F) in the year 2021: NC 16 Northbound Ramps, NC 16 Business, West Catawba Avenue, and Northcross Drive.
- If no improvements are made, the following signalized intersections are anticipated to operate over capacity in the year 2021: NC 16 Northbound Ramps, Wal-Mart Drive West, NC 16 Business, Pilot Knob Road (SR 1394), McGuire Nuclear Station Road, Hagers Ferry Road (SR 2182), Beatties Ford Road, Norman View Lane, West Catawba Avenue, and Northcross Drive.
- Other intersections are expected to have one or more movements that operate at LOS E or F and have extensive vehicle queuing lengths in the year 2021. These include NC 16 Southbound Ramps, Wal-Mart Drive West, Wal-Mart Drive East, Pilot Knob Road, Club Drive (SR 1393), McGuire Nuclear Station Road, Hagers Ferry Road, Kenton Drive, and Birkdale Commons Parkway.

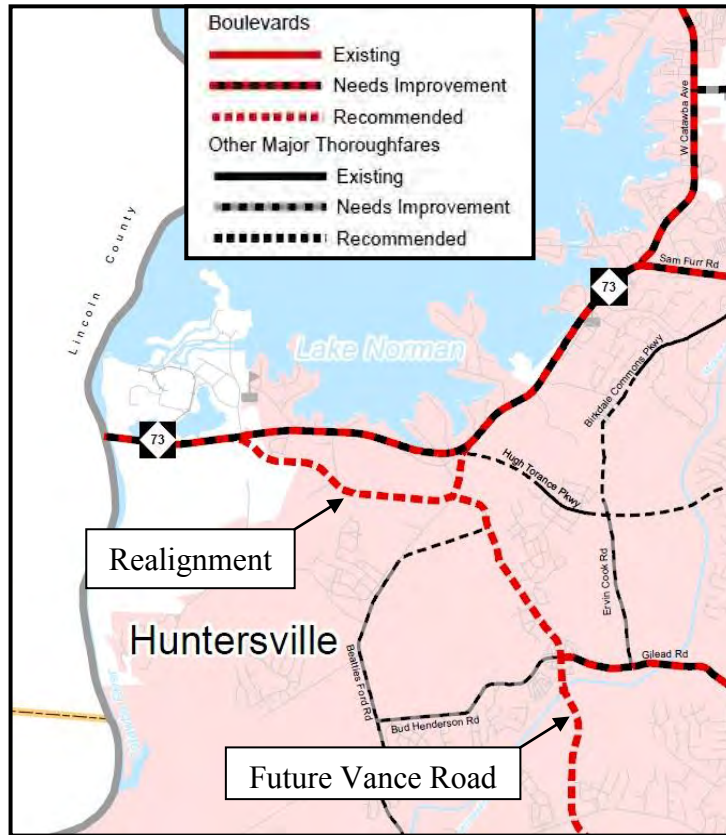
The traffic forecast (dated April 2017) for these projects indicates that in the 2040 No Build scenario between 23,900 vehicles per day (vpd) and 35,000 vpd will travel along NC 73 from NC 16 Business to West Catawba Avenue. Between 33,000 vpd and 55,000 vpd will travel along NC 73 from West Catawba Avenue to Northcross Drive.

- Results from a preliminary traffic analyses indicate a four-lane cross-section along NC 73 would operate acceptably in the future, from NC 16 to just west of West Catawba Avenue, if additional geometric improvements and signal phasing modifications were provided. East of West Catawba Avenue, a six-lane cross-section would be needed for the facility to operate at an acceptable LOS.

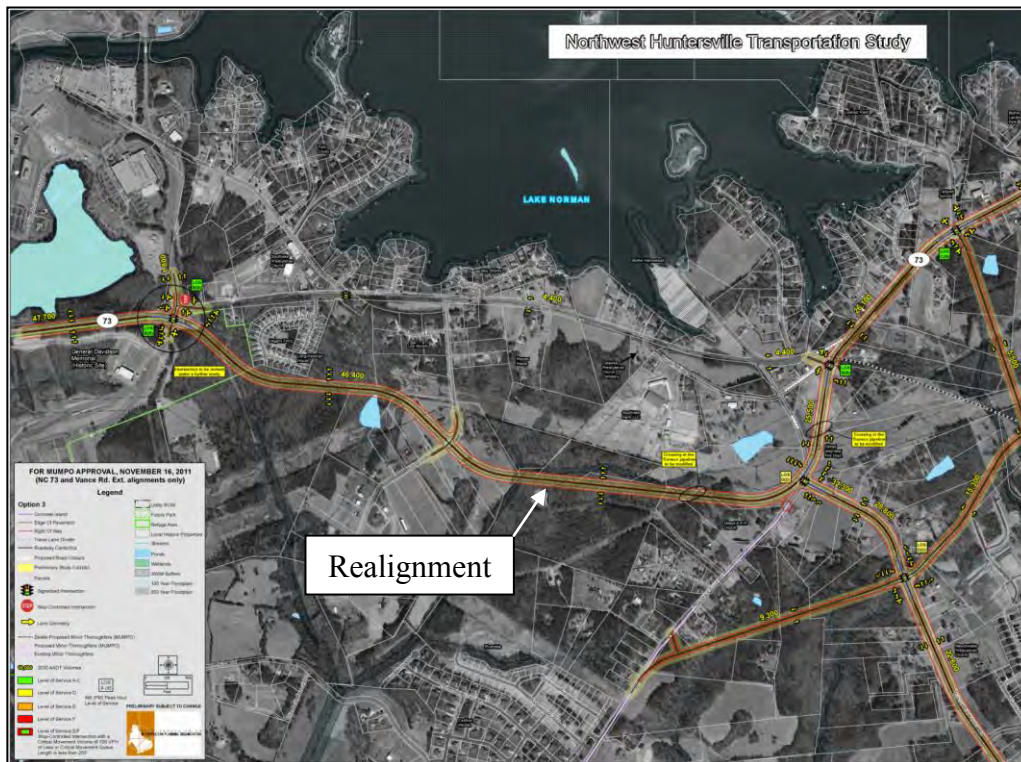
Traffic volumes and the lack of accommodations on NC 73 limit bicycle and pedestrian activity along regionally important multi-modal transportation routes.

- There are no paved shoulders or sidewalks along most of the corridor from NC 16 Business to Blythe Landing Park to safely accommodate bicyclists or pedestrians. There is a sidewalk on the north side of NC 73 from Blythe Landing Park to Lindholm Drive.
- The Catawba River Bridge is long, narrow, and has no sidewalks or offsets for bicycle or pedestrian use.
- The NC 73 corridor is part of the proposed Lake Norman Regional Bike Route and has been identified as a future section of the Carolina Thread Trail.
- NC 73 west of Beatties Ford Road currently comprises a section of NCDOT's NC 6 – Piedmont Spur bicycle route.

CRTPO's Comprehensive Transportation Plan



Northwest Huntersville Transportation Study



PROPOSED PROJECT STUDY AREA STATEMENT

The proposed study area is shown on Figures 1, 2, and 4.1-4.4, dated August 2017. The study area has a variable width along NC 73 to account for environmental constraints, major utilities, and recommendations in the Northwest Huntersville Transportation Study.

