

**NC 268 (ELKIN HIGHWAY)
MULTI-LANES EAST OF NC 18 TO SR 1966 (AIRPORT
ROAD). WIDEN TO MULTI-LANES.
WILKES COUNTY**

**NC DOT S.T.I.P. PROJECT NO. R-2603
FEDERAL AID PROJECT NO. STP-0268(15)
WBS NO. 36001.1.2**

**ADMINISTRATIVE ACTION
ENVIRONMENTAL ASSESSMENT**

**SUBMITTED BY
US DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**

SUBMITTED PURSUANT TO 42 USC 4332(2)(C)

1/24/2011 
Date of Approval for Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation

1-23-11 
Date of Approval for John F. Sullivan, III, P.E.
Division Administrator
Federal Highway Administration

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JANUARY 2011

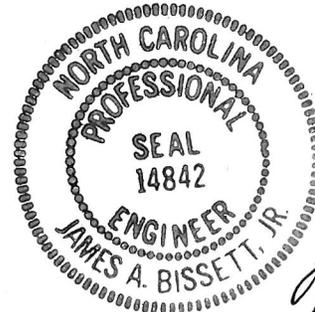
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PROJECT COMMITMENTS

NC 268 (ELKIN HIGHWAY) MULTI-LANES EAST OF NC 18 TO SR 1966 (AIRPORT ROAD). WIDEN TO MULTI-LANES. WILKES COUNTY

S.T.I.P. PROJECT NO. R-2603

**FEDERAL AID PROJECT NO. STP-0268(15)
WBS ELEMENT NO. 36001.1.2**

ROADWAY DESIGN UNIT, HYDRAULIC DESIGN AND DIVISION 11

Design Standards in Sensitive Watersheds will be adhered to for sediment and erosion control procedures.

The Roadway Design Unit will coordinate with the North Carolina Wildlife Resources Commission to determine the status of the potential WRC public access project at the NC 268 crossing of Mulberry Creek.

HYDRAULIC DESIGN

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP (dated 6/5/08), or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

DIVISION 11

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division 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 the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

The NC Wildlife Resources Commission has requested an in-water work moratorium from May 1 to July 15 for Mulberry Creek and its unnamed tributary to prevent off site sedimentation from impacting smallmouth bass fish eggs and fry downstream. NCDOT will determine if it is feasible to adhere to this moratorium during construction.

STRUCTURES

Bicycle safe bridge railing will be provided on the NC 268 eastbound bridge over Mulberry Creek.

ROADWAY DESIGN, PROGRAM DEVELOPMENT

The construction of a sidewalk where included in the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the Town of North Wilkesboro. As outlined in NCDOT's *Pedestrian Policy Guidelines* dated October 1, 2000, NCDOT will share 80 percent of the construction cost of the sidewalk. The Town of North Wilkesboro will be responsible for the remaining 20 percent of construction costs.

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EXECUTIVE SUMMARY

NC 268 (ELKIN HIGHWAY) MULTI-LANES EAST OF NC 18 TO SR 1966 (AIRPORT ROAD). WIDEN TO MULTI-LANES. WILKES COUNTY

S.T.I.P. PROJECT NO. R-2603 FEDERAL AID PROJECT NO. STP-0268(15) WBS No. 36001.1.2

1. TYPE OF ACTION

This is a Federal Highway Administration (FHWA) Administrative Action Environmental Assessment.

2. DESCRIPTION OF THE PROPOSED ACTION

The North Carolina Department of Transportation (NCDOT) in coordination with the Federal Highway Administration (FHWA) propose to widen NC 268 (Elkin Highway) in Wilkes County from its existing multi-lane section east of NC 18 to SR 1966 (Airport Road). The project vicinity is shown in Figure 1. The proposed project includes upgrades to the existing multi-lane section, from NC 18 to the vicinity of Shaver Street. Upgrades would include improvements to the existing roadway, such as resurfacing, replacement of drainage structures, and replacement of curb and gutter. The total length of the proposed project is approximately 3.6 miles. The project is included in the NCDOT *2009-2015 State Transportation Improvement Program* as Project Number R-2603.

3. SUMMARY OF PURPOSE AND NEED

The purpose of the proposed action is to: Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and, provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

Improvements to NC 268 are needed to provide adequate capacity for existing and future traffic. The target, or measurable goal, for level of service (LOS) on NC 268 where widening is proposed is LOS D or better in 2035 build conditions.

NCDOT estimates the existing multi-lane section on NC 268 was constructed approximately 40 years ago. A majority of the existing curb and gutter shows substantial distress, with the eastbound roadway edge being in the worst overall condition. A majority of the catch basins inspected have loose brick and non-standard grates.

4. ALTERNATIVES CONSIDERED

The No Build Alternative, the Best-Fit Widening Alternative, and five typical sections were evaluated as part of the detailed study alternatives.

The No Build Alternative does not meet the purpose of and need for the proposed project.

The Best-Fit Widening Alternative includes infrastructure upgrades to the existing multi-lane section and widens NC 268 to both sides of the existing roadway. The proposed alignment varies between symmetrical widening and widening north or south of the existing roadway as needed to minimize impacts to land use and important environmental features. The Best-Fit Widening Alternative incorporates the following typical sections:

- Typical Section 1: Upgrades to existing multi-lane section
- Typical Section 2: Five-lane curb and gutter
- Typical Section 3: Four-lane divided with curb and gutter
- Typical Section 4: Four-lane divided with shoulder
- Typical Section 4a: Bridge over Mulberry Creek

5. NCDOT RECOMMENDED ALTERNATIVE

NCDOT recommends the Best-Fit Widening Alternative for Project R-2603. The Best-Fit Widening Alternative improves traffic flow and level of service, and reduces conflicts between through and local traffic on NC 268 in the project area. The Recommended Alternative provides infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street. The Best-Fit Widening Alternative is the most practicable alternative because it meets the purpose of and need for the proposed project and minimizes impacts to the human and natural environments. The Best-Fit Widening Alternative is consistent with the various uses and transportation plans that exist for the area.

6. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project was evaluated for impacts to the human and natural environment. Potential impacts are summarized in Table S-1. It is expected that construction of the Best-Fit Widening Alternative will result in impacts to approximately 1,703 linear feet of streams and approximately 0.4 acre of wetlands. No impacts to historic resources, archaeological resources, or threatened and endangered species are anticipated. Implementation of the Best-Fit Widening Alternative is expected to result in the relocation of seven residences, including two minority residences, and four businesses. Four residences and one business are expected to experience traffic noise impacts as a result of the proposed project.

7. PERMITS REQUIRED

The proposed action will require permits pursuant to Section 401 and 404 of the Clean Water Act of 1977, as amended. A 401 Water Quality Certification from the Water Quality Section of the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Quality, will be needed for fill activity in adjacent wetlands and surface waters. A Section 404 permit issued by the US Army Corps of Engineers will be required to discharge and place fill materials into wetlands.

Table S-1. Summary of R-2603 Project Impacts

Evaluation Factors	Best-Fit Widening Alternative
Project Length (miles)	3.6 (2.9 widening)
Interchanges	0
Railroad Crossings	0
Schools	0
Recreational Areas/Parks	0
Churches	0
Cemeteries	0
Utilities	Relocate 1,200 ft. water line, 1,200 ft. sewer line, utility poles
Historic Properties	0
Archaeological Sites	0
Federal Listed Threatened/Endangered Species Present in Corridor	0
State Listed Threatened or Endangered Species	0
100 Year Floodplain and Floodway Crossings	3
Forest Impacts (acres)	12.87
Prime and Unique Farmlands ¹ (acres)	46.7
Potential Residential Relocations	7
Potential Business Relocations	4
Hazardous Material Sites	3
Delineated Wetland Impacts (no. crossings/acres)	2 / 0.4
Delineated Stream Impacts (no. crossings/linear feet)	9/ 1,703
Riparian Buffer Impacts	0
Water Supply Watersheds/Critical Area	0
Wildlife Refuges and Gamelands	0
On-site Restoration Potential	Yes (S1, S3, S4, S10)
Impacted Noise Receptor	5 (4 residences, 1 business)
Section 4(f) Impacts	0
Federal Lands	0
Low Income Population Impacts	0
Minority Population Impacts	2 Minority Relocations ²
Significant Natural Heritage Program Areas	0
Existing and Proposed Greenway Crossings	0
Right of Way Cost Estimate	\$4,755,000
Construction and Utility Relocations Cost Estimates	\$20,071,121

¹ Impacts to Prime Farmland from NRCS Form AD 1006 calculated based on study area. AD 1006 Impacts to Statewide and Local Important Farmland total 143.3 acres.

² Minority relocations are included in the seven Potential Residential Relocations.

8. OTHER HIGHWAY AND NON-HIGHWAY ACTIONS

Eight other projects in the NCDOT *2009-2015 State Transportation Improvement Program (STIP)* are located in the general vicinity of the proposed action. Five of these projects are rural roadway projects (R-616, R-2602, R-3309, R-4744, and R-3405). One project is an urban roadway project (U-5000). Two projects are bridge replacement projects (B-3714, B-4676). With the exception of B-4676 and R-3405, all of the projects are either complete or currently unfunded. Project B-4676 replaces Bridge Number 29 on SR 1001 over Cub Creek. Right of way is scheduled for 2013 and construction is scheduled for 2014. Project R-3405 widens 3.5 miles of NC 18 to three lanes from SR 1002 to SR 1717. Right of way is scheduled for 2012 and construction is scheduled for 2013.

9. COORDINATION

Federal, state, and local agencies were consulted at the outset of project studies.

