

Type III Categorical Exclusion Action Classification Form

STIP Project No.	U-5516
WBS Element	43610.1.1
Federal Project No.	NHPP-0501(30)

A. Project Description

The North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) propose improvements to the US 501 (Roxboro Road)/ SR 1448 (Latta Road)/ SR 1639 (Infinity Road) intersection in Durham, Durham County. The proposed intersection improvements are located approximately five miles north of downtown Durham (see **Figure 1**).

The project is designated as U-5516 in the 2018-2027 North Carolina State Transportation Improvement Program (STIP). Right of way is scheduled for Fiscal Year (FY) 2019 with construction beginning in FY 2020. The 0.6-mile project and surrounding area that is analyzed in this Categorical Exclusion (CE) is referred to as the study corridor or project study area.

Roxboro Road serves as the primary north/south arterial connecting the northern part of the county to points south. Latta Road and Infinity Road provide one of few major east/ west routes in the area. The presence of commercial land use, several large neighborhoods, and three Durham public schools near the intersection contribute to high traffic volumes and congestion during peak hours. Durham's popular West Point on the Eno Park, located west of Roxboro Road and south of Latta Road, is adjacent to the study area.

The proposed project is located entirely within the City of Durham and identified in the 2017 Durham Chapel Hill Carrboro Metropolitan Planning Organization (DCHC MPO) Comprehensive Transportation Plan (CTP) as a proposed major intersection upgrade. This intersection is located along the Roxboro Road (501 North) Duke Street to Goodwin Road corridor proposed for modernization in the DCHC MPO 2045 Metropolitan Transportation Plan (MTP).

B. Description of Need and Purpose

Purpose of Project

The purpose of the project is to relieve congestion and improve traffic operations to an acceptable level of service through the design year 2040 at the US 501 (Roxboro Road)/ SR 1448 (Latta Road)/ SR 1639 (Infinity Road) intersection. Another desirable outcome of the project is to improve safety.

Need for Project

The intersection is approaching its maximum traffic carrying capacity. Currently, traffic delays and congestion occur during peak periods. Peak hour travel times, as defined by FHWA, are from 6 a.m. to 9 a.m. (AM peak period) and 4 p.m. to 7 p.m. (PM peak period). Annual Average Daily Traffic (AADT) on Roxboro Road in 2016 ranged from 32,600 to 34,700 vehicles per day. By 2040, if no improvements are made, traffic volumes will range from 46,600 to 49,600 vehicles per day, resulting in unacceptable traffic operations during the busiest hours.

Between February 2011 and December 2016, 324 crashes occurred within the project limits. Approximately 90 percent consisted of rear end, frontal impact, and sideswipe collisions. The total crash rate along Roxboro Road is more than 2.5 times higher than the statewide average rate for five lane urban US routes. The combination of high volumes of traffic, and numerous direct driveway connections, creates congested conditions along the corridor. During peak periods, turning vehicles, especially left-turning vehicles, can create queues along the corridor and substantially slow average travel speeds. These conditions are anticipated to worsen into the future.

C. Categorical Exclusion Action Classification

The proposed project is classified as Type III for purposes of preparing the CE.

D. Proposed Improvements

The following paragraphs describe the No Build Alternative and the three Build Alternatives considered for the proposed action, and the identification of the Selected Alternative. Additionally, this section describes other alternatives that were considered, but screened out in advance of design level studies for various reasons.

No Build Alternative

A No Build Alternative is an alternative for which no physical improvements to the existing roadway or construction of a new facility is proposed. The No Build Alternative for this project does not meet the transportation goals of the NCDOT and DCHC MPO, fails to provide solutions to anticipated high traffic volumes in the area, and does not satisfy the purpose and need for action. For these reasons, NCDOT does not consider the No Build Alternative as the preferred alternative for this proposed project. The No Build Alternative does, however, provide a basis for comparing the benefits and adverse impacts of the Build Alternatives. Thus, the No Build Alternative is included in this CE.

Build Alternatives

Alternative 1, a reverse superstreet design¹, calls for four 11-foot travel lanes, a 23-foot median with turn lane, curb and gutter, signalized northbound and southbound U-turn bulbs, and 5-foot sidewalks. A 10-foot multi-use path is proposed along the west side of Roxboro Road from Latta Road to approximately the West Point on Eno Park property line. The minimum right of way width is 91 feet. Additional easements will also be required.

This alternative includes the following design elements:

- Through and right turns are allowed on Roxboro Road at the intersection.
- Left and right turns are allowed on Latta Road and Infinity Road at the intersection.
- The remaining movements are directed to U-turn bulbs.
- U-turn bulbs are located on Roxboro Road south of Omega Road and south of Oak Hill Drive.
- One U-turn bulb is located on Infinity Road west of High Meadow Road.

Alternative 2, a modified reverse superstreet design², serves to address the comments received on Alternative 1. The proposed design retains the same typical design, moves the U-turn bulb further south, adds a lane to the northern-most U-turn bulb, and improves access to Oak Hill Drive.

This alternative includes the following design elements:

- Through and right turns are allowed on Roxboro Road at the intersection.
- Left and right turns are allowed on Latta Road and Infinity Road at the intersection.
- The remaining movements are directed to U-turn bulbs.
- U-turn bulbs are located on Roxboro Road north of the Eno River bridge and south of Oak Hill Drive.
- Northbound Roxboro Road has a dedicated turn lane for Oak Hill Drive.
- This alternative includes two design options for Infinity Road:
 - Option A includes a U-turn bulb on Infinity Road west of High Meadow Road.
 - Option B is a three-leg roundabout replacing the Infinity Road and High Meadow Road intersection.

Alternative 3, a quadrant road intersection design, includes design elements to allow movements between Latta Road and Infinity Road.

This alternative includes the following design elements:

¹ Superstreet intersections redirect through traffic and left turning vehicles from the side street approach to turn right, proceed to a nearby U-turn and then return to its original course. Reverse superstreets allow left turns from a minor street onto the major roadway to accommodate high left turn volumes.

² In this instance, the modified reverse superstreet design moves the southern U-turn bulb on Roxboro Road closer to the Eno River and makes additional changes to the Alternative 1 design to address public comments following a September 28, 2017 public meeting.

- Through and right turns are allowed on Roxboro Road at the intersection.
- Through and right turns are allowed on Latta Road and Infinity Road at the intersection.
- The remaining movements are directed to a new roadway northeast of the intersection between Roxboro Road and Infinity or U-turn bulbs.
- U-turn bulbs are located on Roxboro Road north of the Eno River bridge and south of Oak Hill Drive.
- Northbound Roxboro Road has a dedicated turn lane for Oak Hill Drive.
- Drivers can travel between Latta Road and Infinity Road.
- A four-leg roundabout replaces the Infinity Road and High Meadow Road intersection.