STUDY AREA RESOURCES

Notable retail, commercial, and residential development is clustered on the eastern and western ends of the study area near I-77 and NC 16, respectively. The central portion of the study area is constrained by the Catawba River, Lake Norman, McGuire Nuclear Station, and large transmission towers/corridors (see Table 2 and Figures 2, 4.1-4.4). Development is advancing east from NC 16 and west from the Town of Huntersville.

Table 2: Preliminary Study Area Resources Inventory Table

Resource/Affected Environment	Applicability/Resources in Study Area
General Project Information	
Length of project (approximate in miles)	Approximately 7.9 miles
Crossing or Intersecting Routes (#)	1 – Interchange – NC 73 at NC 16 15 – Signalized Intersections – See Figure 3 1 – RR Crossing – Near McGuire Nuclear Plant
Cultural Resources	
NRHP (eligible sites, districts, etc.) (#)	<i>Studies in Progress</i>
Archaeology	<i>Studies in Progress</i>
Human Environment	
Community Resources (#)	3 – Churches 1 – Cemetery 2 – Schools - SouthLake Christian Academy (Private) and Chesterbrook Academy (Private) 1 – Golf Course 1 – Fire Station
Public Parks	1 – Blythe Landing Community Park
Greenways, Game Lands, Land and Water Conservation Fund Properties, etc. (#)	3 – McDowell Creek Greenway, Cowans Ford Waterfowl Refuge (at Catawba River), Highway 73 Access Area to Mountain Island Lake
High % Special Populations	Language Assistance (Spanish, Indo-European)
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

Table 2: Preliminary Study Area Resources Inventory Table (continued)

Resource/Affected Environment	Applicability/Resources in Study Area
Streams (# of stream crossings)	11 – Catawba River, McDowell Creek, Caldwell Station Creek, and eight Tributaries
Wetland Areas	16
Critical Water Supply Watersheds	2 – Lake Norman, Mountain Island Lake
Riparian Buffer Rules apply	Catawba River Basin
Identified Critical Habitat/ESA Spp. (# known)	0 – Known
Physical Environment	
Hazardous Materials (# suspected/known sites)	6 – gas stations 1 – permitted landfill (no longer in use) Possible Underground Storage Tank (UST) facilities
Utilities	McGuire Nuclear Station, electric, water, sewer, power transmission corridors and towers, phone
Voluntary Agricultural District (VAD)	2 – VAD parcels in study area (one operation)
Noise	<i>Impacts To Be Determined</i>
Federal Energy Regulatory Commission (FERC) Licensing	
	2 –McGuire Nuclear Plant, Mountain Island Lake Hydroelectric Facility

CONCURRENCE POINT 2 – ALTERNATIVES FOR DETAILED STUDY

PROJECT ALTERNATIVES

Alternatives for improvement of NC 73 have been developed for the proposed project (see Figures 4.1-4.4).

No Build Alternative

The No Build Alternative would not provide any substantial improvements to NC 73 within the study area; only typical maintenance activities would occur.

Alternative 1 – Best Fit Widening Along Existing NC 73

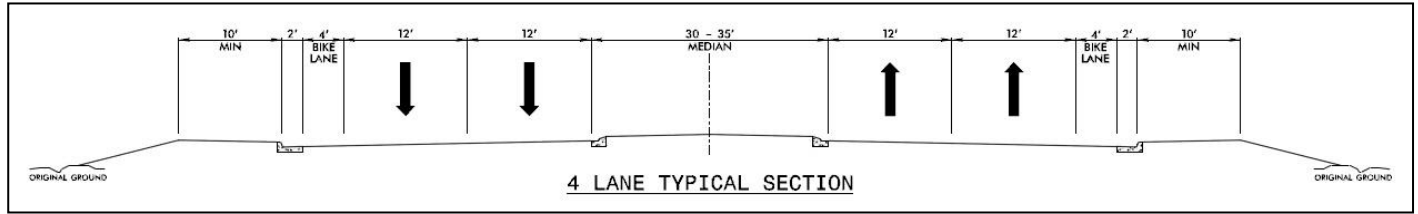
Alternative 1 proposes best-fit widening along the existing alignment of NC 73. Based on preliminary analyses, a four-lane divided facility from NC 16 Business to West Catawba Avenue and a six-lane divided facility from West Catawba Avenue to Northcross Drive are expected to operate acceptably in the future if geometric improvements are made to intersecting roads and signal phasing modifications are implemented.

Alternative 2 – Best Fit Widening Along Existing NC 73 with Realignment

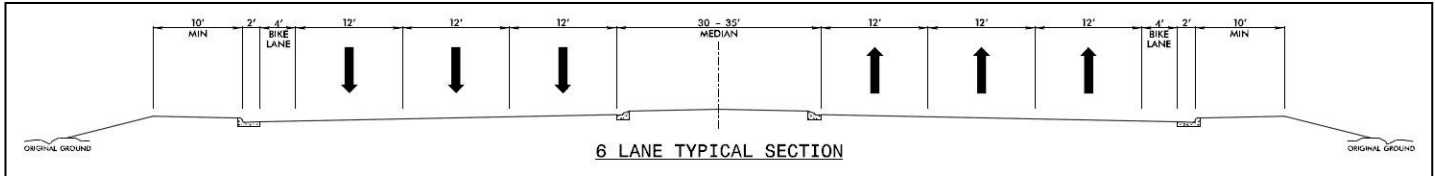
Alternative 2 proposes best-fit widening along NC 73, with a best-fit realignment of NC 73 from the McGuire Nuclear Station east to Beatties Ford Road, as recommended in the Northwest Huntersville Transportation Study (see Figures 4.2 and 4.4). Based on preliminary analyses, a four-lane divided facility from NC 16 Business to West Catawba Avenue and a six-lane divided facility from West Catawba Avenue to Northcross Drive are expected to operate acceptably in the future if geometric improvements are made to intersecting roads and signal phasing modifications are implemented. The existing alignment of NC 73 between McGuire Nuclear Station and Beatties Ford Road would remain a two-lane facility.

A traffic analysis that prompted the *Northwest Huntersville Transportation Study* (referenced on page 4) indicated heavy left turn movements from Beatties Ford Road to NC 73. Improvements considered to address these traffic volumes, including a wider intersection or flyover, were determined not to be reasonable in that study. Thus, the NC 73 realignment option was developed and subsequently endorsed by the Town and adopted by CRTPO.

PRELIMINARY TYPICAL SECTIONS



NC 16 Business to West Catawba Avenue



West Catawba Avenue to Northcross Drive

Sidewalk locations will be determined in coordination with local governments and according to NCDOT’s Pedestrian Policy.

POTENTIAL JURISDICTIONAL IMPACTS

Jurisdictional stream and wetland areas have been determined based on field studies. The final JD package was distributed in May 2017. Tables 3 and 4 below list approximate jurisdictional wetland and stream impacts for Alternatives 1 and 2. Stream and wetland impacts are based on an assumed 250-foot wide corridor along the existing alignment and a 250-foot wide realignment corridor that follows the recommended alignment in the Northwest Huntersville Transportation Study. The actual project footprint is anticipated to be smaller than the assumed corridor, resulting in lesser impacts. Jurisdictional stream and wetland delineations not listed here are not impacted by corridors.

Table 3. Approximate Jurisdictional Wetland Impacts

Wetland ID	Wetland Impact (acres)*	
	Alternative 1 Widen Existing	Alternative 2 Widen Existing, w/ Realignment
WS	0.10	0.10
WR	0.02	0.02
WQ	0.07	0.07
WL	0.22	0.22
WK	0.01	0.01
WI	0.10	0.10
WJ	0.06	0.06
Total	0.58	0.58

* The assumed 250-ft corridor for the new location segment of Alternative 2 avoids wetland areas, resulting in the same approximate wetland impacts as Alternative 1.