A NEPA/Section 404 Merger Screening Meeting was conducted on May 21, 2007. Representatives from NCDOT, FHWA, USACE, and DWQ discussed the project and potential environmental impacts. It was determined the project should be placed in the Merger Process because of the potential for stream and wetland impacts.

A project scoping letter announcing the start of R-2603 project development, environmental and engineering studies was mailed out to federal, state and local agencies in June 2007. The letter requested recipients supply information that would be helpful in evaluating potential environmental impacts of the project and invited them to a project scoping meeting held in August 2007. Representatives from NCDOT, FHWA, USACE and the High Country Rural Planning Organization attended the project scoping meeting.

On November 18, 2008, the NEPA/Section 404 Merger Team reached concurrence on Purpose and Need and the Study Area Defined (Concurrence Point 1) and Detailed Study Alternatives Carried Forward (Concurrence Point 2). On July 22, 2010, the NEPA/Section 404 Merger Team reached concurrence on Bridging and Alignment Review (Concurrence Point 2A). NEPA/Section 404 Merger coordination will continue throughout project studies. NEPA/Section 404 Merger forms and meeting minutes are included in Appendix C.

In addition to agency coordination, a public participation program was also implemented during the project development. This program included a project newsletter (March 2008), a local officials meeting (April 2008) and a citizens informational workshop (April 2008).

9. CONTACT INFORMATION

Additional information regarding the proposed project and Environmental Assessment can be obtained by contacting the following:

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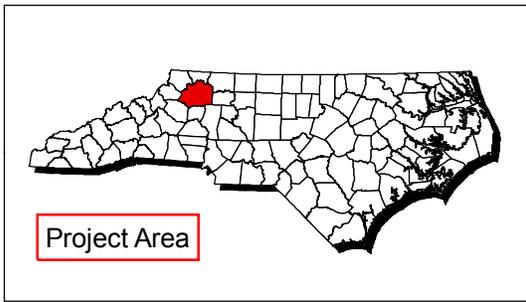
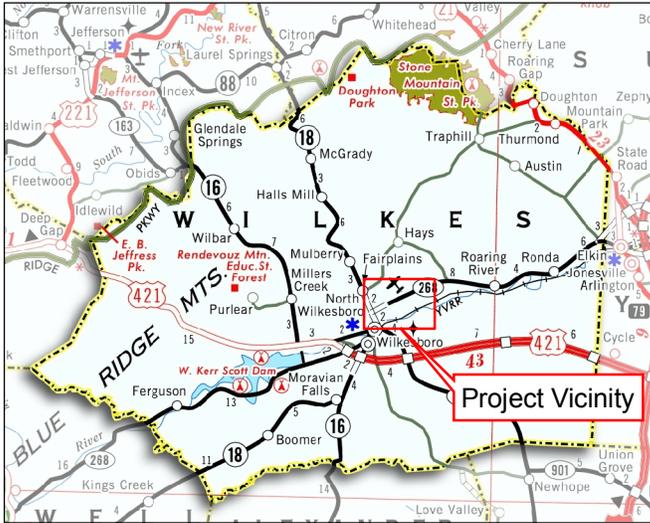


Figure S-1

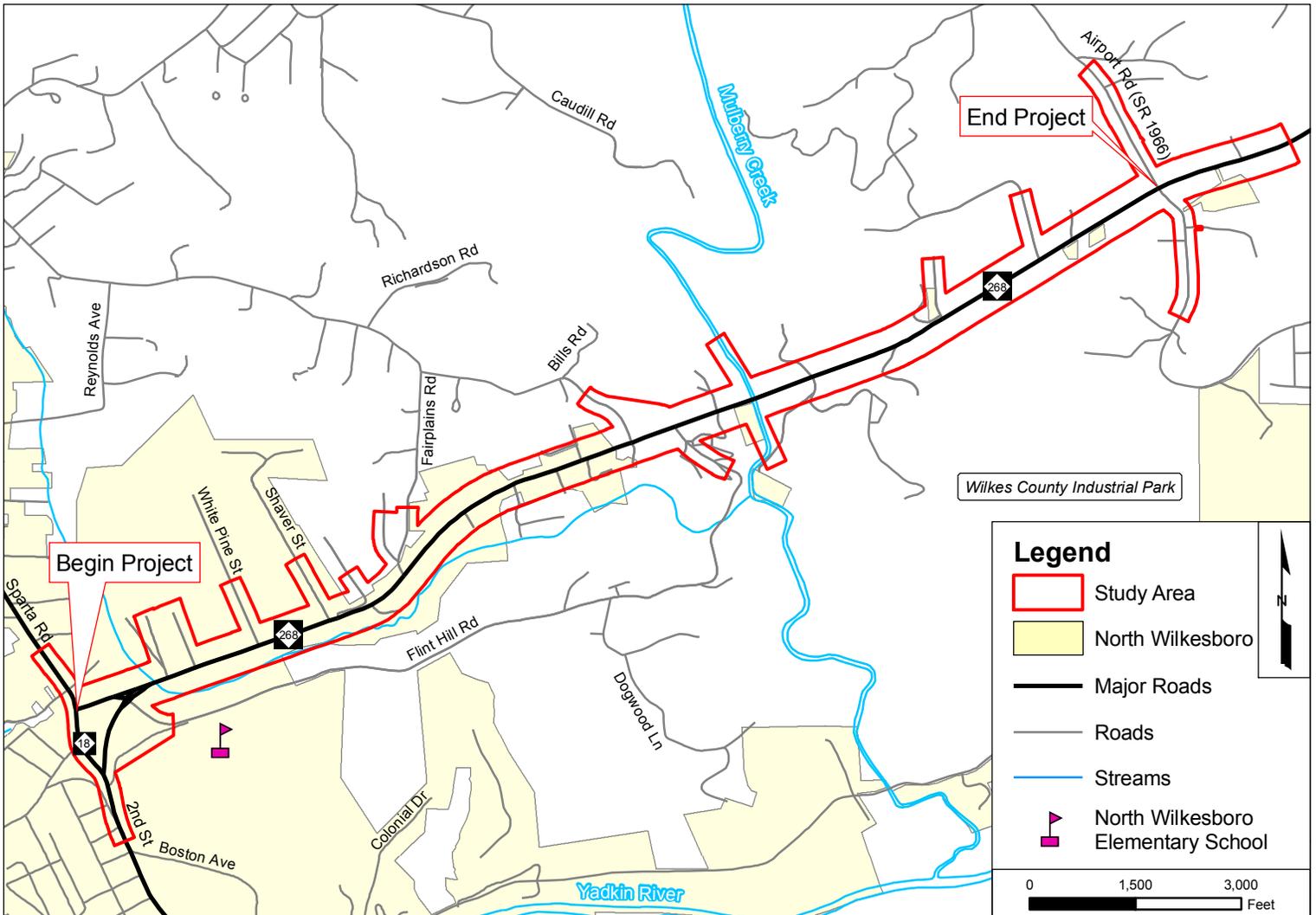
Project Vicinity

R-2603

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to SR 1966 (Airport Road)
Wilkes County, North Carolina



North Carolina
Department of Transportation



1.0 DESCRIPTION OF PROPOSED ACTION

1.1 GENERAL DESCRIPTION

The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) propose the widening of NC 268 (Elkin Highway) in Wilkes County from its existing multi-lane section east of NC 18 to SR 1966 (Airport Road). NCDOT and FHWA propose to upgrade the existing multi-lane section, from NC 18 to the vicinity of Shaver Street. Upgrades would include improvements to the existing roadway, such as resurfacing, replacement of drainage structures, and replacement of curb and gutter. Proposed infrastructure upgrades for the existing multi-lane section of NC 268 will meet current drainage structure standards.



NC 268 and NC 18 (Sparta Road)

A portion of the proposed project is located within North Wilkesboro town limits. The project vicinity is shown in Figure 1. The total length of the proposed project is approximately 3.6 miles. The project length includes the proposed infrastructure upgrades for the existing multi-lane section of NC 268 west of Shaver Street (0.7 mile), approximately 2.6 miles of widening from Shaver Street to Airport Road, and a transition back to the existing roadway 0.3 mile east of Airport Road.

1.2 HISTORICAL RESUME AND PROJECT STATUS

North Wilkesboro and Wilkesboro have a combined Thoroughfare Plan that was adopted in 1993. In the Plan, NC 268 is classified as an Existing Major Thoroughfare. The Plan recommends that NC 268 be widened to four lanes from east of NC 18 to SR 1966. The Wilkes County 2001 Growth Management Plan includes R-2603 in their transportation recommendations as a means to help meet their infrastructure objectives.

A NEPA/Section 404 Merger Screening Meeting was conducted on May 21, 2007. Representatives from NCDOT, Federal Highway Administration (FHWA), U.S. Army Corps of Engineers (USACE), and N.C. Division of Water Quality (DWQ) discussed the project and potential environmental impacts. It was determined the project should be placed in the Merger Process because of the potential for stream and wetland impacts.

On August 15, 2007, a project scoping meeting was held to exchange information about the project. Representatives from NCDOT, FHWA, USACE and the High Country Rural Planning Organization attended the meeting.

A Local Officials Meeting and Citizens Informational Workshop (CIW) was held April 14, 2008. Comments at the CIW were generally supportive of the project, although a few citizens expressed concerns about impacts to their properties. The Town of North Wilkesboro expressed support for the project and expressed interest in a cost-share arrangement with NCDOT for the inclusion of sidewalks in the proposed project. A sidewalk cost estimate was provided to the Town of North Wilkesboro on June

2, 2010 for a total of \$50,309. The Town reaffirmed their interest in sidewalk cost-sharing in a letter dated August 17, 2010 (see Appendix B).