Alternatives Eliminated from Further Consideration

NCDOT considered improving transportation in the study corridor with alternative modes of transportation such as transportation demand management (e.g., ride sharing, vanpooling, and staggered work hours), transportation system management (e.g., traffic law enforcement, access control, turn prohibitions, speed restrictions, traffic signal timing optimization), and mass transit/ multi-modal services. These alternatives were eliminated from further consideration because they would not alone be sufficient to accommodate the travel demand through the study corridor.

Thirteen Build alternatives were initially considered for the project. Three additional concepts were considered after the 2017 public meeting input and collaboration with town officials. Of the 16 total alternatives considered, 13 were eliminated from further consideration. The eliminated alternatives, available in the project files, would not serve the project's purpose and need or they would result in higher right of way and/ or environmental impacts.

Selected Alternative

Following the August 23, 2018 Public Meeting NCDOT identified Alternative 3 as the Selected Alternative (see **Figure 2**). Comments received during the public comment period indicated that this alternative is preferred by the community as the design appears easier to follow and allows travel between Latta Road and Infinity Road.

E. Special Project Information for the Build Alternative (Selected Alternative)

This section summarizes the proposed improvement associated with Build Alternative 3, the Selected Alternative.

Roadway Cross Section and Alignment

The proposed project will improve Roxboro Road to include four travel lanes, a median, turn lanes, curb and gutter with berms, sidewalks, multiuse path, and U-turn bulbs at either end of the project area. Latta Road and Infinity Road will include two travel lanes, a median, turn lanes, 5-foot bike lanes, curb and gutter with berms, and sidewalks. The Infinity Road/ High Meadow Road intersection will be improved with a four-leg roundabout. The northern leg of the roundabout will lead to a new quadrant road that intersects with Roxboro Road. Oak Hill Drive will be improved with a dedicated northbound turn lane on Roxboro Road. **Table 1** summarizes the existing and proposed cross section configurations within the study corridor.

Table 1: Existing and Proposed Cross Section Configurations

Roadway	Median Width	Bicycle/ Pedestrian Accommodations	Total Number of Lanes	
			Existing	Build Alternative 3
Roxboro Road	23 feet	5 to 10-foot multi-use path	5	4
Latta Road	0 - 17.5 feet	5-foot sidewalk and 5-foot bike lane	3	3
Infinity Road	12 - 17.5 feet	5-foot sidewalk and 5-foot bike lane	3	3
High Meadow Road	0 – 5.5 feet	10 to 15-foot sidewalk	2	2
Quadrant Road	N/A	N/A	N/A	2

Right of Way and Access Control

The Selected Alternative involves widening the existing right of way laterally on both sides of Roxboro, Latta and Infinity Roads. This right of way acquisition is anticipated to result in minimal adverse effects on adjacent properties, as the existing corridors were originally established containing setbacks for future widening. Right of way acquisition is necessary at the two U-turn bulbs on Roxboro Road, the roundabout on Infinity Road, and the new location quadrant road.

The segments of Roxboro Road, Latta Road, and Infinity Road in the study corridor currently have no control of access. With the Selected Alternative, Roxboro Road will have partial control of access with one connection per parcel and full control of access at the designated U-turn located north of the Eno River bridge. No control of access is proposed for Latta Road or Infinity Road.

Speed Limit

There will be no changes to the speed limits on Roxboro, Latta, Infinity or High Meadow Roads in the study corridor as a result of the proposed project. The posted speed limit on Roxboro Road is 45 miles per hour (mph), with Infinity Road and High Meadow Road having a posted speed limit of 35 mph. The posted speed limit on Latta Road is 40 mph. The proposed posted speed limit on the new quadrant road will be 35 mph.

Design Speed

There will be no changes to design speed on the roads in the study corridor as a result of the proposed project. The design speeds are: Roxboro Road - 50 mph, Latta Road - 45 mph, Infinity Road – 40 mph, and High Meadow Road – 40 mph. The proposed design speed for the quadrant road is 40 mph.

Anticipated Design Exceptions

There are no design exceptions anticipated at this stage of planning and design.

Bicycle and Pedestrian Facilities

Pedestrian and bicycle accommodations will be coordinated with the City of Durham during final design. In accordance with [NCDOT Pedestrian Policy Guidelines](#), NCDOT will bear the full cost to replace existing sidewalks to be relocated by the project along existing streets. The City of Durham will participate in the cost of new sidewalks and a multi-use path where they do not currently exist. A municipal agreement will be prepared prior to project construction. The type and location of pedestrian crossings will be coordinated and determined with the City of Durham during final design.

Utilities

The City of Durham owns the traffic camera located in the southeast corner of the US 501/ Latta Road/ Infinity Road intersection. NCDOT will coordinate the utility design and traffic camera relocation with the City of Durham Transportation Department and the Department of Public Works. Potential utility impacts have preliminarily been identified. Utility design coordination will begin as the project moves into final design.

Work Zone, Traffic Control and Construction Phasing

Specific work zone, traffic control, and construction phasing plans will be prepared during final design and coordinated with the City of Durham.

Federally Protected Species

As of October 5, 2018, the US Fish and Wildlife Service (USFWS) lists three federally protected species in Durham County. **Table 2** provides the list of federally protected species in Durham County, all of which are under the jurisdiction of USFWS. The Biological Conclusion is based on field observation and survey results in the study area. Dwarf wedgemussel was added to the protected species list for Durham County on October 5, 2018. The Biological Conclusion for the federally protected species listed for Durham County is No Effect.

Table 2: USFWS Listed Species in Durham County

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	E	Yes	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect
<i>Echinacea laevigata</i>	Smooth coneflower	E	Yes	No Effect

Dwarf wedgemussel

The project is located within the range basin for the Dwarf wedgemussel for Durham County. The Dwarf wedgemussel has not been located in Durham County. A review of the NC Natural Heritage Program database was conducted (October 26, 2018) to determine if there were any records of rare mussels within the proposed project study area or receiving waters. This review indicated that there are no known occurrences of dwarf wedgemussel in the waterbodies crossed by the project. The closest known historical occurrence of Dwarf wedgemussel is approximately 23 river miles downstream from this project in the Eno River in Orange County. The project will not affect the Dwarf wedgemussel. The biological conclusion is No Effect.

Northern long-eared bat

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect". The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Durham County, where TIP U-5516 is located.

Water Resources

Water resources in or near the study area are part of the Neuse River basin [U.S. Geological Survey (USGS) Hydrologic Unit 03020201]. Two perennial streams, unnamed tributaries (UT) to the Eno River, and three wetlands were identified within the project study area along Infinity Road. The location of the water resources are shown as Streams SA and SB in **Figure 3**.