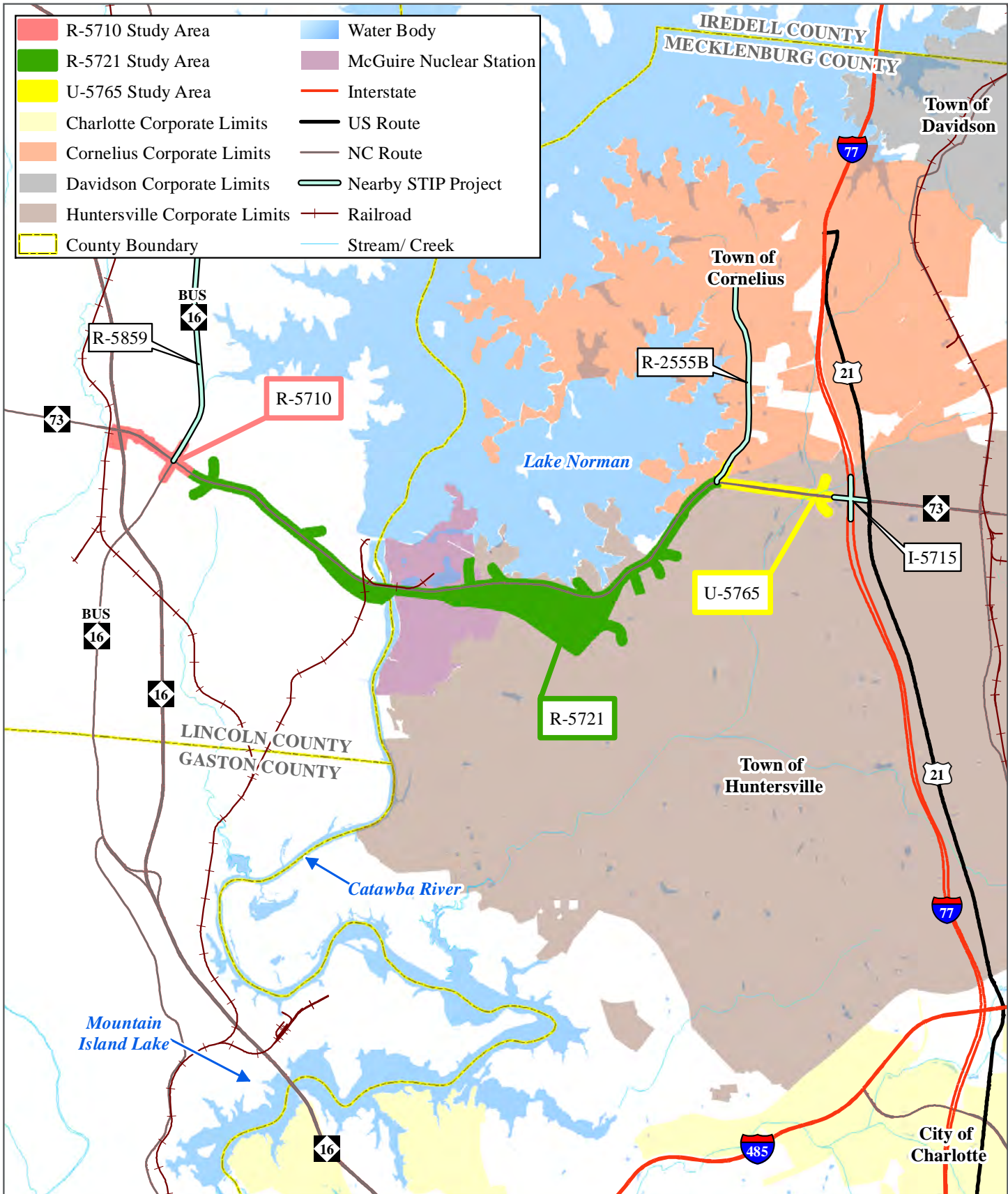
Table 4. Approximate Jurisdictional Stream Impacts

Map ID	Stream Name	Stream Impact (linear feet)*		Drainage Structures
		Alt. 1 – Widen Existing	Alt. 2 – Widen Existing, w/ Realignment	Existing Structure
SD	UT to Forney Creek	70	70	Minor crossing
SE	UT4 to Catawba River	220	220	Minor crossing
SDD	UT1 to Catawba River	190	190	2@9'x8' RCBC
-	Catawba River	0 (Bridge)	0 (Bridge)	Bridge No. 50
SF	UT5 to Catawba River	90	360	Minor crossing
SJ	UT9 to Catawba River	0	690	Minor crossing
SK	UT10 to Catawba River (Intermittent)	0	220	Minor crossing
SBB	UT2 to McDowell Creek	10	10	72" diameter pipe
-	McDowell Creek	130	130	3@8'x9' RCBC
-	Caldwell Station Creek	390	390	2@10'x9' RCBC, 2@10'x8' RCBC
SCC	UT to Caldwell Station Creek	80	80	1@8'x5' RCBC
Total impacts (linear feet)		1180	2360	

* Impacts rounded to the nearest 10 feet

PROPOSED ALTERNATIVE STATEMENT

Alternatives 1 and 2 as shown in Figures 4.1, 4.2, 4.3, and 4.4 dated August 2017 are proposed to be carried forward for detailed study.