On November 18, 2008, the NEPA/Section 404 Merger Team reached concurrence on Purpose and Need and the Study Area Defined (Concurrence Point 1) and Detailed Study Alternatives Carried Forward (Concurrence Point 2). A detailed description of the purpose of and need for the proposed project is included in Chapter 2. A description of the detailed study alternatives is included in Section 3.2. The project study area is shown in Figure 1. Copies of the signed Concurrence Point 1 and Concurrence Point 2 forms are included in Appendix C.

On July 22, 2010 the NEPA/Section 404 Merger Team reached concurrence on Bridging and Alignment Review (Concurrence Point 2A). A detailed description of the proposed improvements is included in Chapter 4. Information on structures is located in Section 4.9. A copy of the signed Concurrence Point 2A form is included in Appendix C.

The proposed project is included in the NCDOT *2009-2015 State Transportation Improvement Program* (STIP) as Project Number R-2603. Right of way acquisition is anticipated in 2013. Construction is expected to begin in 2015.

1.3 COST ESTIMATES

The NCDOT 2009-2015 STIP estimated project costs total \$15,300,000. This includes \$3,400,000 for right of way acquisition and \$11,900,000 for construction. Revised estimates were prepared by NCDOT in 2010. Current estimated costs include \$4,755,000 for right of way acquisition and \$20,071,121 for construction and utilities relocation, for a total estimated project cost of \$24,826,121.

2.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

2.1 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed action is to:

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and
- Provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

2.2 NEED FOR THE PROPOSED ACTION

Improvements to NC 268 are needed to provide adequate capacity for existing and future traffic. The 2007 average annual daily traffic on NC 268 between NC 18 and Airport Road varies between 7,700 vehicles per day (vpd) and 18,200 vpd. By the year 2035, traffic along this section of NC 268 is expected to increase to between 11,100 vpd and 26,400 vpd. Level of service (LOS) analysis for NC 268 shows that the two-lane section (from Shaver Street to Airport Road) is expected to operate at either LOS E or LOS F in 2035.

By 2035, nearly all of the signalized and unsignalized intersections in the project area are expected to operate worse than LOS D in either the AM peak, PM peak, or both AM and PM peak conditions. LOS for existing (2007) AM and PM peak conditions at both signalized and unsignalized intersections show that 13 out of 27 intersections studied operate below LOS D. In 2035, the number of intersections operating below a LOS D in either the AM peak, PM peak, or both AM and PM peak conditions increases to 23, with all but one of those intersections operating at LOS F at one or more approaches in AM or PM peak conditions. For many of the side streets operating at LOS F, relatively low volumes and short queue lengths were found. Signalization can not be recommended for these locations based on level of service alone. Rather, future signal warrant analyses would be needed, which are typically performed at future stages of the process. Further, if a divided section is chosen, right-in/right-out intersections will be even less likely to warrant signalization.

Due to the land uses in the project area, which include manufacturing, retail, and residential, the area is traveled by both passenger vehicles and large trucks. Expansion of the Wilkes County Industrial Park near the eastern end of the project area is expected to increase traffic along NC 268. Widening the existing two-lane section of NC 268 in the project area would improve access into North Wilkesboro from the northeast and improve travel conditions for local and through traffic.

The highest percentage of vehicle collisions in the project area over a recent three-year period were rear-end collisions, which is often indicative of congested traffic conditions. Widening NC 268 will not only improve traffic flow, but should also reduce the risk of rear-end collisions, as a secondary benefit.

NC DOT estimates the existing multi-lane section on NC 268 was constructed approximately 40 years ago. A large majority of the existing curb and gutter shows substantial distress (spalling, total deterioration), with the eastbound roadway edge being in the worst overall condition. A majority of the catch basins inspected have loose brick and non-standard or obsolete grates/frames. All existing pipe under the curb and gutter appears to be corrugated metal, near the end of its service life and requires

replacement. The existing roadway requires milling & resurfacing over the entire section length. Milling is required due to previous overlay being extended into the curb and gutter section.

2.3 DESCRIPTION OF EXISTING CONDITIONS

The following sections summarize current conditions and characteristics of NC 268 within the project area. The project area begins at the signalized intersection of NC 268 and NC 18 and ends just beyond Airport Road. The study area is a 600-foot wide corridor along NC 268 and extends 1,000 feet down the intersecting streets. The study area includes the 2nd Street ramp connection between NC 18 and NC 268. At the eastern end of the proposed project, the study area extends 2,000 feet in each direction at the intersection of Airport Road and 2,000 feet east on NC 268 from its intersection with Airport Road. The project study area is shown in Figure 1 and in Figures 2A through 2C.

2.3.1 FUNCTIONAL CLASSIFICATION

NC 268 is classified as a Major Collector in the North Carolina Functional Classification System outside of the North Wilkesboro Urban Area (east of Mulberry Creek). The functional classification of NC 268 is minor arterial inside the North Wilkesboro Urban Area (from NC 18 to Mulberry Creek).

2.3.2 PHYSICAL DESCRIPTION OF EXISTING FACILITY

2.3.2.1 ROADWAY CROSS SECTION AND SPEED LIMIT

From the western end of the project area, NC 268 extends from its intersection with NC 18 in a northeasterly direction. NC 268 begins as a four-lane undivided facility with curb and gutter. The posted speed is 35 miles per hour (mph). The road transitions to five lanes with curb and gutter just past the 2nd Street ramp merge near School Bus Drive (see Figure 2A). The five-lane curb and gutter section transitions to a two-lane facility with shoulders at Shaver Street and has a posted speed of 45 mph. The two-lane cross section continues to Airport Road. The posted speed limit increases to 55 mph near the crossing of Mulberry Creek. There are no existing sidewalks along NC 268 in the project area.

2.3.2.2 HORIZONTAL AND VERTICAL ALIGNMENT

Roadway curvature is minimal. Two long-arching reverse curves are located between Legion Road and Sidney Avenue. A third arching curve is located between Skyview Drive and Vista Lane. There is a crest vertical curve at the intersection of Airport Road, which limits sight distance at this location. There are areas of steep topography adjacent to the westbound lane in the vicinity of Legion Road, Woodside Drive and Vista Lane.



NC 268 East of Woodside Drive

2.3.2.3 RIGHT OF WAY AND ACCESS CONTROL

The existing right of way on NC 268 is maintained 45 feet, symmetrical about the centerline. A 100-foot right of way was acquired in 1940 with signed agreements. However, these agreements were never recorded. There is currently no control of access on NC 268 in the project area.

2.3.2.4 INTERSECTIONS/INTERCHANGES

There are 17 intersections along NC 268 in the project area. Three of the intersections are signalized. All of the intersections are at grade.

The intersection of NC 268 and NC 18 at the western end of the project area is signalized. NC 18 is known as Sparta Road to the north of the NC 268 intersection and 2nd Street to the south of the NC 268 intersection. Additional access to NC 268 from NC 18 is provided approximately 1,000 feet south of the signalized intersection via a ramp from 2nd Street (see Figure 2A). Traffic entering NC 268 from the signalized intersection with NC 18/Sparta Road joins traffic entering NC 268 from the 2nd Street ramp at a signalized Y intersection. The intersection of NC 268 and Airport Road at the eastern of the project area is also a signalized intersection. Airport Road becomes Liberty Grove Church Road to the south of the intersection

The remaining 14 intersections are stop-sign controlled. They are, from west to east: School Bus Drive, Temple Street, White Pine Street, Shaver Street, Legion Road, Fairplains Road, Sidney Avenue, Pebble Street, Aaron Call Road, Flint Hill Road, Skyview Drive, Woodside Drive, Vista Lane, and Beaumont Poplar Street.

2.3.2.5 RAILROAD CROSSINGS

There are no railroads in the project study area.

2.3.2.6 STRUCTURES

There are five major stream crossings in the project area. Table 4-1 in Section 4.9 presents information about each structure.

2.3.2.7 BICYCLE AND PEDESTRIAN FACILITIES/GREENWAYS

There are no existing bicycle and pedestrian facilities or greenways along NC 268 in the project area. NC 268 is not part of a designated bicycle route. The Town of North Wilkesboro includes pedestrian facilities along NC 268 in its list of recommendations. Bicycle and pedestrian facilities are discussed in detail in Section 4.10.

2.3.2.8 UTILITIES

Utilities in the project area include television cables, telecommunication cables, aerial power lines, natural gas mains, sewer mains, a cell tower and an elevated water storage tank. A transmission line crosses NC 268 near the west side of the bridge over Mulberry Creek.

2.3.3 SCHOOL BUS USAGE

According to the Wilkes County School District Transportation Department, there are approximately eight school bus routes that utilize NC 268 between NC 18 and Airport Road. North Wilkesboro Elementary School is located in the vicinity of the western end of the proposed project. The Wilkes County School Bus Maintenance Center is on School Bus Drive.

2.3.4 TRAFFIC CARRYING CAPACITY

Traffic along NC 268 was analyzed to determine if there is sufficient roadway capacity to meet current (2007) and future (2035) travel demand.

2.3.4.1 EXISTING TRAFFIC VOLUMES

The 2007 AADT on NC 268 between NC 18 and Airport Road varies between 7,700 vehicles per day (vpd) and 18,200 vpd. Truck traffic along NC 268 between NC 18 and Airport Road is between five percent (three percent duals, two percent truck-tractor semi-trailer [TTST]) and six percent (four percent duals, two percent TTST), rising to eight percent (five percent duals, three percent TTST) east of Airport Road. Truck traffic along NC 18 varies from four percent (three percent duals, one percent TTST) to seven percent (four percent duals, three percent TTST). Figure 3 shows existing annual average daily traffic (AADT) along area roadways.