Streamside riparian zones within the study area are protected under provisions of the Neuse River Buffer Rules administered by the NC Division of Water Resources (NCDWR). Potential impacts to protected stream buffers will be determined once a final alignment and design have been determined. **Table 3** provides a summary of the potential impacts to jurisdictional resources. These preliminary impact estimates were calculated using a 25-foot buffer from the slope stake limits, per the guidelines in the Wetland, Stream, and Riparian Buffer Impact Calculations memorandum (NCDOT, September 2006). As shown in **Table 3**, the project has the potential to permanently impact an estimated 170 linear feet of jurisdictional streams and 0.03 acres of wetlands.

Table 3: Potential Jurisdictional Resource Impacts

Map ID	Stream Crossing	Stream Class	Stream Length (linear feet)	Temporary Impacts ¹ (linear feet)	Permanent Impacts (linear feet)
Stream SA	UT to Eno River	Intermittent	280	30	85
Stream SA	UT to Eno River	Perennial	71	55	55
Stream SB	UT to Eno River	Perennial	94	50	30
Total			445	135	170
Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area in Study Area (acres)	Permanent Impacts (acres)
Wetland WA	Non-tidal Freshwater Marshes	Medium	Riparian	0.02	0.00
Wetland WB	Non-tidal Freshwater Marshes	Medium	Riparian	0.03	0.03
Wetland WC	Basin	Medium	Non-Riparian	0.18	0.00
Total				0.23	0.03

¹ Temporary impact quantities are within a 25-foot buffer from the slope stake limits.

Floodplain Management

Durham County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Based on the current information available from the NC Floodplain Mapping Program (FMP), the project corridor is adjacent to a designated flood hazard zone which is within a Detailed Flood Study reach along the Eno River. The portion of the project along Infinity Road crosses a designated flood hazard zone along the Tributary to the Eno River. No adverse impacts to the flood zones are anticipated.

Section 6(f) Land and Water Conservation Act and Section 4(f)

The NC State Parks office determined that the proposed project should not impact West Point on the Eno Land and Water Conservation Fund (LWCF) land. Roxboro Road is 450 feet away and the Latta/ Infinity Road intersection is 1150 feet away from LWCF land. Documentation from the NC State Parks office is attached.

The Durham Parks and Recreation Department concurs that the project's temporary construction easements will not adversely impact West Point on the Eno Park property. The temporary easements do not result in a Section 4(f) use. NCDOT will continue to coordinate with the Durham Parks and Recreation Department, through the project's conclusion, to minimize impacts to West Point on the Eno Park and replace vegetative buffers disturbed during construction activities in the temporary construction easement areas.

Hazardous Materials

NCDOT GeoEnvironmental Section personnel conducted a field reconnaissance on October 17, 2014. No hazardous waste sites or apparent landfills were identified within the project limits. Seven possible underground storage tanks (USTs) and four former dry cleaning facilities were identified within the proposed project limits, and shown in **Table 4**. Low monetary and scheduling impacts are anticipated from these sites. A copy of the report is available in the project files.

Table 4: Known and Potential GeoEnvironmental Impact Sites

Site No.	Site Address/ Name	Facility ID	Potential Concern	Anticipated Risk
1	5268 N Roxboro Road O'Reilly Auto Parts # 4376	N/A	UST	Low
2	5274 N Roxboro Road Touch of Class Hand Wash	0-024895	UST	Low
3	5278 N Roxboro Road Arby's # 148	RA-2178	UST	Negligible
4	5280 N Roxboro Road Just Tires	0-034168	UST	Low
5	5292 N Roxboro Road Eno BP 240	0-016391	UST	Low
6	5300 N Roxboro Road Subway/ Pupuseria y Taqueria Orellana	0-028235	Potential dry-cleaning solvent	Low
7	5279 N Roxboro Road STE E Eno Square Dry Cleaners	N/A	Potential dry-cleaning solvent	Low
8	100-106 Latta Road Cruizers 23	0-025815	UST	Low
9	5308 N Roxboro Road Former TNT Cleaners	DC320009	Potential dry-cleaning solvent	Low
10	5311 N Roxboro Road CVS Pharmacy # 4290	RA-5981	UST	Low
11	5319 N Roxboro Road Velocity Fitness	N/A	Potential dry-cleaning solvent	Low

Preliminary Impacts

Preliminary impacts for the Build Alternatives are shown in **Table 5**.

Table 5: Summary of Impacts from the Selected Alternative (Build Alternative 3)

Impacts	Alternative 3
Length (miles)	0.6 mi.
Relocations¹	
Residential	1
Business	2
Total	3
Total Right of Way Impacts (acres)	4.9
Total Easement Impacts (acres)	3.5
Streams (linear feet) ²	135 temporary/ 170 permanent
Wetlands (acres)	0.03 permanent
Federally Protected Species	
Dwarf wedgemussel	No Effect
Michaux's sumac	No Effect
Smooth coneflower	No Effect
Historic Property Impacts	No Survey Required
Archaeological Resources	Survey is required
Section 4(f) Resources (West Point on the Eno Park)	No Section 4(f) Use for Temporary Construction Easements ³
Environmental Justice and Title VI Populations	None
Limited English Proficiency Populations	None
Potential for Adverse Impacts from Hazardous Materials	11 sites/ Low Risk

¹ Relocations will be reevaluated during final design.

² Impact quantities are based on construction limits plus an additional 25 feet.

³ Letter from Durham Parks & Recreation in Attachments.

Cost Estimate

The cost estimates for activities provided in **Table 6** are from the 2018-2027 STIP.

Table 6: Cost Estimate (2018-2027 STIP)

Right-of-Way and Utility Relocation	\$ 6,341,000
Construction	\$ 5,500,000
Prior Years Costs	\$ 110,000
Total Estimated Cost	\$11,951,000

Public Involvement

2015 Public Meeting: A public meeting was held in the Eno Valley Elementary School on August 10, 2015. The meeting was conducted in an open house-style format with no formal presentation. The purpose of the meeting was to introduce the project to the community and to receive comments on the alternative and issues to be considered during the project development process. The design presented consisted of a traditional intersection design with dual left turn lanes on Latta Road and Infinity Road and right turn lanes on all but the eastbound Latta Road approach. See the project files for copies of the August 2015 meeting handout and comments.

A total of 55 citizens signed in at the meeting. Prior to the public meeting, approximately 20 representatives from NCDOT and the City of Durham staff participated in a Public Officials Informational Meeting. Written comments were received from six persons during the meeting.

In 2016 NCDOT reanalyzed intersection traffic with updated traffic projections, which indicated that the originally presented design would not be sufficient to meet traffic demands in the project design year (2040). NCDOT analyzed several options for upgrading the intersection that included both traditional intersection and superstreet concepts with alternative lane configurations. To accommodate the projected increased traffic, a reverse superstreet design was recommended for further study.