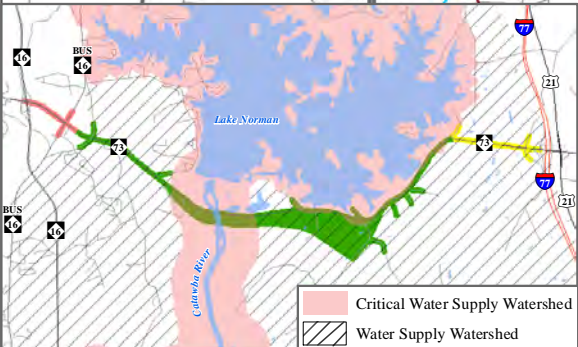
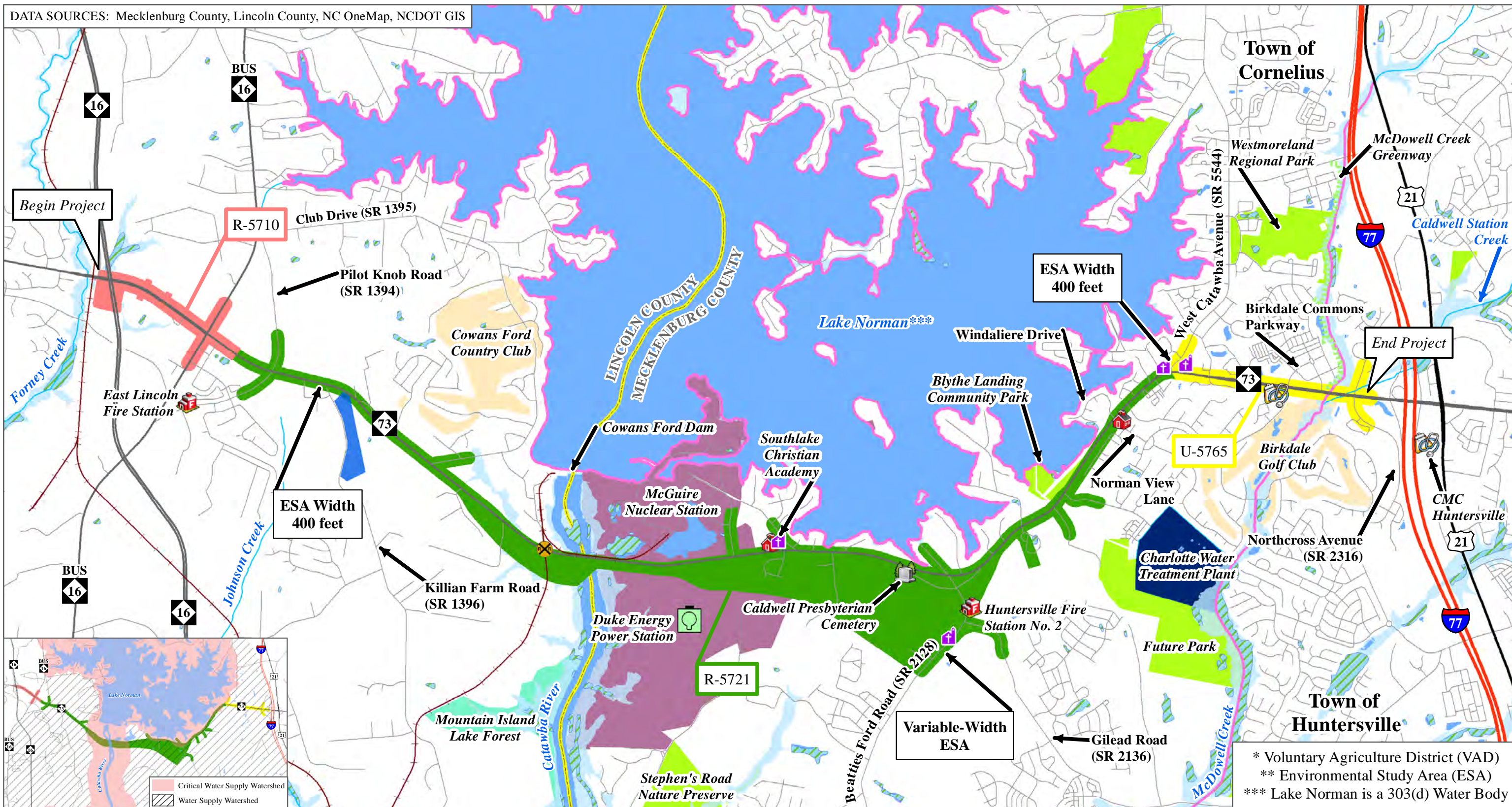
Scale: 0 to 2 Miles

Logos:

Inset map showing Lincoln County (blue) and Mecklenburg County (orange) within North Carolina.

DATA SOURCES: Mecklenburg County, Lincoln County, NC OneMap, NCDOT GIS

FIGURE 1
PROJECT VICINITY MAP
 R-5710, R-5721, & U-5765
 LINCOLN AND
 MECKLENBURG COUNTIES
 AUGUST 2017



0 0.5 1 Miles

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

HR ICA

Lincoln County
Mecklenburg County

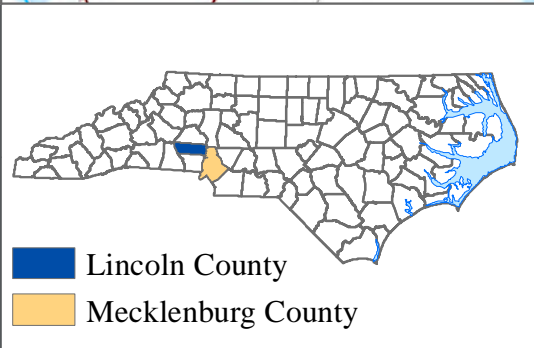
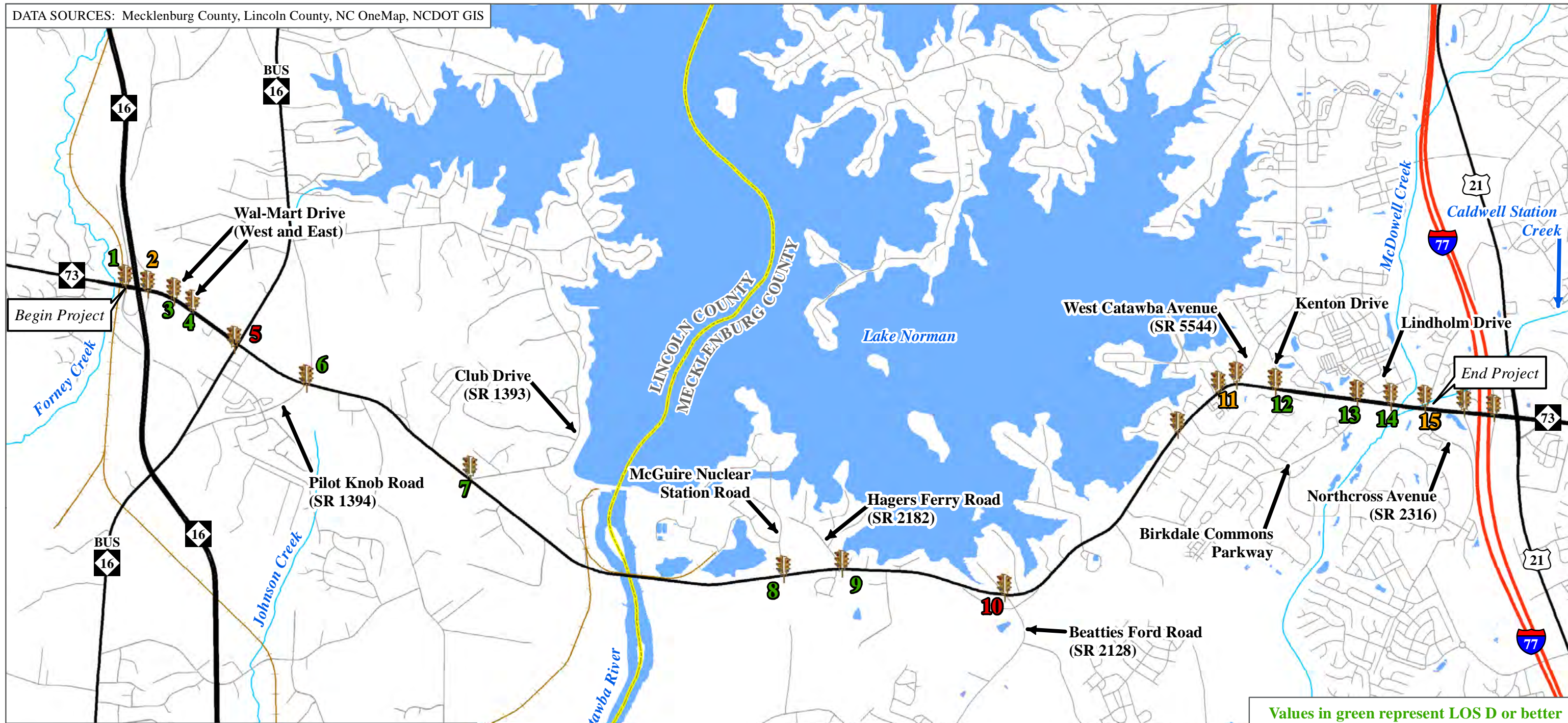