2.3.4.2 EXISTING LEVELS OF SERVICE

Level of Service (LOS) is a qualitative measure that characterizes the operational conditions within a traffic stream and the perception of traffic service by motorists and passengers. The Transportation Research Board's *Highway Capacity Manual* generally describes these conditions in terms of such factors as speed and travel times, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels are used, ranging from A to F. For roadways, LOS A indicates no congestion, while LOS F represents more traffic demand than road capacity and extreme delays. The engineering profession generally accepts LOS D as a minimally acceptable operating condition for signalized intersections.

Table 2-1 shows the existing level of service for mainline segments. Information is presented for segments within the project study area. Mainline segments that fall within the section of NC 268 proposed for widening are highlighted.

Table 2-1. 2007 Mainline Levels of Service

Segment	2007 LOS
NC 18 from NC 268 to Waugh Street	D
NC 268 from NC 18 to School Bus Drive	E
NC 268 from School Bus Drive to Shaver Street	B
NC 268 from Shaver Street to Aaron Call Road	E
NC 268 from Aaron Call Road to SR 1966 (Airport Road)	E
NC 268 from Airport Road to Eastern Study Limits	D
Airport Road from NC 268 to northern study limits	D

Table 2-2 shows the LOS for existing AM and PM peak conditions at signalized intersections. Information presented in Table 2-2 includes signalized intersections within the project study area. Signalized intersections that lie within the section of NC 268 proposed for widening are highlighted. Two intersections operate below LOS D during the AM and/or PM peak: NC 18/NC 268 and NC 18/Finley Avenue.

Table 2-2. 2007 Existing Delay (seconds) and Level of Service, Signalized Intersections

Intersection	2007 Delay and LOS	
	AM	PM
NC 18 and NC 268	28.2 (C)	59.6 (E)
NC 18 and Finley Avenue	122.7 (F)	65.0 (E)
NC 18/268 and Second Street Ramp	13.6 (B)	10.6 (B)
Second Street Ramp and Flint Hill Road	17.9 (B)	23.8 (C)
NC 268 and Airport Road	52.1 (D)	30.5 (C)

Table 2-3 shows the LOS for existing AM and PM peak conditions at unsignalized intersections. Unsignalized intersections that lie within the section of NC 268 proposed for widening are highlighted. Overall, eleven intersections operate below LOS D, four of them in both the AM and PM peak conditions. The greatest delay is 92.5 seconds, which occurs in the AM peak condition at NC 18 and Waugh Street (eastbound approach). The greatest delay within the existing two-lane section of NC 268 is 47.2 seconds. This occurs at Fairplains Road in the AM peak condition (southbound approach)

Table 2-3. 2007 Existing Delay (seconds) and Level of Service, Unsignalized Intersections

Intersection	Approach*	2007 Delay and LOS	
		AM	PM
NC 18 and Waugh Street	EB	92.5 (F)	53.3 (F)
	WB	69.2 (F)	65.5 (F)
	NB	0.3 (A)	0.2 (A)
	SB	8.9 (A)	10.0 (A)
Finley Avenue and Reynolds Road	WB	0.5 (A)	0.7 (A)
	NB	24.3 (C)	28.4 (D)
Finley Avenue and Pine Avenue	SB	30.7 (D)	29.3 (D)
	EB	0.4 (A)	0.4 (A)
Finley Avenue and Hill Street	SB	31.3 (D)	29.8 (D)
	WB	0.4 (A)	0.4 (A)
NC 18 and Reynolds Road	EB	66.1 (F)	41.5 (E)
	NB	0.8 (A)	0.2 (A)
NC 18 and North Street	EB	52.8 (F)	42.2 (E)
	NB	0.3 (A)	0.3 (A)
NC 268 and School Bus Drive	SB	43.4 (E)	26.1 (D)
	EB	12.3 (B)	9.9 (A)

Table 2-3. 2007 Existing Delay (seconds) and Level of Service, Unsignalized Intersections *continued*

Intersection	Approach*	2007 Delay and LOS	
		AM	PM
NC 268 and Temple Street	SB	37.8 (E)	21.7 (C)
	EB	12.6 (B)	9.8 (A)
NC 268 and White Pine Street	SB	33.4 (D)	15.7 (C)
	EB	13.5 (B)	9.4 (A)
NC 268 and Shaver Street	SB	38.1 (E)	24.5 (C)
	EB	12.1 (B)	9.0 (A)
NC 268 and Legion Road	SB	40.4 (E)	35.8 (E)
	EB	0.5 (A)	0.5 (A)
NC 268 and Fairplains Road	SB	47.2 (E)	33.4 (D)
	EB	11.2 (B)	9.1 (A)
Fairplains Rd and Gaddy Road	EB	9.2 (A)	9.1 (A)
	NB	1.4 (A)	0.8 (A)
NC 268 and Sidney Avenue	NB	32.2 (D)	37.4 (E)
	WB	0.4 (A)	0.5 (A)
NC 268 and Pebble Street	SB	37.4 (E)	32.2 (D)
	EB	0.5 (A)	0.4 (A)
NC 268 and Aaron Call Road	SB	31.2 (D)	23.6 (C)
	EB	1.5 (A)	2.0 (A)
NC 268 and Flint Hill Road	NB	35.2 (E)	34.5 (D)
	WB	0.3 (A)	0.5 (A)
NC 268 and Skyview Road	NB	28.9 (D)	33.4 (D)
	WB	0.3 (A)	0.5 (A)
NC 268 and Woodside Road	NB	28.5 (D)	32.9 (D)
	WB	0.3 (A)	0.5 (A)
NC 268 and Vista Lane	SB	31.1 (D)	27.9 (D)
	EB	0.5 (A)	0.4 (A)
NC 268 and Beaumont-Poplar Road	SB	27.4 (D)	24.5 (C)
	EB	0.6 (A)	0.8 (A)
Airport Road and Morrisfield Lane	WB	13.1 (B)	13.7 (B)
	SB	0.3 (A)	0.4 (A)

* NB- Northbound, SB- Southbound, EB- Eastbound, WB- Westbound

2.3.4.3 FUTURE TRAFFIC VOLUMES

By the year 2035, traffic along NC 268 in the study area is expected to increase to between 11,100 vpd and 26,400 vpd. The percent of truck traffic is expected to range from five percent (three percent duals, two percent TTST) near NC 18 and eight percent (five percent duals, three percent TTST) just east of Airport Road. Figure 4 shows 2035 annual average daily traffic (AADT) along area roadways.

2.3.4.4 FUTURE LEVELS OF SERVICE

Year 2035 level of service analyses were conducted for the mainline, signalized intersections and unsignalized intersections within the project study area. Mainline segments and intersections that lie within the section of NC 268 proposed for widening are highlighted in the tables below. The target, or measurable goal, for level of service on NC 268 where widening is proposed is D or better in 2035 build conditions.

Table 2-4 shows the levels of service for both the No Build and Build scenarios in the year 2035 along segments of NC 18, NC 268, and SR 1966. The Build scenario shows substantial improvement in LOS for the portion of NC 268 that would be widened from two lanes to multi-lanes. None of the segments experience worse levels of service under the Build scenario.

Table 2-4. 2035 No Build versus Build Mainline Levels of Service

Segment	2035 No Build LOS	2035 Build LOS
NC 18 from NC 268 to Waugh Street	F	F
NC 268 from NC 18 to School Bus Drive	F	F
NC 268 from School Bus Drive to Shaver Street	B	B
NC 268 from Shaver Street to Aaron Call Road	F	C
NC 268 from Aaron Call Road to SR 1966 (Airport Road)	E	B
NC 268 from Airport Road to Eastern Study Limits	E	A
Airport Road from NC 268 to northern study limits	D	D

Intersections were analyzed to determine the 2035 LOS for the Build and No Build scenarios. The Build scenario was first evaluated with no improvements other than widening NC 268 to a multi-lane facility. For intersections not operating at LOS D or better, additional improvements were tested to attempt to bring the intersection to LOS D operation. For intersections operating at acceptable levels of service, additional analysis was done to test storage lengths.

Table 2-5 shows LOS and delay in the year 2035 for signalized intersections for the No Build and Build scenarios. Three of the five intersections analyzed are predicted to operate below LOS D in either AM peak, PM peak, or both conditions in the No Build scenario. Analysis of the 2035 Build condition indicates that all of the signalized intersections would operate at a LOS D or better.

Table 2-5. 2035 Delay (seconds) and Levels of Service, Signalized Intersections

Intersection	2035 No Build LOS		2035 Build LOS (with improvements)	
	AM	PM	AM	PM
NC 18 and NC 268	83.5 (F)	173.3 (F)	27.4 (C)	26.7 (C)
NC 18 and Finley Avenue	241.5 (F)	198 (F)	35.5 (D)	35.3 (D)
NC 18/268 and Second Street Ramp	42.6 (D)	17.7 (B)	26.8 (C)	14.5 (B)
Second Street Ramp and Flint Hill Road	20.8 (C)	29.0 (C)	21.6 (C)	31.9 (C)
NC 268 and Airport Road	156.3 (F)	97.3 (F)	36.6 (D)	35.9 (D)

Table 2-6 shows that for the 2035 No Build scenario, the majority of unsignalized intersections are predicted to operate below LOS D, with motorists experiencing long delays. For most of the intersections, the 2035 Build scenario includes improvements in the form of the addition of exclusive turn lanes, which results in improved LOS and/or decreased delay times. At this time, signalization does not appear to be warranted in 2035 at any of the unsignalized intersections due to the relatively low volumes on the side streets. For some intersections, the left turn movement delays appear to increase under the 2035 Build scenario. This is because the existing configuration is a shared thru-left (and the 2035 No Build delay is an average for the thru-left), while the delay shown in the 2035 Build scenario for the eastbound improvements is for an exclusive left turn.