2017 Public Meeting: A public meeting was held on September 28, 2017 in the Mount Sylvan United Methodist Church in Durham. This meeting, conducted in the same open house-style format, presented the reverse superstreet configuration (Alternative 1) with a multi-use path. The design addressed concerns identified during the first public meeting and design elements requested by the City of Durham. A total of 48 citizens signed in at the meeting. Attendees were given an opportunity to view the project maps, receive a project handout, and provide comments. Forty-six comments were received during the comment period. Concern was expressed over the prohibited through movement on Infinity Road/ Latta Road, limited access to businesses, and indirect travel patterns. See the project files for copies of the September 2017 meeting handout and comments.

2018 Public Meeting: A public meeting was held on August 23, 2018 in the Mount Sylvan United Methodist Church. This meeting presented the original alternative presented in 2017 and two additional alternatives. Alternative 2 and Alternative 3 were developed in an effort to address concerns identified during the 2017 public meeting. Attendees were given an opportunity to view maps of all three alternatives, receive a project handout, provide comments, and vote on a Preferred Alternative. A total of 41 citizens signed in at the meeting. Thirty-seven comments were submitted during this public comment period. Alternative 3, the quadrant road intersection, received a majority of the meeting attendee's votes as their preferred alternative. Comments received during the meeting indicated that this design is the easiest alternative to navigate and allows travel between Latta Road and Infinity Road. There were some who do not support any of the project alternatives due to concerns with limited turn movements at the intersection, indirect travel patterns, U-turns, right of way impacts, changes in or loss of access, and negative effects on residences and businesses.

F. Project Impact Criteria Checklists

Table 7 is the NCDOT Project Impact Criteria Checklist, which is used to summarize impacts for Build Alternative 3 (Selected). For resource impacts identified with the checked box **Yes**, additional information is provided for those questions in Section G.

Table 7. Summary of Impacts for Build Alternative 3 (Selected)			
<u>Type III Actions</u>		Yes	No
1	Does the project involve potential effects on species listed with the US Fish and Wildlife Service (USFWS) or National Marine Fisheries (NMFS)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project include a determination under Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Is a project level air quality Mobile Source Air Toxics (MSAT) analysis required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a no effect, including archaeological remains? Are there project commitments identified?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	Does the project involve hazardous materials and/or landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16	Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. USFS, USFWS, etc.) or Tribal Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Is the project considered a Type I under the NCDOT's Noise Policy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
29	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Are there other issues that arose during the project development process that effected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F

Checklist Item 1: Protected Species

Dwarf wedgemussel

The project is located within the range basin for the Dwarf wedgemussel for Durham County. The Dwarf wedgemussel has not been located in Durham County. A review of the NC Natural Heritage Program database was conducted (October 26, 2018) to determine if there were any records of rare mussels within the proposed project study area or receiving waters. This review indicated that there are no known occurrences of dwarf wedgemussel in the waterbodies crossed by the project. The closest known historical occurrence of Dwarf wedgemussel is approximately 23 river miles downstream from this project in the Eno River in Orange County. The project will not affect the Dwarf wedgemussel. The biological conclusion is No Effect.

Northern long-eared bat

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration, the US Army Corps of Engineers and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is “**May Affect, Likely to Adversely Affect**”. The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8.

Checklist Item 3: Public Involvement/ Public Controversy

Since 2012, NCDOT and the City of Durham Transportation Department have evaluated multiple intersection improvement options to consider traffic operations, property constraints, and access. During this process, three public meetings were conducted to address public comments and minimize impacts on the human environment within the study area.

A divided roadway with a traditional intersection design was presented during the August 2015 public meeting. The public was primarily concerned about limited access to businesses, increased property impacts, and limited pedestrian connectivity. In response, NCDOT adjusted U-turn locations and median openings, reduced right of way impacts where possible, and extended sidewalk limits.

In 2016, after updating traffic projections, NCDOT determined that the traditional intersection design would not meet future year traffic demands. NCDOT analyzed several options and proposed a reverse superstreet design to accommodate the increased traffic and address prior public concerns. At the intersection, the reverse superstreet allows through and right turns on Roxboro Road, left and right turns on Latta Road/ Infinity Road, and redirects the remaining movements to U-turn bulbs.

The reverse superstreet design (Alternative 1) was presented during the September 2017 public meeting. The public reiterated concerns about limited access to businesses and expressed new concerns about the prohibited through movement on Latta Road/ Infinity Road and indirect travel patterns. In response, NCDOT developed two additional alternatives to address public concerns.

The modified reverse superstreet (Alternative 2) extends the project limits along Roxboro Road, adjusts the U-turn locations and median openings, and includes options for a U-turn bulb or a roundabout on Infinity Road. It addresses some of the concerns about access to businesses but does not allow through movements between Latta Road and Infinity Road.

The quadrant road intersection (Alternative 3) allows through and right turns on Roxboro Road, Latta Road, and Infinity Road at the main intersection and redirects the remaining movements to a new roadway northeast of the intersection. Alternative 3 also extends the project limits along Roxboro Road, adjusts the

U-turn locations and median openings, and includes a roundabout on Infinity Road. It addresses most of the public concerns about access to businesses and allows through movements between Latta Road and Infinity Road.

Alternatives 1, 2, and 3 were presented to the public during the August 2018 public meeting. Of 37 people who commented on the project, 21 people identified their preference for an alternative. Alternative 3 received a majority of support among the alternatives. Comments received indicated that this design is easier to follow and allows travel between Latta Road and Infinity Road. There were 11 people who do not support any of the project alternatives due to concerns with limited turn movements at the intersection, indirect travel patterns, U-turns, right of way impacts, changes in or loss of access, and negative effects on residences and businesses.

While some do not support the project, public opposition is not significant. The Selected Alternative addresses most of the concerns that have been raised during the public involvement process. NCDOT will continue to involve the City of Durham in developing the project. Additionally, coordination has, and will, continue with property owners to minimize impacts.

Checklist Item 10: Buffer Rules

The project corridor is located within the Neuse River Basin. The Neuse River Buffers will apply. NCDOT will comply with the Neuse River Basin Rule. Stream impacts subject to buffers are approximately 170 linear feet. The project planning and design will maintain existing drainage patterns to the extent practicable.

Checklist Item 22: Access Control

The segments of Roxboro Road, Latta Road, and Infinity Road in the study corridor currently have no control of access. With the Selected Alternative, Roxboro Road will have partial control of access with one connection per parcel and full control of access at the designated U-turn located north of the Eno River bridge. No control of access is proposed for Latta Road or Infinity Road.

During all three public meetings the public was provided project design maps and handouts showing movements at the intersection that included U-turns and raised concrete medians. The public was also provided an opportunity to ask questions about the design during the meetings, provide comments, and to select their preferred design. The quadrant intersection design that a majority of the citizens chose, and that NCDOT selected as the Preferred Alternative, was developed from comments received on the change of access at the intersection. Additionally, coordination has, and will, continue with property owners to minimize impacts due to change of access from one point of access at each parcel.