FIGURE 2 ENVIRONMENTAL STUDY AREAS AND FEATURES

R-5721, R-5710, & U-5765
LINCOLN & MECKLENBURG COUNTIES

AUGUST 2017

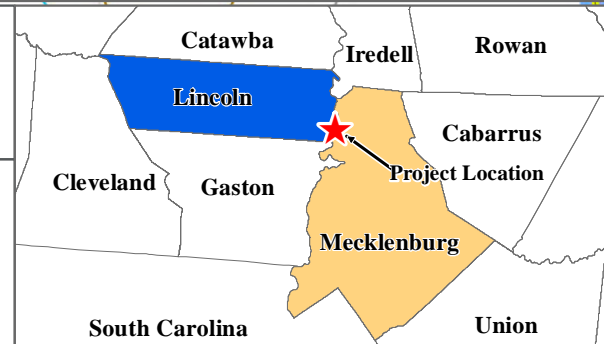
* Voluntary Agriculture District (VAD)
** Environmental Study Area (ESA)
*** Lake Norman is a 303(d) Water Body



Source of Traffic Data - NCDOT Congestion Management
 NC 73 Corridor Study, Segments 1 and 2 (May 2014 and August 2015)

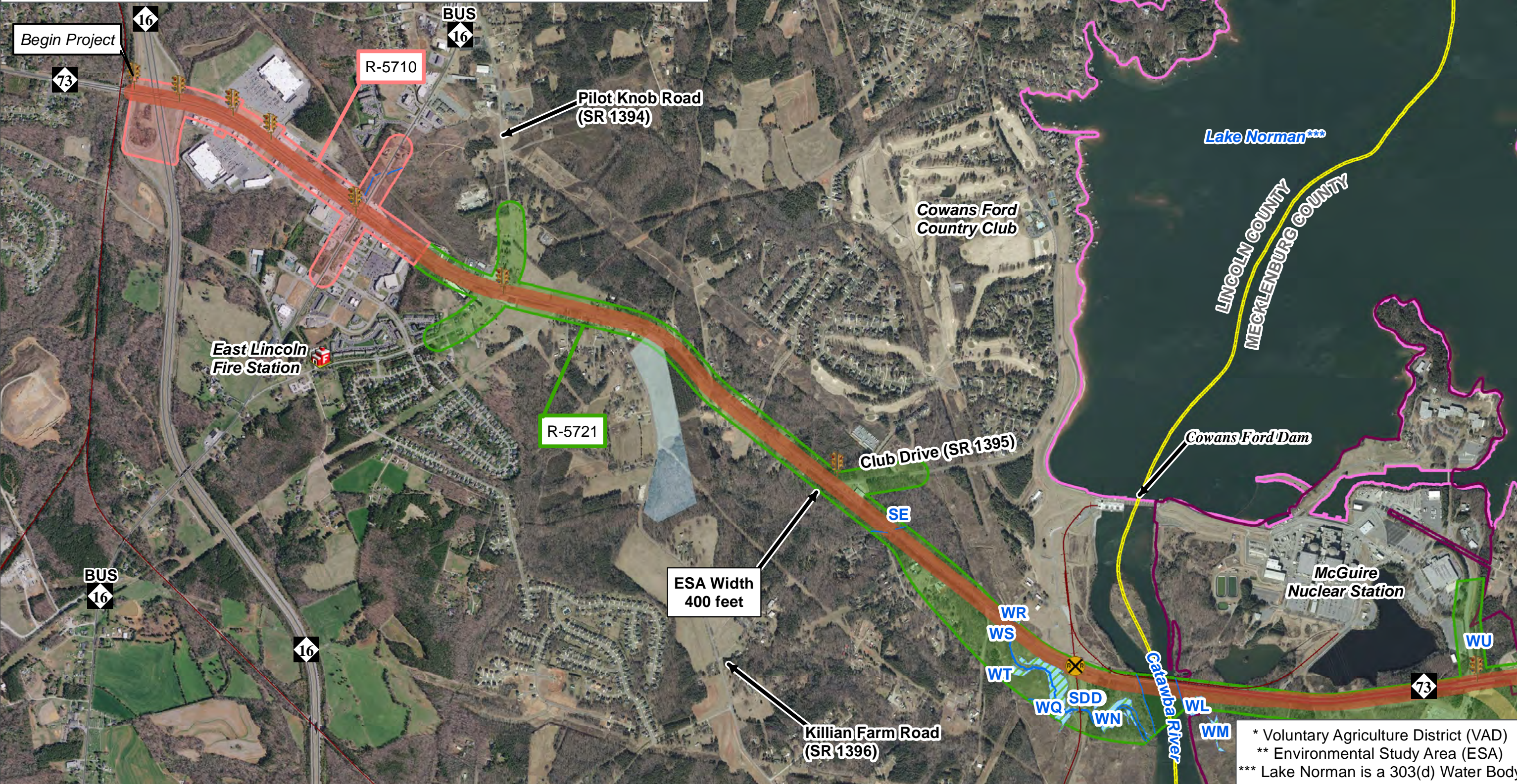
ID No.	1*	2	3*	4*	5	6*	7*	8*	9*	10	11	12*	13*	14	15
LOS AM	C	B	B	B	D	C	B	B	D	F	E	B	C	A	D
LOS PM	B	E	D	C	F	C	B	D	B	F	E	B	C	B	E

Values in green represent LOS D or better
 Values in orange represent LOS E
 Values in red represent LOS F
 * Other intersections with one or more movements at LOS E or F and extensive queuing lengths



- Signalized Intersection
- Interstate
- Major Road
- Road
- Railroad
- Stream/ Creek
- Water Body
- County Boundary

FIGURE 3
SIGNALIZED INTERSECTIONS
AND LEVELS OF SERVICE (LOS)
FOR THE YEAR 2021
 R-5721, R-5710, & U-5765
 LINCOLN & MECKLENBURG
 COUNTIES
 AUGUST 2017