Table 2-6. 2035 Delay (seconds) and Levels of Service, Unsignalized Intersections

Intersection	Approach ¹	2035 No Build Delay and LOS		2035 Build Delay and LOS (with improvements)	
		AM	PM	AM	PM
NC 18 and Waugh Street	EB	* (F)	* (F)	* (F)	* (F)
	WB	* (F)	* (F)	* (F)	* (F)
	NB	0.5 (A)	0.3 (A)	14.8 (B)	10.9 (B)
	SB	9.2 (A)	12.5 (B)	10.0 (B)	13.2 (B)
Finley Avenue and Reynolds Road	NB	50.1 (F)	62.0 (F)	96.0 (F) - left	99.5 (F) - left
				17.5 (C) - right	21.7 (C) - right
	WB	0.8 (A)	1.1 (A)	0.8 (A)	1.1 (A)
Finley Avenue and Pine Avenue	SB	61.8 (F)	58.3 (F)	92.4 (F) - left	92.0 (F) - left
				21.2 (C) - right	17.0 (C) - right
	EB	0.6 (A)	0.6 (A)	0.6 (A)	0.6 (A)

Table 2-6. 2035 Delay (seconds) and Levels of Service, Unsignalized Intersections *continued*

Intersection	Approach ¹	2035 No Build Delay and LOS		2035 Build Delay and LOS (with improvements)	
		AM	PM	AM	PM
Finley Ave. and Hill Street	SB	57.6 (F)	54.4 (F)	85.7 (F) – left	85.4 (F) - left
				20.6 (C) - right	16.7 (C) - right
	WB	0.6 (A)	0.6 (A)	0.6 (A)	0.6 (A)
NC 18/268 and Reynolds Road	EB	* (F)	199.5 (F)	* (F) – left	* (F) – left
				13.9 (B) – right	11.5 (B) - right
	NB	0.7 (A)	0.3 (A)	0.7 (A)	0.3 (A)
NC 18/268 and North Street	EB	* (F)	198.6 (F)	* (F) – left	* (F) – left
				14.1 (B) - right	12.1 (B) - right
	NB	0.7 (A)	0.5 (A)	0.7 (A)	0.5 (A)
NC 268 and School Bus Drive	SB	144.9 (F)	155.2 (F)	239.8 (F) – left	211.1 (F) - left
				18.1 (C) – right	14.1 (B) - right
	EB	15.9 (C)	12.0 (B)	15.9 (C)	12.0 (B)
NC 268 and Temple Street	SB	216.7 (F)	163.3 (F)	* (F) – left	* (F) - left
				20.8 (C) – right	14.9 (B)
	EB	19.5 (C)	11.9 (B)	19.5 (C)	11.9 (B)
NC 268 and White Pine Street	SB	* (F)	36.0 (E)	* (F) – left	123.8 (F) - left
				22.0 (C) – right	15.4 (C) - right
	EB	25.0 (D)	11.1 (B)	25.0 (D)	11.1 (B)
NC 268 and Shaver Street	SB	* (F)	204.2 (F)	* (F) – left	222.9 (F) - left
				20.2 (C) – right	12.8 (B) - right
	EB	18.6 (C)	10.3 (B)	18.6 (C)	10.3 (B)
NC 268 and Legion Road	SB	204.1 (F)	171.5 (F)	160 (F) – left	73.5 (F) - left
				18.1 (C) – right	11.9 (B) - right
	EB	1.3 (A)	0.1 (A)	15.9 (C)	10.2 (B)
NC 268 and Fairplains Road	SB	* (F)	* (F)	* (F) – left	145.8 (F) - left
				24.0 (C) – right	12.3 (B) - right
	EB	16.2 (C)	10.8 (B)	16.4 (C)	10.9 (B)
Fairplains Road and Gaddy Road	EB	9.6 (A)	9.4 (A)	N/A	N/A
	NB	1.0 (A)	0.6 (A)	N/A	N/A

Table 2-6. 2035 Delay (seconds) and Levels of Service, Unsignalized Intersections *continued*

Intersection	Approach ¹	2035 No Build Delay and LOS		2035 Build Delay and LOS (with improvements)	
		AM	PM	AM	PM
NC 268 and Sidney Avenue	NB	130.5 (F)	161.2 (F)	63.3 (F) – left	130.4 (F) - left
				11.7 (B) – right	17.2 (C) - right
	WB	9.9 (A)	1.1 (A)	10.0 (A)	15.1 (C)
NC 268 and Pebble Street	SB	161.2 (F)	130.5 (F)	130.4 (F) – left	63.3 (F) - left
				17.2 (C) – right	11.7 (B) - right
	EB	1.1 (A)	9.9 (A)	15.1 (C)	10.0 (A)
NC 268 and Aaron Call Road	SB	* (F)	235 (F)	197.4 (F) – left	96.1 (F) - left
				20.1 (C) – right	12.0 (B) - right
	EB	4.3 (A)	10.3 (B)	15.4 (C)	10.3 (B)
NC 268 and Flint Hill Road	NB	239.6 (F)	183.2 (F)	67.2 (F) – left	126.5 (F) - left
				11.5 (B) – right	16.6 (C) - right
	WB	2.4 (A)	1.0 (A)	9.8 (A)	14.5 (B)
NC 268 and Skyview Road.	NB	104.9 (F)	128.9 (F)	57.9 (F) – left	114.1 (F) - left
				11.6 (B) – right	16.8 (C) - right
	WB	2.5 (A)	1.0 (A)	9.8 (A)	14.4 (B)
NC 268 and Woodside Road	NB	101.8 (F)	124.9 (F)	55.2 (F) – left	106.8 (F) - left
				11.5 (B) – right	16.5 (C) - right
	WB	2.5 (A)	1.0 (A)	9.8 (A)	14.4 (B)
NC 268 and Vista Lane	SB	115.9 (F)	98.7 (F)	103.2 (F) – left	54.4 (F) - left
				16.4 (C) – right	11.4 (B) - right
	EB	0.9 (A)	2.6 (A)	14.2 (B)	9.8 (A)
NC 268 and Beaumont-Poplar Road	SB	109.6 (F)	79.5 (F)	102.6 (F) – left	57.2 (F) - left
				16.9 (C) – right	11.4 (B) - right
	EB - left	1.5 (A)	5.6 (A)	14.2 (B)	9.8 (A)
Airport Road and Morrisfield Lane	WB	17.3 (C)	18.5 (C)	N/A	N/A
	SB	0.3 (A)	0.4 (A)	N/A	N/A

¹ NB- Northbound, SB- Southbound, EB- Eastbound, WB- Westbound

* Delay greater than 250 seconds

2.3.5 ACCIDENT DATA

Traffic crash data for the three year period between August 1, 2007 and July 31, 2010 shows 76 crashes along NC 268 between NC 18 and Airport Road (SR 1966). Of the 76 crashes, the main accident type experienced was rear end, slow or stop (rear end collisions with one vehicle traveling at a slower speed, slowing down or stopping in traffic), with approximately 37 percent of all collisions classified in this category. Possible contributors to these crashes include the occurrence of multiple access points along the roadway and a mix of trip purposes (i.e. through traffic mixed with local traffic). Potential solutions to these issues include combining access points along NC 268 by providing shared access and providing signage to direct traffic, such as “Through traffic use left lane.”

Approximately 12 percent of the crashes along NC 268 were attributed to collisions between vehicles and fixed objects, making it the second most prevalent accident type. Inadequate shoulder clearance is a possible contributor to fixed object collisions. Increasing the shoulder clearance is a potential solution to these types of crashes.

The highest hourly occurrence of collisions was from 12:00 p.m. to 12:59 p.m. and 5:00 p.m. to 5:59 p.m. (approximately 12 percent each of total). Additionally, more collisions occurred during weekdays than during weekends. This comparison suggests that collisions are more likely to occur during the weekday lunch hour and the 5:00 p.m. weekday commute trip than at other times.

Table 2-7 provides a comparison of accident rates, categorized by fatal accidents, non-fatal injury accidents, and night and wet road accidents. The NCDOT classifies the segment of NC 268 within the project limits as a two-lane rural North Carolina route. Table 2-7 includes the rural crash rates for NC 268 in comparison to statewide and critical rates. The accident rates are summarized as accidents per 100 million vehicle-miles (MVM) driven. When compared to Statewide and Critical rates, crash rates along NC 268 in the project area are lower.

Table 2-7. Crash Rates for NC 268 from NC 18 to Airport Road

Crash Type	Crashes	Crash Rate ¹	Statewide Rate ²	Critical Rate ³
Total	76	147.60	167.65	198.30
Fatal	0	0	1.98	6.18
Non-Fatal Injury	31	60.21	63.02	82.19
Night	18	34.96	56.33	74.51
Wet	10	19.42	25.46	38.00

¹ Crashes per 100 million vehicle miles

² 2005-2007 statewide crash rate for rural North Carolina routes

³ Based on the statewide crash rate (95 percent level of confidence)

2.4 TRANSPORTATION AND LAND USE PLANS

2.4.1 NORTH CAROLINA TRANSPORTATION IMPROVEMENT PROGRAM

The NCDOT *2009-2015 State Transportation Improvement Program (STIP)* lists the following projects in the vicinity of R-2603. With the exception of B-4676 and R-3405, all of the projects are either complete or currently unfunded.