Checklist Item 28: Traffic Noise

The project proposes a two-lane quadrant road on new location northeast of the main intersection and meets the definition of a Type I project in NCDOT's Traffic Noise Policy. During the final design phase, NCDOT will prepare a Traffic Noise Report for the Selected Alternative.

H. Project Commitments

**Intersection Improvements to
U.S. 501 (Roxboro Road)
at SR 1448 (Latta Road) / SR 1639 (Infinity Road)
Durham, Durham County
Federal Project No. NHPP-0501(30)
WBS No. 43610.1.1
STIP No. U-5516**

All commitments developed during the project development and design phase for the project are listed below.

NCDOT Division 5:

NCDOT will coordinate with Durham County Public Schools, emergency providers, and Durham Parks and Recreation Department to notify them of the schedule for potential closures and detour routes during construction activities.

The Durham Parks and Recreation Department concurs that the project's temporary construction easements will not adversely impact West Point on the Eno Park property. The temporary easements do not result in a Section 4(f) use. NCDOT will continue to coordinate with the Durham Parks and Recreation Department, through the project's conclusion, to minimize impacts to West Point on the Eno Park and replace vegetative buffers disturbed during construction activities in the temporary construction easement areas.

The City of Durham owns the traffic camera located in the southeast corner of the US 501/ Latta Road/ Infinity Road intersection. NCDOT will coordinate the utility design and traffic camera relocation with the City of Durham Transportation Department and the Department of Public Works.

The City of Durham will participate in the cost of new sidewalks and multi-use paths where they do not currently exist. NCDOT will prepare a municipal agreement for signature by the City of Durham for the portion of betterment costs prior to project construction.

Environmental Analysis Unit:

NCDOT will prepare an Archaeological Survey for the revised Area of Potential Effects during the final design phase.

NCDOT will prepare a Traffic Noise Report for the Selected Alternative during the final design phase.

The Neuse River Basin Rule applies to this project.

NCDOT will conduct surveys for the NLEB within the study area, and additional coordination with the USFWS, prior to issuing construction authorization.

Hydraulics Unit:

The project will involve construction activities on or adjacent to FEMA regulated streams. NCDOT Division 5 shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within 100-year floodplains were built as shown in the construction plans, both horizontally and vertically.

Categorical Exclusion Approval

STIP Project No.	<u>U-5516</u>
WBS Element	<u>43610.1.1</u>
Federal Project No.	<u>NHPP-0501(30)</u>

Prepared By:

10/29/2018	<i>Mark L. Reep</i>
<u>Date</u>	<u>Mark L .Reep, PE, Project Manager HDR Engineering, Inc. of the Carolinas</u>

Prepared For: Division of Highways
North Carolina Department of Transportation

Reviewed By:

10/29/2018	<i>Ahmad Al-Sharawneh</i>
<u>Date</u>	<u>Ahmad Al-Sharawneh, Project Manager North Carolina Department of Transportation</u>

NCDOT certifies that the proposed action qualifies as a Type III Categorical Exclusion.

10/30/2018	<i>Bill Zerman</i>
<u>Date</u>	<u>Bill Zerman Jr., PE, Senior Project Manager North Carolina Department of Transportation</u>

10/29/2018	<i>Beverly Robinson</i>
<u>Date</u>	<u>Beverly Robinson, Acting Team Lead North Carolina Department of Transportation</u>

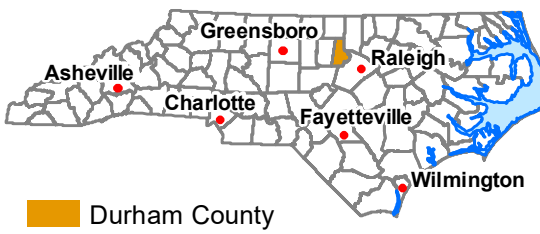
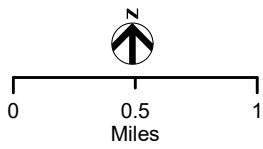
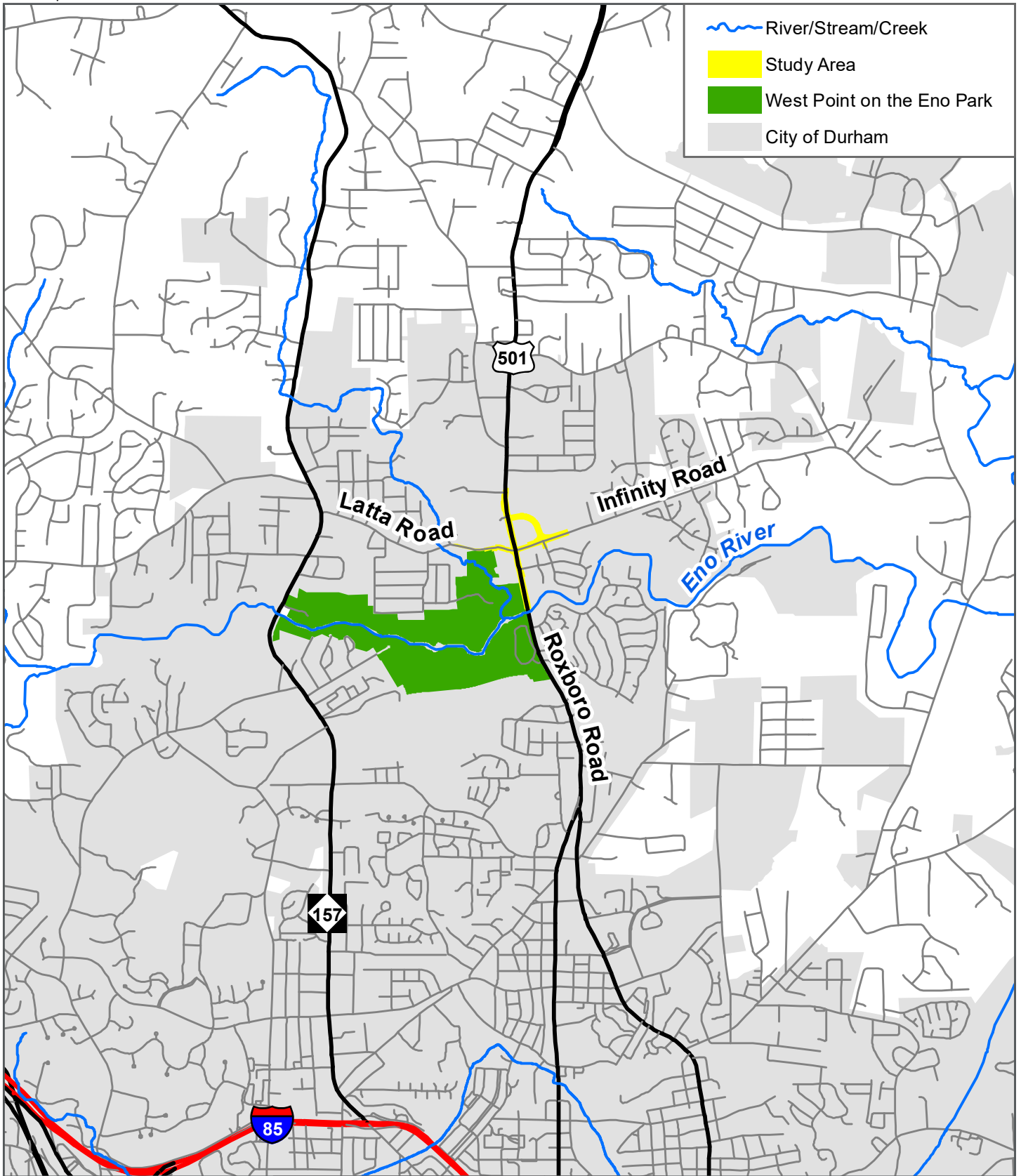
FHWA Approval:

10/30/2018	<i>Edward Dancausse</i>	for
<u>Date</u>	<u>John F. Sullivan, III, PE, Division Administrator Federal Highway Administration</u>	

Additional Reports and Documentation

The technical reports listed below as well as any additional project documentation can be found at NCDOT's Project Management Unit in the project file.

- Natural Resources Technical Report
- Public Involvement activities
- Combined Community Characteristics Report/ Community Impact Assessment
- Archaeological Survey Required Form
- No Historic Properties Present or Affected Form
- GeoEnvironmental Report for Planning



**Figure 1:
PROJECT VICINITY MAP**

STIP U-5516
INTERSECTION IMPROVEMENT AT
US 501 (ROXBORO RD) AND SR 1448
(LATTA RD)/SR 1639 (INFINITY RD)
DURHAM, DURHAM COUNTY

OCTOBER 2018



Durham County

TIP PROJECT U-5516
WBS NO. 43610.1.1

DURHAM COUNTY
US 501 (ROXBORO ROAD) INTERSECTION WITH
SR 1448 (LATA ROAD)/SR 1639
(INFINITY ROAD)
QUADRANT ROAD ALTERNATIVE 3

NOTE:
 Partial Control of Access is defined as one access point per parcel. For properties with large road frontages (for example, 2000 feet or more), an additional access point may be considered. For properties that have access, such as via a side road, access to US-501 may be eliminated. Full Control of Access is proposed at all U-Turn bulb locations.

UTILITY INFORMATION:
 To provide greater visual clarity, existing and proposed utilities are not shown on these maps or on other displays. The utility information shown on these maps is limited to locations of major existing and potential utility easements. The designs shown on these maps including utility easements, are preliminary and subject to change.

PI STA 5+69.05 PI STA 7+105.31
 Δs = 70°44'47" LT Δs = 70°47'35" RT
 D = 0'47'36.5" D = 0'47'36.5"
 L = 156.95' L = 156.35'
 T = 127.58' T = 128.00'
 R = 7.220000' R = 7.220000'
 SE = 80' SE = 80'
 DS = 50 MPH DS = 50 MPH



WEST POINT ON THE ENO PARK

BEGIN TIP PROJECT U-5516
-L- POT STA. 5+10.00

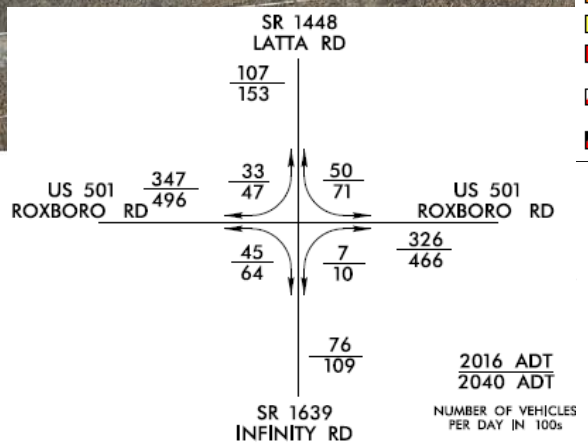
MATCHLINE -Y2- STA. 21+60.00
SEE ROLLFLOT

INSET A



LEGEND

- BUILDINGS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED EASEMENTS
- STREAMS AND PONDS
- EXISTING ROADWAY
- EXISTING ROADWAY TO BE REMOVED
- EXISTING ROADWAY TO BE RESURFACED
- PROPOSED ROADWAY
- PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER, EXPRESSWAY GUTTER
- EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
- EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
- PROPOSED CONTROL OF ACCESS
- PROPOSED PARTIAL CONTROL OF ACCESS
- PROPERTY LINES
- PRESENT ADT
- FUTURE ADT
- EXISTING TRAFFIC SIGNAL
- PROPOSED TRAFFIC SIGNAL