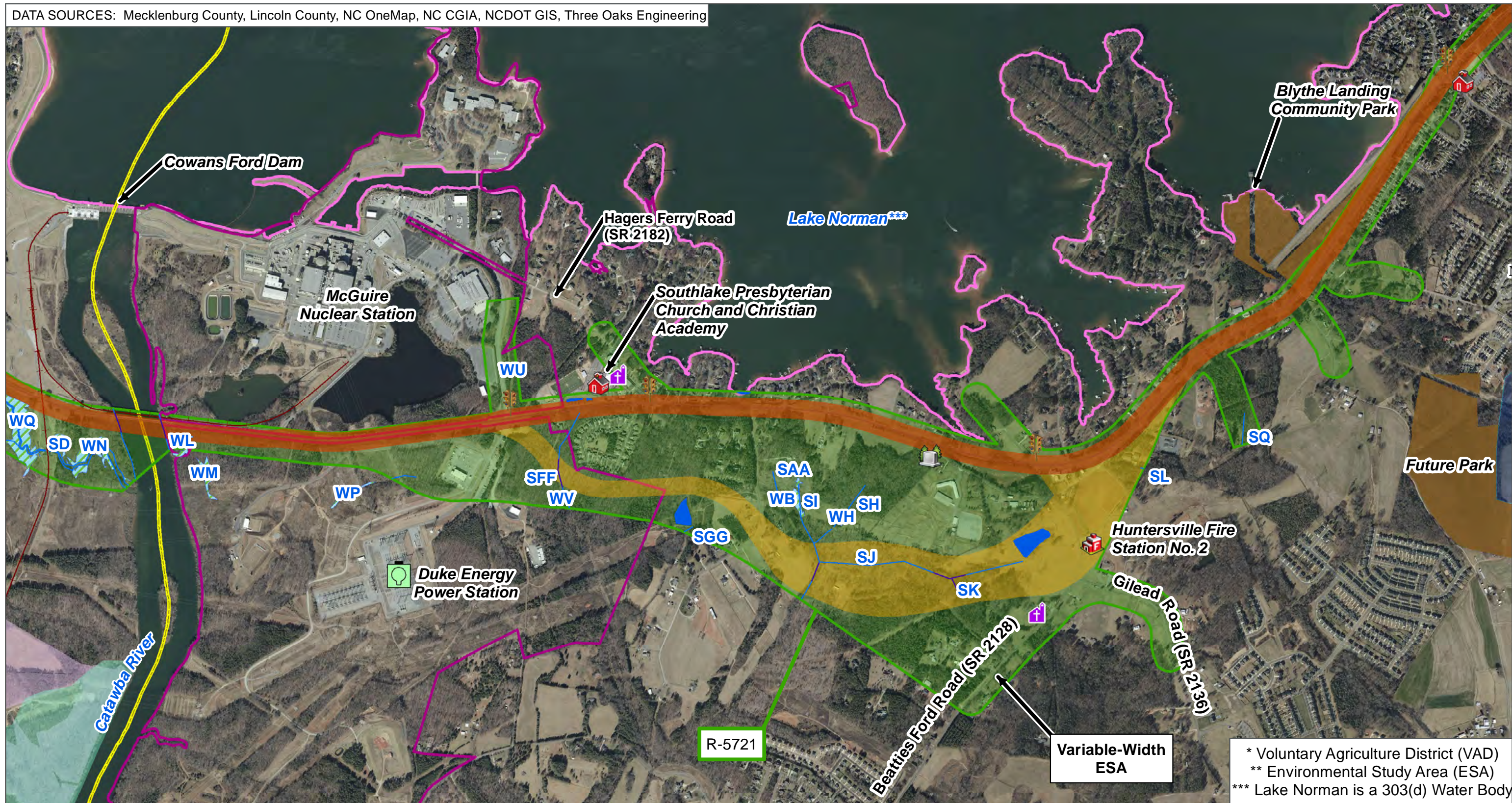
* Voluntary Agriculture District (VAD)
 ** Environmental Study Area (ESA)
 *** Lake Norman is a 303(d) Water Body

Scale: 0 to 0.5 Miles

Lincoln County
 Mecklenburg County

	Educational Facility		Traffic Signal		Alternative 1		R-5710 ESA**
	Place of Worship		Rail Crossing		Alternative 2		R-5721 ESA**
	Fire Station		303(d) Water		Jurisdictional Pond		U-5765 ESA**
	Power Station		Stream/ Creek		Jurisdictional Wetland		County Boundary
	Cemetery		Railroad		Park		McGuire Nuclear Station
	Medical Facility		VAD*		Water Treatment Facility		

FIGURE 4.1
ENVIRONMENTAL STUDY
AREA AND
PRELIMINARY ALTERNATIVES
 R-5721, R-5710, & U-5765
 LINCOLN & MECKLENBURG
 COUNTIES
 AUGUST 2017



* Voluntary Agriculture District (VAD)
 ** Environmental Study Area (ESA)
 *** Lake Norman is a 303(d) Water Body

FIGURE 4.2
ENVIRONMENTAL STUDY
AREA AND
PRELIMINARY ALTERNATIVES
 R-5721, R-5710, & U-5765
 LINCOLN & MECKLENBURG
 COUNTIES

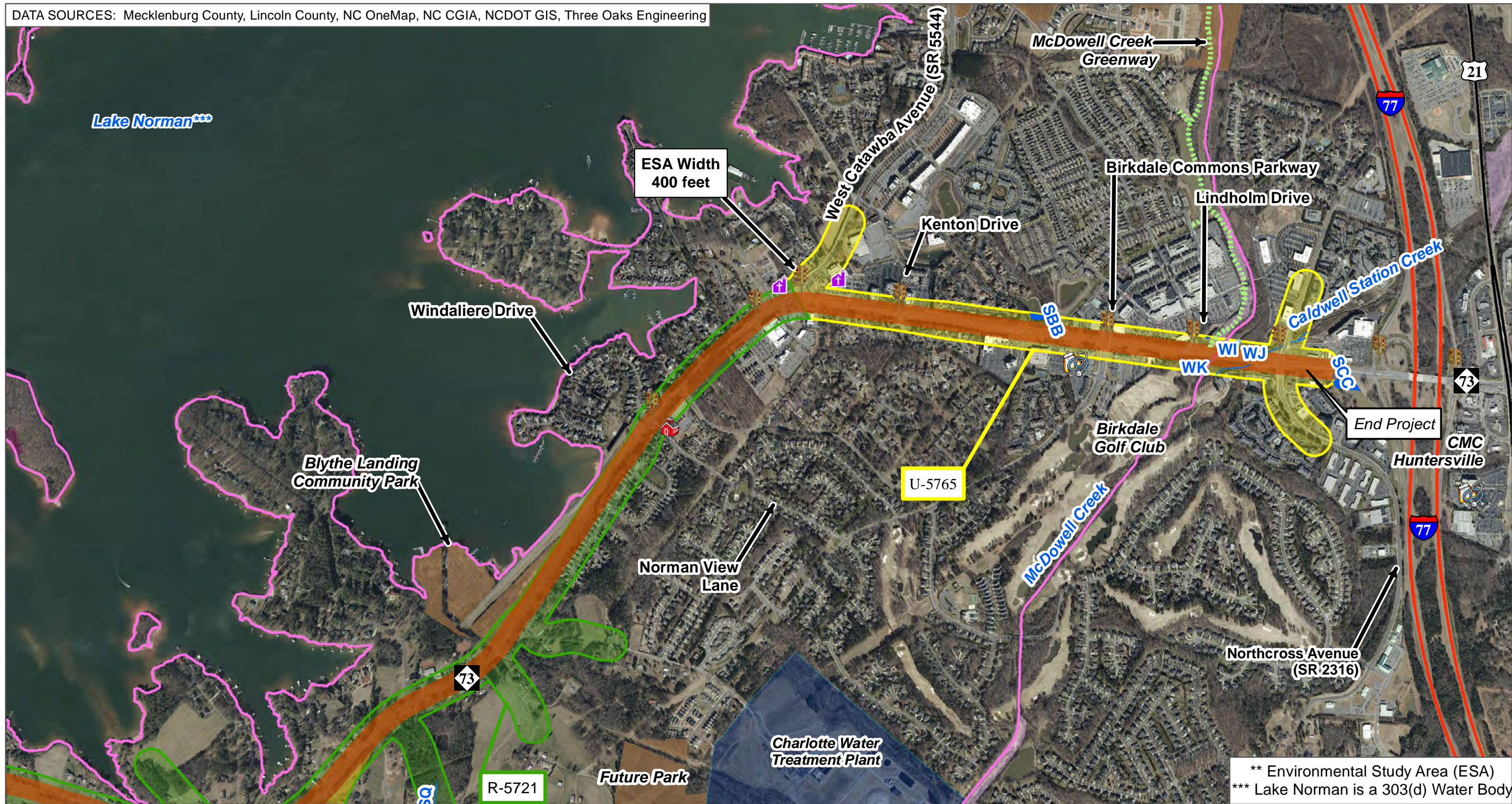
AUGUST 2017

0 0.25 0.5 Miles

Lincoln County
 Mecklenburg County

Lincoln County
 Mecklenburg County

Educational Facility	Traffic Signal	Alternative 1	R-5710 ESA**
Place of Worship	Rail Crossing	Alternative 2	R-5721 ESA**
Fire Station	303(d) Water	Jurisdictional Pond	U-5765 ESA**
Power Station	Stream/ Creek	Jurisdictional Wetland	County Boundary
Cemetery	Railroad	Park	McGuire Nuclear Station
Medical Facility	VAD*	Water Treatment Facility	