- B-3714: Replace Bridge Number 83 on NC 268 over Mulberry Creek. Construction is complete.
- R-616: Widen 3.6 miles of NC 18-268 (Wilkesboro-North Wilkesboro Bypass) to multi-lanes, from NC 18 to US 421 with part on new location. Right of way and construction are unfunded.
- R-2602: Upgrade 13.2 miles of NC 268 from US 321 in Caldwell County to SR 1162 in Wilkes County. Right of way and construction are unfunded.
- R-3309: Upgrade 13.5 miles of NC 268 from SR 1966 in Wilkes County to the Elkin Bypass. Right of way and construction are unfunded.
- R-4744: Construct a 6.4-mile connector between US 421 and NC 268 in Wilkes County, including North Wilkesboro and Wilkesboro, with part on new location. Right of way and construction are unfunded.
- U-5000: Widen 1.3 miles of US 421 Business to multi-lanes, from the US 421 Bypass to SR 1500 in Wilkes County, including North Wilkesboro. Right of way and construction are unfunded.
- B-4676: Replace Bridge Number 29 on SR 1001 over Cub Creek. Right of way is scheduled for 2013 and construction is scheduled for 2014.
- R-3405: Widen 3.5 miles of NC 18 to three lanes from SR 1002 to SR 1717. Right of way is scheduled for 2012 and construction is scheduled for 2013.

2.4.2 THOROUGHFARE PLANS

Wilkes County does not have an adopted Thoroughfare Plan or Comprehensive Transportation Plan. North Wilkesboro and Wilkesboro have a combined Thoroughfare Plan that was adopted in 1993. In the Plan, NC 268 is classified as an Existing Major Thoroughfare. The plan recommends that NC 268 be widened to four lanes from east of NC 18 to SR 1966.

2.4.3 LAND USE PLANS

Wilkes County and the Town of North Wilkesboro have plans in place to guide development. These are summarized below.

2.4.3.1 WILKES COUNTY

Wilkes County Growth Management Plan, December 2001. The purpose of this plan is to provide a guide for development for the public and private sectors. The plan incorporates land use, infrastructure, and environmental protection into recommendations on development patterns and policies.

Wilkes County Zoning Ordinance, 1977 and 2003 Zoning Map. According to the County's *Growth Management Plan*, the current Wilkes County Zoning Ordinance was adopted in 1977. There are six areas within the county that have zoning. These areas are predominantly residential and are not within the project area.

Wilkes County Watershed Protection Ordinance, September 16, 1997. This ordinance was adopted to protect water supply watersheds in the county. It provides limitations on development as well as allowed uses for each watershed type.

2.4.3.2 TOWN OF NORTH WILKESBORO

Town of North Wilkesboro 25-Year Comprehensive Plan, December 2006. This plan is the Town of North Wilkesboro's first comprehensive attempt at recording a growth management strategy. According to the plan, more traditional industries are moving out of the area due to regional and national employment trends. The plan is intended to assist the Town in transitioning to a new type of economy that will include new types of residential, commercial, and industrial land uses.

Zoning Ordinance, October 2007 and 2010 Zoning Map. Zoning is regulated by the Town both within Town limits and within the Town's extraterritorial jurisdiction (ETJ), and is guided by the objectives of the Town's comprehensive plan. Highway Business zoning is predominant along NC 268 and Low Density Residential is common farther away from the road. A Light Industrial Area is prominent north of NC 268 near NC 18. A General Industrial Area is located south of NC 268 west of Beaumont Poplar Street.

Comprehensive Pedestrian Plan, September 2010. The Town of North Wilkesboro developed this plan to assist in the expansion, promotion and funding of safe and efficient pedestrian facilities, programs and facilities throughout the Town. The plan includes recommendations for the inclusion of sidewalks within the Town's limits along NC 268.

2.5 BENEFITS OF PROPOSED ACTION

Several benefits would be realized if the proposed action is implemented:

- The proposed project would improve driving conditions along the existing multi-lane section of NC 268 between NC 18 and Shaver Street where infrastructure upgrades are proposed.
- Additional travel lanes would improve traffic flow and level of service along the project.
- Sidewalks and bicycle accommodations would enhance pedestrian safety.
- Minor travel time savings would result from reduced congestion.
- In addition to improving traffic flow, widening NC 268 could also reduce the risk of rear-end collisions as a secondary benefit. Conflicts would be reduced because thru-traffic would not need to stop for turning vehicles. The four-lane median-divided section would improve safety and traffic flow by reducing turning movement conflicts.
- The proposed project is compatible with local plans and existing land uses in the area.
- Improvements to NC 268, combined with future NCDOT projects that provide improved access to US 421 and the Wilkes Industrial Park, would provide infrastructure support for the region.

3.0 ALTERNATIVES

3.1 PRELIMINARY STUDY ALTERNATIVES

3.1.1 ALTERNATIVE MODES OF TRANSPORTATION

3.1.1.1 TRAVEL DEMAND MANAGEMENT

Travel Demand Management (TDM) involves programs to encourage travelers to use alternatives to driving alone, and, in some cases, to encourage travelers not to travel at all. A major purpose of TDM is to reduce the number of single-occupant vehicles on the road during peak travel periods when roads are most congested. These programs can include van/car pools, flexible work schedules, telecommuting programs, and park & ride lots.

The proposed project does not include any TDM measures, most of which must be undertaken at the local government level or by the private sector. TDM improvements alone would not increase capacity or improve levels of service enough to prevent failing traffic conditions in the future design year 2035. Therefore, the TDM Alternative does not meet Purpose and Need and is eliminated from further consideration.

3.1.1.2 MASS TRANSIT

Public transportation in Wilkes County is provided by Wilkes Transportation Authority (WTA), a private, non-profit agency. The agency operates one fixed route and on-demand services. The fixed route, called the Wilkes Express Shuttle System, is a 22-mile route that serves the majority of the Town of North Wilkesboro. The shuttle route does not include NC 268 but does extend along NC 18.

The project study area is not currently served by mass transit. A mass transit alternative would only minimally address the current traffic flow problems in the area. In addition, it would not be a reasonable alternative because of dispersed residential areas and employment centers, and diversity of trip origins and destinations. The Mass Transit Alternative does not meet Purpose and Need and is eliminated from further consideration.

3.1.2 TRANSPORTATION SYSTEMS MANAGEMENT

Transportation Systems Management (TSM) involves modest physical and operational improvements to enhance traffic performance, safety, and management. These measures can include ramp lengthening, construction of auxiliary lanes, constructing new interchanges, improved signing and lane markings, and improved shoulder illumination. TSM improvements alone would not increase capacity or improve levels of service enough to prevent failing traffic conditions in the future design year 2035. Therefore, the TSM Alternative does not meet Purpose and Need and is eliminated from further consideration.

3.1.3 NEW LOCATION ALTERNATIVE

A new location roadway would involve construction on an alignment other than the existing NC 268 alignment. Existing NC 268 provides access to commercial and residential areas, which are major traffic destinations. Construction of a new roadway would not serve these areas; therefore, high volumes of traffic would still utilize existing NC 268.

Given the amount of development along and near NC 268, constructing a new facility would not be a cost-effective means of improving traffic flow or level of service. In addition, environmental impacts would be considerably greater if a new facility were constructed. For these reasons, a new location alternative does not meet Purpose and Need and is eliminated from further consideration.

3.2 DETAILED STUDY ALTERNATIVES

On November 18, 2008 the NEPA/Section 404 Merger Team concurred on the Alternatives to Study in Detail: The No Build Alternative, the Best-Fit Widening Alternative, and five typical sections were evaluated as part of the detailed study alternatives.

3.2.1 NO BUILD ALTERNATIVE

Under the No Build Alternative, no transportation improvements would be made on NC 268 in the project area beyond routine maintenance. This alternative assumes that future travel demand would be placed on existing roads. The No Build Alternative does not improve traffic flow and level of service, or reduce conflicts between through and local traffic on NC 268 in the project area. The No Build Alternative does not provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street. The No Build Alternative does not meet Purpose and Need and has been removed from further consideration.

3.2.2 BEST-FIT WIDENING OF EXISTING ROAD

The Best-Fit Widening Alternative includes infrastructure upgrades to the existing multi-lane section and widens NC 268 to both sides of the existing roadway. The proposed alignment varies between symmetrical widening and widening north or south of the existing roadway as needed to minimize impacts to land use and important environmental features. Factors considered during the development of the Best-Fit Widening Alternative include minimizing impacts to resources, providing a roadway that is constructible, providing cross roads, streams, and utility easements at reasonable angles, and consideration of local officials' desires for pedestrian and bicycle facilities. Design criteria used for the Best-Fit Widening Alternative along NC 268 include rolling terrain, variable proposed right of way, and classification of NC 268 as a Major Collector. Other design criteria vary according to the typical section option, as described in Section 3.2.3.

3.2.3 TYPICAL SECTIONS

Four roadway typical sections and a bridge typical section for the proposed project are summarized below and shown in Figures 5 through 7.

3.2.3.1 TYPICAL SECTION 1 (UPGRADES TO EXISTING MULTI-LANE SECTION)

The existing five-lane curb and gutter section (Figure 5) from NC 18 to Shaver Street was evaluated for needed upgrades. This section of NC 268 is shown in Figure 2A. Upgrades would include improvements to the existing roadway, such as resurfacing, replacement of drainage structures, and replacement of curb and gutter. A sidewalk is proposed on the south side of NC 268.