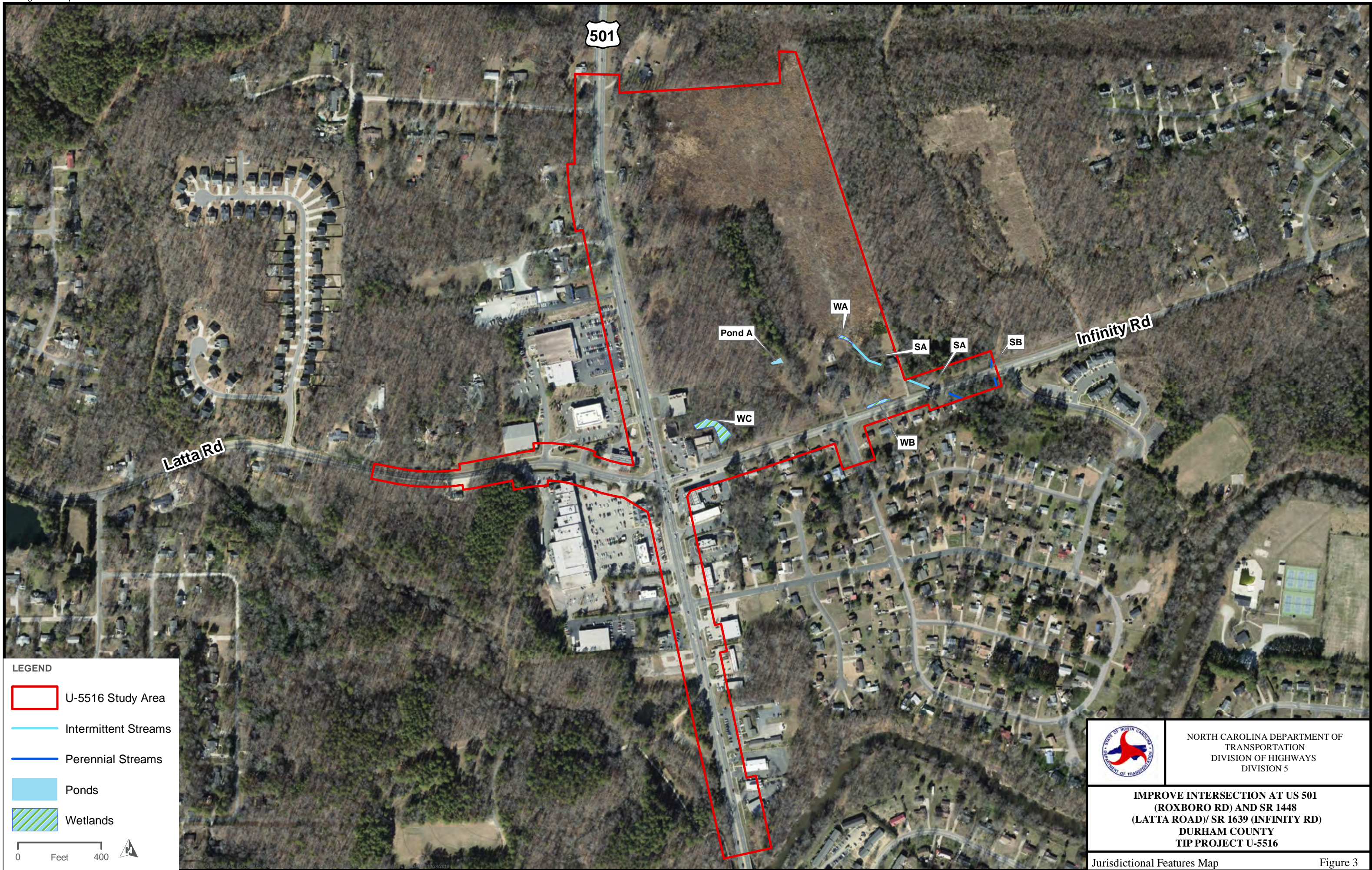


PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

NOT TO SCALE

Figure 2:
 Quadrant Road Alternative 3



Correspondence

Hannah, Cheryl

From: Halubka, Nathaniel D <Nate.Halubka@ncparks.gov>
Sent: Monday, May 01, 2017 12:04 PM
To: Hannah, Cheryl
Subject: FW: West Point on the Eno Funding

Cheryl,

Below is the boundary map for the Eno River City Park. It looks like your development will occur north of the 6f. The link below is the direction that we're going with a searchable LWCF and PARTF GIS.

<http://ncsu.maps.arcgis.com/apps/webappviewer/index.html?id=704d2c306e5147cebdea8f563a98f082>

Thank you,

Nate Halubka

Manager, Grants and Outreach Program

NC Division of Parks and Recreation

Ph: (919)-707-9338

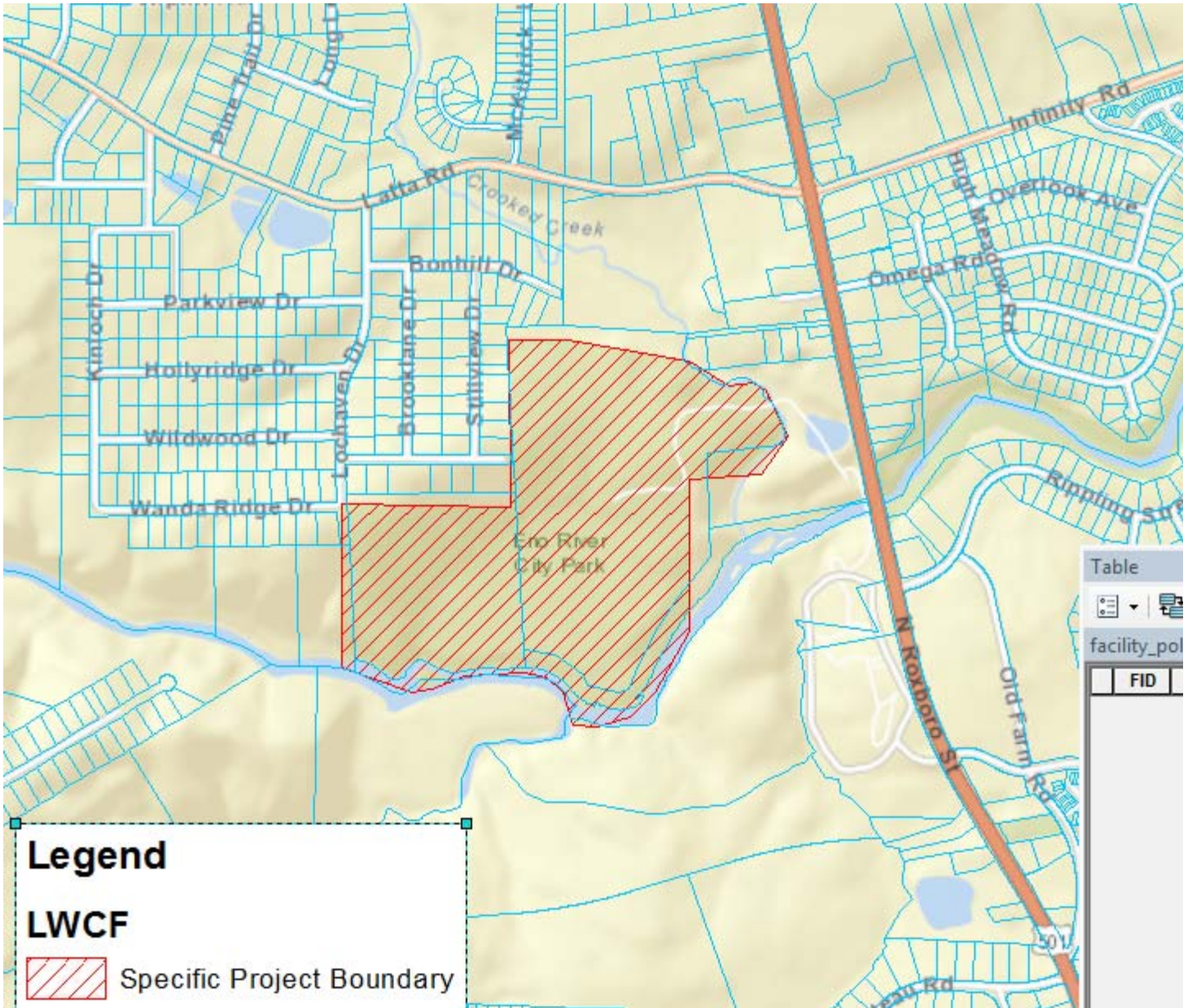
NORTH CAROLINA STATE PARKS
Naturally Wonderful

E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Amoroso, John
Sent: Friday, April 28, 2017 12:00 PM
To: Halubka, Nathaniel D
Subject: RE: West Point on the Eno Funding

If the mapping is at all correct and the project stays close to the intersection, this should not impact the LWCF land. N. Roxboro Rd is 450' away and the Latta/Infinity intersection is 1150' away.