** Environmental Study Area (ESA)
 *** Lake Norman is a 303(d) Water Body

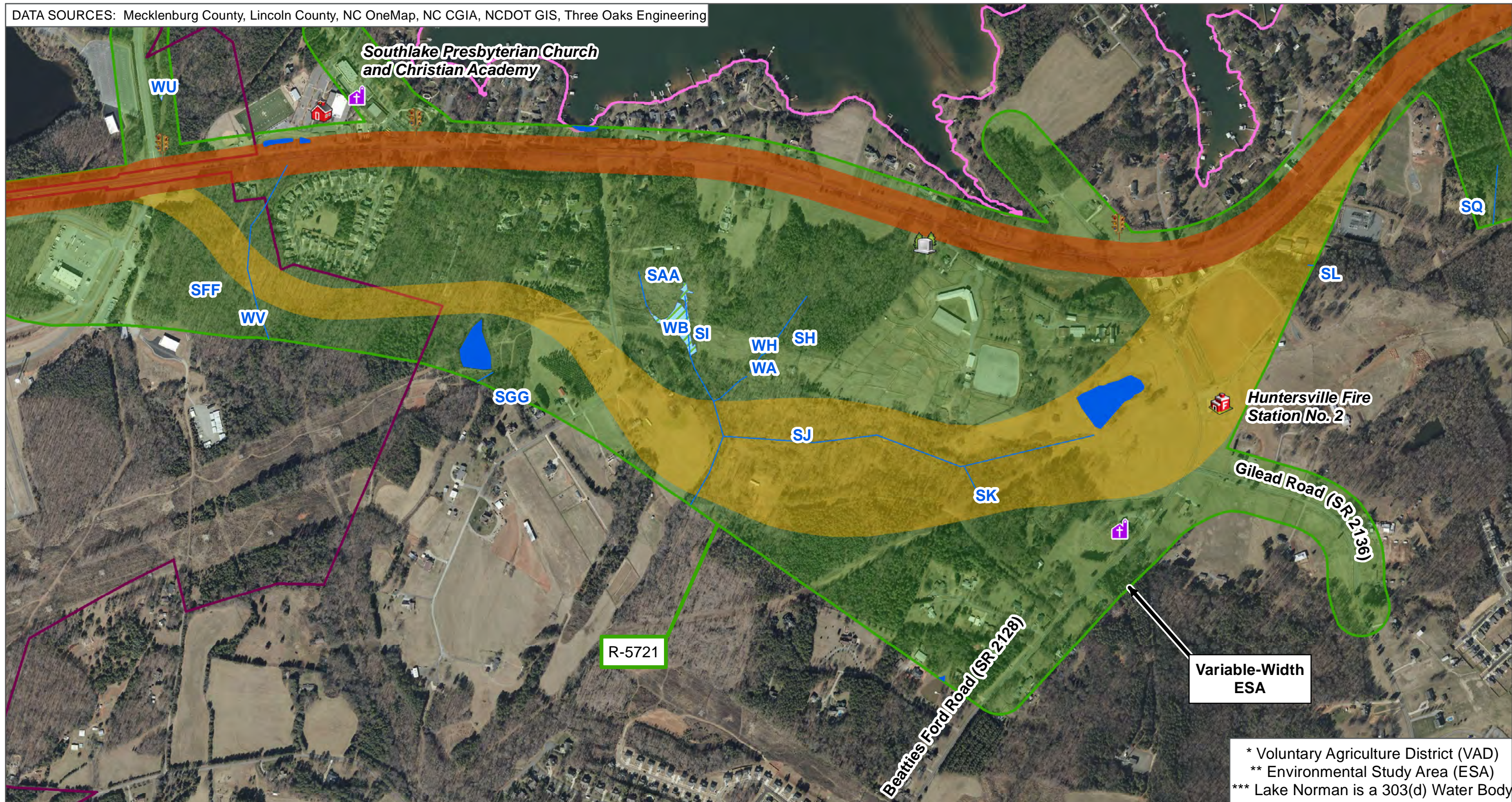
FIGURE 4.3
ENVIRONMENTAL STUDY
AREA AND
PRELIMINARY ALTERNATIVES
 R-5721, R-5710, & U-5765
 LINCOLN & MECKLENBURG
 COUNTIES
 AUGUST 2017

Scale: 0 to 0.5 Miles

Lincoln County
 Mecklenburg County

0.25 Miles

Lincoln County
 Mecklenburg County



* Voluntary Agriculture District (VAD)
 ** Environmental Study Area (ESA)
 *** Lake Norman is a 303(d) Water Body

FIGURE 4.4
ENVIRONMENTAL STUDY
AREA AND
PRELIMINARY ALTERNATIVES
 R-5721, R-5710, & U-5765
 LINCOLN & MECKLENBURG
 COUNTIES
 AUGUST 2017

Scale: 0, 500, 1,000 Feet

Lincoln County
 Mecklenburg County

Educational Facility	Place of Worship	Fire Station	Power Station	Cemetery	Medical Facility
Traffic Signal	Rail Crossing	303(d) Water	Stream/ Creek	Railroad	VAD*
Alternative 1	Alternative 2	Jurisdictional Pond	Jurisdictional Wetland	Park	Water Treatment Facility
R-5710 ESA**	R-5721 ESA**	U-5765 ESA**	County Boundary	McGuire Nuclear Station	

Variable-Width ESA



MEMORANDUM

To: Meeting Participants/ Invitees

From: Mark L. Reep, PE
Senior Project Engineer
HDR | ICA

Subject: Minutes from July 6, 2016 Merger Screening Meeting for R-5710/ R-5721/ U-5765, NC 73 from NC 16 Business to Northcross Drive (SR 2316), Lincoln and Mecklenburg Counties

Date: July 27, 2016

A Merger Screening Meeting was held on July 6, 2016 in the Structure Design Conference Room at NCDOT's Century Center – Building A. The purpose of the meeting was to discuss the draft Purpose and Need, review potential jurisdictional impacts, and seek agency input on the Merger process determination for the proposed improvements to NC 73 in Lincoln and Mecklenburg Counties.