3.2.3.2 TYPICAL SECTION 2 (FIVE-LANE WITH CURB AND GUTTER)

Typical Section 2 (Figure 5) is proposed to begin at the end of the existing five-lane section at Shaver Street. Widening would begin with a center turn lane and transition to a four-lane divided roadway past Legion Road, in the vicinity of Fairplains Road. The existing typical section between Shaver Street and Fairplains Road is a two-lane shoulder facility. This section of NC 268 is shown in Figure 2A. Typical Section 2 includes:

1. Design speed of 40 miles per hour (mph); posted speed of 35 mph.
2. No control of access proposed.
3. Side slopes of 2:1 (maximum) for all cut or fill heights.
4. Outside lanes are 14 feet to accommodate bicycles.
5. Sidewalks on both sides.
6. Roadway Width: Maximum of 100 feet comprised of 12-foot inside lanes and 14-foot outside lanes (to accommodate bicycles), a variable-width center turn-lane/median, 2.5-foot curb and gutter, and ten-foot berms with five-foot sidewalks on both sides of the road.

3.2.3.3 TYPICAL SECTION 3 (FOUR-LANE DIVIDED WITH CURB AND GUTTER)

Typical Section 3 (Figure 6) is proposed to begin in the vicinity of Fairplains Road and extend to the Town of North Wilkesboro limits near Aaron Call Road. The existing typical section between Fairplains Road and Aaron Call Road is a two-lane shoulder facility. This section of NC 268 is shown in Figures 2A and 2B. Typical Section 3 includes:

1. Design speed of 50 mph; posted speed of 45 mph.
2. No control of access proposed.
3. Side slopes of 2:1 (maximum) for all cut or fill heights.
4. Outside lanes are 14 feet to accommodate bicycles.
5. Sidewalks on both sides.
6. Roadway Width: 100 feet comprised of 14-foot outside lanes (to accommodate bicycles) and 12-foot inside lanes, a 23-foot raised grass median containing 1.5-foot curb and gutter, ten-foot berm with sidewalks on both sides, and 2.5-foot curb and gutter.

3.2.3.4 TYPICAL SECTION 4 (FOUR-LANE DIVIDED WITH SHOULDERS)

Typical Section 4 (Figure 6) would begin outside of the Town of North Wilkesboro limits near Aaron Call Road and extend to Airport Road (SR 1966), with the exception of the crossing over Mulberry Creek. The existing typical section between Aaron Call Road and Airport Road is a two-lane shoulder facility. This section of NC 268 is shown in Figures 2B and 2C. Typical Section 4 includes:

1. Design speed of 50 mph; posted speed of 45 mph.
2. No control of access proposed.
3. Side slopes variable from 6:1 to 2:1 for all cut or fill heights.
4. Four-foot paved shoulders to accommodate bicycles.
5. Roadway Width: 87 feet comprised of two 12-foot lanes with eight-foot shoulders (four-foot paved) in each direction, and a 23-foot raised grass median containing 1.5-foot curb and gutter.

3.2.3.5 TYPICAL SECTION 4A (BRIDGE OVER MULBERRY CREEK)

Typical Section 4A (Figure 7) is the proposed typical section for a new bridge crossing over Mulberry Creek (see Figure 2B). The proposed bridge includes two 12-foot travel lanes, a three-foot inside shoulder and an eight-foot outside shoulder for a total of 35 feet of clear roadway width. Bicycle-safe rail is proposed. The hydraulic recommendation for the length of the proposed structure is 150 feet, with a three-span arrangement matching the existing bridge. The existing bridge, built in 2006, would serve westbound traffic and the new structure, which is proposed south of the existing bridge, would serve eastbound traffic. Typical Section 4A matches the typical section of the existing bridge over Mulberry Creek with the exception of the outside shoulder, which has a width of eight feet.

3.3 NCDOT RECOMMENDED ALTERNATIVE

NCDOT recommends the Best-Fit Widening Alternative for STIP Project R-2603. The Best-Fit Widening Alternative improves traffic flow and level of service, and reduces conflicts between through and local traffic on NC 268 in the project area. The Recommended Alternative provides infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street. The Best-Fit Widening Alternative is the most practicable alternative because it meets the purpose of and need for the proposed project and minimizes impacts to the human and natural environments.

4.0 PROPOSED IMPROVEMENTS

4.1 ROADWAY CROSS-SECTION AND ALIGNMENT

Four roadway typical sections and a bridge typical section would be utilized along NC 268 in the project area. Typical sections vary by location and include upgrades to the existing multi-lane section, five-lane curb and gutter, four-lane divided with curb and gutter, four-lane divided with shoulder, and a bridge over Mulberry Creek. The typical sections are described in detail in Section 3.2.3 and shown in Figures 5 through 7.

The existing alignment for NC 268 would not substantially change with the proposed improvements. Widening is proposed on both sides of NC 268, depending on land use and important environmental features, which would result in a best-fit alignment. Additional through lanes, a median and sidewalks would be added asymmetrically along sections of the existing road.

Alignments of four intersecting roads would be modified to further enhance traffic operations along NC 268. The proposed project realigns Aaron Call Road to allow full access at a median break at Flint Hill Road. Flint Hill Road would be shifted slightly to the east to avoid impacts to inhabited properties and maintain traffic during construction. Beaumont Poplar Street would also be shifted slightly to maintain traffic during construction. At the intersection of NC 268 and Airport Road, there would be minor shifts in the alignments of Airport Road and Liberty Grove Church Road as a result of widening at the intersection.

4.2 RIGHT OF WAY AND ACCESS CONTROL

Sufficient right of way and easements will be acquired to accommodate the proposed improvements. A variable right of way width between 100 and 205 feet is proposed.

No driveway control of access is proposed for the project. Along the proposed four-lane median-divided section between Fairplains Road and Airport Road, median openings are proposed at Fairplains Road, the realigned intersection at Aaron Call Road and Flint Hill Road, Vista Lane, Beaumont Poplar Street, and Airport Road. A median break for truck U-turns is proposed approximately 1,000 feet east of Fairplains Road.

4.3 SPEED LIMIT

The proposed speed limit for NC 268 varies according to typical section. For the five-lane curb and gutter upgrade and widening proposed between NC 18 and Fairplains Road (Typical Sections 1 and 2), the posted speed would be 35 mph. For the proposed four-lane divided sections between Fairplains Road and Airport Road (Typical Sections 3, 4, and 4A), the posted speed would be 45 mph.

4.4 DESIGN SPEED

The proposed design speed is 40 mph for the five-lane typical section and 50 mph for proposed four-lane typical sections.

4.5 ANTICIPATED DESIGN EXCEPTIONS

There are no anticipated design exceptions associated with the proposed project.

4.6 INTERSECTIONS/INTERCHANGES

There are no proposed interchanges or proposed new intersections along NC 268. All of the existing intersections would remain at grade. No changes to current signalization are proposed. Changes in access at some intersections would occur as described in Section 4.2.

4.7 SERVICE ROADS

There are no service roads in the project study area. No service roads are proposed as part of the project.

4.8 RAILROAD CROSSINGS

There are no railroads in the project study area.

4.9 STRUCTURES

The preliminary hydraulics analysis for R-2603 determined there are five major stream crossings in the project area. Details related to these crossings are shown in Table 4-1. Major structure locations are shown on Figures 2A through 2C.

Site 1 is an existing seven-foot by seven-foot reinforced concrete box culvert (RCBC) on Long Creek.

Site 2 is a crossing of an unnamed tributary (UT) to Long Creek with an existing five-foot by five-foot RCBC. Sites 1 and 2 are outside of the proposed widening limits.

Site 3 is a crossing of a UT to Long Creek and consists of several different size culverts with varying materials. The upstream section consists of an 84-inch corrugated metal pipe (CMP) and a 108-inch CMP. The section under NC 268 is a seven-foot by seven-foot RCBC. The downstream section is a 108-inch CMP. It is recommended that this structure be replaced with an eight-foot by eight-foot RCBC buried one foot for fish passage.

Site 4 is a crossing of a UT to Long Creek. The existing structure consists of a four-foot by four-foot RCBC. It is recommended that the structure at Site 4 be replaced with a 72-inch reinforced concrete pipe (RCP) buried one foot to allow fish passage.

Site 5 is a crossing of Mulberry Creek. The construction of a new bridge over Mulberry Creek to service eastbound traffic downstream of the existing NC 268 bridge is recommended. The existing three-span structure was built in 2006. It is recommended that the new bridge be 150 feet long and have the same span configuration as the existing bridge.

Proposed infrastructure upgrades for the existing multi-lane section of NC 268 will meet current drainage structure standards.

Table 4-1. Major Drainage Structures Recommendations

Site	Stream, Stream ID (Figure No.)	Existing Structure (length)	Recommended Structure (length)	Total Additional Structure Length	Cost ¹	Stream Type ²	Stream Index No. / Best Use Class.	Avg. Stream Dimensions (ft)	DWQ Rating	Drainage Area (sq. miles)	Stream Impact (linear ft.) ³
1	Long Creek, S1(2a)	7' x 7' RCBC (80 ft.)	Retain	0	N/A	P	12-42-9 C	16x6.5	33	0.49	0
2	UT to Long Creek, S2 (2a)	5' x 5' RCBC (80 ft.)	Retain	0	N/A	I	12-42-9 C	9x6	23.5	0.27	0
3	UT to Long Creek S4 (2a)	84" CMP/ 108" CMP/ 7'x7' RCBC/ 108" CMP (315 ft.)	Replace with 8'X8' RCBC (360 ft.)	45 ft.	\$169,832	P	12-42-9 C	7x5.5	32	0.41	99.34
4	UT to Long Creek S10 (2b)	4' x 4' RCBC (65 ft.)	Replace with 72" RCP (130 ft.)	65 ft.	\$27,400	I	12-42-9 C	4x8	20	0.11	116.29
5	Mulberry Creek (2b)	150' Bridge	Add Bridge Downstream with Matching Span Configuration of Existing Bridge	150 ft.	\$540,250	P	12-42 C	60x9.5	40	44.1	0

NOTES: Major drainage structures are defined as 72 inches in diameter or greater. Final structure sizes will be determined during final design. There are no wetland impacts associated with the proposed major drainage structures.