See if the files have a map that looks like this.



John

From: Halubka, Nathaniel D
Sent: Friday, April 28, 2017 11:33 AM
To: Hannah, Cheryl <Cheryl.Hannah@hdrinc.com>
Cc: Amoroso, John <john.amoroso@ncparks.gov>
Subject: RE: West Point on the Eno Funding

Cheryl,
Do you have any coordinates or site maps that would indicate the meets and bounds of your study area?

Thank you,
Nate Halubka
Manager, Grants and Outreach Program
NC Division of Parks and Recreation
Ph: (919)-707-9338



E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Hannah, Cheryl [<mailto:Cheryl.Hannah@hdrinc.com>]
Sent: Monday, April 24, 2017 12:11 PM
To: Halubka, Nathaniel D <Nate.Halubka@ncparks.gov>
Subject: West Point on the Eno Funding

Mr. Halubka,

I am a transportation planner with an engineering firm in Raleigh. One of my projects is to develop an environmental document for intersection improvements at Roxboro, Latta and Infinity Roads in the City of Durham. The NCDOT project is referred to as STIP U-5516.

These improvements are in the vicinity of West Point on the Eno Park. The park is described in earlier environmental documents for the project as being a Section 4(f) and 6(f) resource.

I am asking for your assistance in confirming that the City of Durham received Land and Water Conservation Fund (LWCF) grants for portions (or all) of West Point on the Eno Park. For documentation, I will need a recorded boundary map (on record with the National Park Service) showing the precise limits of the LWCF project boundary. This will help quantify any impacts to the park for proposed temporary easements during construction.

I reached out to the City and, as yet, have not received any documentation. Your office may have an easier time finding the files.

Thanks,

Cheryl Hannah
Senior Transportation Planner



HDR | ICA
5121 Kingdom Way, Suite 100
Raleigh, NC 27606
T 919.851.6066 **D** 919.900.1604
Cheryl.Hannah@hdrinc.com

hdrinc.com/follow-us



October 19, 2018

Ahmad Al-Sharawneh
Project Manager
NCDOT Project Management Unit
NC Department of Transportation
Division of Highways
1595 Mail Service Center
Raleigh, NC 27699-1595

Subject: Section 4(f) Compliance for City of Durham Project U-5516 US 501 (Roxboro Road)/
SR 1448 (Latta Road) /SR 1639 (Infinity Road) intersection improvements

Dear Mr. Al-Sharawneh,

The City of Durham has been working in coordination with the North Carolina Department of Transportation (NCDOT) on Project U-5516 which proposes improve the US 501 (Roxboro Road)/ SR 1448 (Latta Road) /SR 1639 (Infinity Road) intersection. The West Point on the Eno Park owned by the City of Durham is located along this corridor on the west side of Roxboro Road.

West Point on the Eno is an eligible Section 4(f) resource under the US Department of Transportation Act of 1966. The City of Durham has reviewed the three (3) Alternatives understands that the impacts that each Alternative includes. The impacts are for temporary construction easements during the construction of the project and there are no other impacts to the Park. Regardless of which Alternative is selected, the proposed project will include a 10-foot multi-use path north of the entrance on Roxboro Road, which will provide benefit to the Park.

The proposed temporary occupancy of the West Point on the Eno Park land is anticipated to be minimal based on the following:

- The duration of occupancy will be temporary
- The scope of work is minor
- There are no anticipated permanent adverse physical impacts nor anticipated interferences with the activities or purpose of West Point on the Eno Park
- The land being used is anticipated to be fully restored

As the City of Durham Parks and Recreation Director, I concur that the proposed temporary construction easement of park land does not constitute a "use" within the meaning of Section 4(f) as it meets the requirements of 23 CFR 771.135(p)(7) as detailed above. The proposed project will also improve the bicycle and pedestrian infrastructure adjacent to the West Point on the Eno Park which further minimizes potential concerns about the proposed project.

If you have any questions or require additional information regarding this issue, please contact Lindsay Smart at (919) 560-4355 or Lindsay.Smart@DurhamNC.gov.

Sincerely,

A handwritten signature in cursive script that reads "Rhonda B. Parker".

Rhonda B. Parker
Parks and Recreation Director



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

December 4, 2014

MEMORANDUM

To: Deanna Riffey, NCDOT Natural Environment Unit

From: Rob Ridings, NC Division of Water Resources, Transportation Permitting Unit

Subject: Drainage Features at the Intersection of US 501, Latta Rd & Infinity Rd, Durham County. NCDOT Project U-5516.

Determination for Applicability to the, Neuse Buffer Rules (15A NCAC 2B.0233)

Dear Ms. Riffey:

This memo is to confirm your on-site determination of the above-mentioned features for applicability to the Neuse Buffer Rules. The drainage features are approximated on your map sent to DWR on December 2, 2014 as "Features 1 and 2" and "Stream A"

NCDWR has confirmed the following:

Feature 1: NOT Subject to Neuse Buffer Rules.

Feature 2: NOT Subject to Neuse Buffer Rules.

Stream A: Intermittent; Subject to Neuse Buffer Rules

Please note that no other features at this project were evaluated at this time. Also this letter determines the buffer rules applicability of these features within the NCDOT project limits, **only**.

This letter only addresses the applicability to the buffer rules and does not approve any activity within the buffer, Waters of the United States, or Waters of the State. Any impacts to wetlands, streams and buffers must comply with the Neuse Buffer Rules, 404/401 regulations, water supply regulations (15A NCAC 2B .0216), and any other required federal, state and local regulations. Please be aware that even if no direct impacts are proposed to the protected buffers, sheet flow of all new stormwater runoff as per 15A NCAC 2B.0233 is required.

The owner (or future owners) or permittee should notify NCDWR (and other relevant agencies) of this determination in any future correspondences concerning this property and/or project. This on-site determination shall expire five (5) years from the date of this letter.

Landowners or affected parties that dispute a determination made by NCDWR or Delegated Local Authority that a surface water exists and that it is subject to the mitigation rules may request a determination by the Director. A request for a determination by the Director shall be referred to the Director in writing c/o Amy Chapman, NCDWR Wetlands/401 Unit, 1650 Mail Service Center, Raleigh, NC 27699-1650.

Individuals that dispute a determination by NCDWR or Delegated Local Authority that "exempts" a surface water from the mitigation rules may ask for an adjudicatory hearing. You may obtain the petition

form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice and the date the affected party (including downstream and adjacent landowners) is notified of this decision. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. John Evans, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This determination is final and binding unless you ask for a hearing within 60 days.

If you have any additional questions or require additional information please call Rob Ridings at 919-707-8786.

CC (electronic): Beth Reed, PWS, Kimley-Horn