Attendees:

Wilson Stroud, PDEA	Kirby Pendergraft, Hydraulics
Kevin Moore, Roadway Design	Donna Hood, NC DWR*
Nathan Adima, Roadway Design	Mike Reese, Congestion Management
Carla Dagnino, PDEA	Crystal Amschler, USACE*
Erin Cheely, PDEA	Evan Morgan, Three Oaks Engineering
Matthew Williams, NCDOT	Mark Reep, HDR ICA
Stuart Basham, Division 10*	Alex Snider, HDR ICA*
Michael Poe, NCDOT Division 12*	Clay Oliver, HDR ICA*
Stacy Oberhausen, PDEA	David Robinson, HDR ICA
Amy Billings, Hydraulics	

** indicates participation by phone*

Meeting Minutes

A summary of the meeting discussion is provided below:

- Welcome and Introductions

Wilson Stroud welcomed everyone to the meeting and asked Mark Reep (HDR | ICA) to lead the discussion. Mark stated the purpose of the meeting is to review the draft Purpose and Need, potential impacts for the study area, and seek input on the Merger process determination.

- Draft Purpose and Need Statement

Mark first discussed the draft Purpose and Need statement and opened the floor for discussion.

Stacy Oberhausen asked if the project was federal or state funded. Wilson confirmed that the projects are state funded with State Highway Trust Funds.

Donna Hood inquired about the shared responsibility between Division 10 and Division 12 for these projects. Representatives from the Divisions stated that formal discussions on this matter have not occurred. Approximately 45 percent of the project is within Division 10 and 55 percent of the project is within Division 12.

Crystal Amschler asked what the target Level of Service (LOS) is for these projects. Mark stated that it would be difficult to achieve an overall LOS D or better at all of the intersecting roadways. Therefore, the goal would be to achieve volume to capacity ratios that do not exceed certain thresholds. Crystal continued to say that elements of the Purpose and Need should include specific and measurable elements. The ability to quantify Purpose and Need elements enables a quality comparison of alternatives.

Stacy pointed out that the Purpose states improved traffic flow and operations on NC 73 will be achieved by increasing roadway capacity. She questioned whether “roadway capacity” should be mentioned in the Purpose statement. If it is mentioned, then a benchmark needs to be established and a method to measure the effectiveness.

Stacy noted that there are too many detailed measures listed in the Purpose and Need. She indicated the more specific the measures, the harder they are to achieve. She suggested narrowing the scope of measures to include only those that are readily quantifiable. The measures of effectiveness will be included in the concurrence form and used during alternative selection to determine whether the alternative does or does not meet the quantifiable goal.

Stacy also suggested considering language like “widen NC 73” instead of “improve NC 73 to a multi-lane facility” to avoid predetermination of the alternative.

Carla Dagnino concurred with the comments about focusing on a quantifiable goal and defining measures of effectiveness.

Mike Reese suggested incorporating travel time reliability into the Purpose and Need. He mentioned the possibility of using arterial speed or travel time as measures of effectiveness.

Wilson stated that consultation with the Division 10 and 12 offices, Congestion Management, and others will continue as the Purpose and Need statement is refined. Stacy suggested including the US Army Corps of Engineers (USACE) on any refinements to the Purpose and Need that occur.

- Jurisdictional Impacts/ Merger Process Determination

Mark discussed the potential jurisdictional impacts for the study area. He explained that the stream and wetland impacts are preliminary and are based on an assumed 250-foot corridor.

Stacy sought clarification on the listed impacts. It was clarified that the impacts reflect a “worst case scenario” and encompass a corridor that is wider than the anticipated right of way limits. The project design is assumed to be best fit and not symmetrical.

Stacy then asked about the status of the Natural Resources Technical Report (NRTR). Jurisdictional areas were delineated during field surveys, and the preliminary jurisdictional determination package has been distributed. The NRTR will be completed after a jurisdictional determination field meeting and endangered species' investigations are completed in the coming months.

Mark asked whether the preliminary impacts appear to require an Individual Permit. Crystal said that based on the impacts presented, an Individual Permit (IP) would likely be required and the Merger process would be recommended. The realignment alternative has a notable impact to UT9 to the Catawba River. Crystal asked why the realignment alternative is being considered. Mark described the *Northwest Huntersville Transportation Study* that was completed in 2011 and noted that it was endorsed by the Charlotte Regional Transportation Planning Organization (CRTPO).

Stuart Basham further explained that the *Northwest Huntersville Transportation Study* was prompted by a traffic analysis that indicated heavy left turn movements from Beatties Ford Road to NC 73. Improvements considered to address these traffic volumes, including a wider intersection or flyover, were not feasible. Thus, the NC 73 realignment option was developed.

Stacy asked whether the Merger process would be recommended, considering the wetland and stream impacts represent a "worse case scenario." Crystal said the 590-foot stream impact listed under the realignment option in Table 1 of the Merger Screening Package would trigger an IP.

Donna agreed that the Merger process would be recommended based on the impacts listed in Tables 1 and 2 in the Merger screening package. However, the Merger process could be pulled back if additional detailed analyses revealed impacts to jurisdictional impacts below the thresholds.

Crystal stated that if the Merger process is followed, Concurrence Point (CP) 2A and CP 4A would need to be met separately.

- Further Discussion

Stacy suggested conducting heavy public involvement as early as reasonably possible. It will be important to receive local input and concerns on the project heading into CP 1 and moving to CP 2 (Detailed Study Alternatives) and CP 3 (Least Environmentally Damaging Practicable Alternative). This public involvement should include sending a letter or newsletter to the local residents and officials indicating a plan to hold a meeting. Contacting the local officials and asking how frequently they would like to meet may also be beneficial.

Mike Reese mentioned that the NC 73 Council of Planning will be holding their next meeting in October. It would be advantageous to present the status of the project to the group and obtain their input. Blair Israel with the Centralina Council of Governments is the staff contact for the NC 73 Council of Planning and Jack Simoneau with the Town of Huntersville can also be contacted.

Other local contacts include Andrew Bryant with Lincoln County and Bjorn Hansen with the Gaston-Cleveland-Lincoln Metropolitan Planning Organization (GCLMPO).

Removing the realignment option is unlikely before CP2. However, if that option is removed from consideration, then it is possible the project can be removed from the Merger process.

The proposed design at the time of this meeting is a four-lane, median-divided (raised median with grass) roadway, with curb and gutter, sidewalks, and bike lanes. Signalized phase reduction strategies and access management techniques will be incorporated. Bill Coxe with the Town of Huntersville requested that a superstreet design be considered.

Discussion ensued about the proposed cross section of the roadway and the types of bicycle and pedestrian accommodations. It was decided that coordination with local officials is needed to determine bicycle and pedestrian needs and whether a shared cost agreement is possible for multi-modal accommodations.

Action Items

1. The realignment option will be carried forward to at least CP 2A. If more detailed analyses reduce jurisdictional impacts below the thresholds or the realignment option is eliminated from consideration at CP 2A, then it may be possible for the project to proceed without following the Merger process.
2. A 30-foot median will be considered in some locations to accommodate double left turns. Turn lanes and access management will be considered between NC 16 and NC 16 Business.
3. In further correspondence and documentation, Northcross Avenue will be referred to as Northcross Drive, to be consistent with traffic signs and local reference. Coordination with Van Argabright is needed to revise the State Transportation Improvement Program (STIP) description for U-5765, as well as to inquire into the possibility of extending the project limits of R-5721 from NC 16 Business west to NC 16.
4. HDR | ICA will coordinate with PDEA to schedule upcoming public involvement activities.

If you have comments, please respond by August 5, 2016 to me at mark.reep@hdrinc.com or at 919-900-1635 and Wilson Stroud at wstroud@ncdot.gov or at 919-707-6045.

MLR/dkr

CC: Kendra Bridges, NCDOT Bike/ Ped Division
Jamille Robbins, HES/ PI
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