¹ Cost estimates are preliminary and will be updated during final design.

² P= Perennial, I= Intermittent

³ Stream impacts calculated based on slope stake limits + 25 feet, minus existing structure length.

4.10 BICYCLE AND PEDESTRIAN FACILITIES/GREENWAYS

A sidewalk is proposed on the south side of NC 268 from NC 18 to Shaver Street. Sidewalks are proposed along both sides of NC 268 from Shaver Street to the Town of North Wilkesboro limits near Aaron Call Road. Fourteen-foot outside lanes to accommodate bicycles are proposed from Shaver Street to the Town of North Wilkesboro limits near Aaron Call Road. Four-foot paved shoulders to accommodate bicycles are proposed from Aaron Call Road to Airport Road. The proposed eastbound bridge over Mulberry Creek includes an eight-foot paved shoulder. Bicycle safe bridge railing will be provided on the NC 268 eastbound bridge over Mulberry Creek.

The Town of North Wilkesboro expressed a desire to have bicycle and pedestrian accommodations included as part of the proposed project in an August 22, 2007 letter (see Appendix B). In an August 17, 2010 letter, the Town reaffirmed a continued interest and commitment to share in the funding of sidewalks within the Town's limits. The Town on North Wilkesboro's Comprehensive Pedestrian Plan includes pedestrian facilities along NC 268 in its list of recommendations.

The construction of a sidewalk where included in the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the Town of North Wilkesboro. As outlined in NCDOT's *Pedestrian Policy Guidelines* dated October 1, 2000, NCDOT will share 80 percent of the construction cost of the sidewalk. The Town of North Wilkesboro will be responsible for the remaining 20 percent of construction costs.

4.11 UTILITIES

Utilities along the project will be relocated prior to construction.

4.12 LANDSCAPING

No special landscaping is proposed at this time.

4.13 NOISE BARRIERS

Noise abatement measures are not proposed for this project because they do not meet the feasible and reasonable criteria within the NCDOT Traffic Noise Abatement Policy.

4.14 WORK ZONE, TRAFFIC CONTROL AND CONSTRUCTION PHASING

The project area will be signed to alert drivers to changes in traffic patterns during construction. No off-site detours are proposed. Where widening is proposed, traffic will be maintained on the existing road while the new lanes are constructed. When the new lanes are complete, traffic will be shifted onto the new construction and the existing lanes widened and resurfaced as necessary. Traffic will be maintained across the existing bridge over Mulberry Creek until the proposed bridge is completed.

A Transportation Management Plan will be developed in accordance with NCDOT's Work Zone Safety and Mobility Policy. During construction of the project, the work zone strategies, practices and procedures that were put into place for the project will be continuously monitored, assessed and improved. Efforts will be made to provide continuous access to businesses and residences, while at the same time ensuring work zone safety and efficiency.

5.0 ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

5.1 NATURAL RESOURCES

Field investigations were conducted by qualified biologists in February 2008 and March 2010 to assess the existing natural environment within the project study area. Details of the methodology and investigations supporting the information provided in this section are provided in the Natural Resources Technical Report (NRTR) completed in August 2008 and an NRTR Addendum completed in May 2010. The NRTR and NRTR Addendum are located in the project file and appended by reference.

5.1.1 WATERS OF THE UNITED STATES

Water resources within the project study area are part of the Yadkin Pee Dee River Basin. There are 15 streams (Table 5-1), one pond (Table 5-2) and six wetlands (Table 5-3) in the project study area (see Figures 2A through 2C). Streams within the project area have been assigned a primary water resource classification of “C”. A small portion of the project study area along NC 18 at the western end of the project area is located within a High Quality Waters (HQW)/ water supply watershed (WS-II). Long Creek is included on the NC Division of Water Quality’s (DWQ) 2010 Draft 303(d) list due to “impaired biological integrity”. There are no trout waters in the project study area. The proposed project would impact eight streams, two wetland areas and one man-made pond. Impacts to streams are approximately 1,703 linear feet. Impacts to wetlands are approximately 0.4 acre. Pond impacts are approximately 0.003 acre.

5.1.1.1 STREAMS, RIVERS AND IMPOUNDMENTS

Mulberry Creek, Long Creek, and unnamed tributaries (UTs) to Mulberry Creek and Long Creek account for the streams in the project study area. Mulberry Creek is a perennial stream and flows in a southerly direction in the center of the study area under NC 268 (Figure 2B). Long Creek is a perennial stream that flows in an easterly direction, paralleling NC 268 to the south and is located in the western half of the project (Stream S1 on Figure 2A).

An unnamed tributary to Mulberry Creek (Stream S3 on Figures 2B and 2C) runs very near and parallel to the existing roadway on the south side, from just east of the Mulberry Creek crossing to just west of Beaumont Poplar Street. NC 268 in the project area crosses Mulberry Creek just east of Flint Hill Road. NC 268 crosses Long Creek north of School Bus Drive. Long Creek runs parallel to NC 268 on the south side from School Bus Drive to Mulberry Creek. Long Creek shifts to the south and outside of the project study area in the vicinity of Legion Road.



Unnamed tributary to Mulberry Creek (Stream S3)

Table 5-1. Physical Characteristics of R-2603 Study Area Streams

Stream Name, ID (Figure No.)	Bank Height (feet)	Bankfull Width (feet)	Substrate	Water Depth (feet)	DWQ Index No.	Stream Designation (cold, cool or warm water)	Impacts (linear feet)	Stream Type ¹
Long Creek, S1 (2A)	6-7	14-18	Cobble, Gravel	0.5-1.5	12-42-9	Cool water	0	P
UT to Long Creek, S1B (2A)	2-3	2-3	Sand	0.2	12-42-9	Cool water	0	I
UT to Long Creek, S2 (2A)	5-7	8-10	Gravel, Sand	0.4-0.8	12-42-9	Cool water	0	I
UT to Mulberry Creek, S3 (2B, 2C)	2-5	6-8	Cobble, Gravel, Sand	0.5-1	12-42	Cool water	722.8	P
UT to Mulberry Creek, S3A (2B)	2-3	2-3	Sand	0.2	12-42	Cool water	120.23	I
UT to Mulberry Creek, S3B (2B)	2-3	1-2	Sand	0.2	12-42	Cool water	96.34	I
UT to Long Creek, S4 (2A)	3-8	6-8	Cobble, Gravel, Sand	0.4 -0.8	12-42-9	Cool water	99.34	P
Mulberry Creek (2B)	6-13	60	Bedrock, Cobble, Gravel	0.5 -2.0	12-42	Cool water	0	P
UT to Mulberry Creek, S5 (2B)	2-3	2-3	Sand	0.2	12-42	Cool water	0	I
UT to Mulberry Creek, S6 (2C)	.5	1	Sand	0.2	12-42	Cool water	18.43	E
UT to Mulberry Creek, S7 (2C)	4-6	4-5	Cobble, Gravel, Sand	0.2-0.6	12-42	Cool water	0	I
UT to Mulberry Creek, S8 (2C)	3-5	4-5	Gravel, Sand	0.0	12-42	Cool water	0	E
UT to Mulberry Creek, S9 (2C)	1-2	1-2	Sand	0.2	12-42	Cool water	324.69	E
UT to Long Creek, S10 (2B)	7-9	3-5	Gravel, Sand	0.3-0.8	12-42-9	Cool water	116.29	I
UT to Long Creek, S11 (2B)	0.5	2	Gravel, Sand	0.25	12-42-9	Cool water	205.15	I
Total Impacts							1,703.27	

¹P-Perennial, I-Intermittent, E-Ephemeral

One open water pond was found and was determined to be Waters of the US and under regulatory agency jurisdiction (Table 5-2).

Table 5-2. Jurisdictional Open Waters

Pond or Lake Name (Figure No.)	Area (ac)	Impacts (ac)
P1 (2C)	0.2	0.003
Total	0.2	0.003

The DWQ divides the state into 17 river basins, which are separated further into subbasins. Streams within the study area are located within subbasin 03-07-01 of the Yadkin Pee Dee River Basin, which includes the Yadkin River and major tributaries to the Yadkin River such as the Roaring River, and Buffalo, Elk, Stoney Fork, Moravian and Mulberry Creeks. The Yadkin River Basin is the second largest basin in North Carolina, with 7,213 square miles within 21 counties. Subbasin -01 covers an approximately 830 square mile area. The basin flows southeastwardly, from the mountain region in Caldwell and Wilkes County down to the North Carolina/South Carolina state line (DWQ, 2007a).

During field investigations, three ephemeral streams, eight intermittent streams and four perennial streams were delineated in the project study area (Table 5-1). Of these 15 stream segments, six are reaches of Long Creek and nine are reaches of Mulberry Creek. Jurisdictional surface waters include perennial and intermittent streams and certain impoundments. Field verification meetings with agents from the US Army Corps of Engineers (USACE) and DWQ took place on April 16, 2008 and May 25, 2010 to determine the jurisdictional limits of surface waters delineated within the project study area. Four perennial streams were determined to be under regulatory agency jurisdiction. Eight intermittent streams were also located within the project study area. The jurisdictional surface water locations are shown on Figures 2A through 2C.

As of the June 3, 2008 DWQ waterbody classification report for subbasin 03-07-01, Mulberry Creek, Long Creek and their UTs within the project area are Class C waters. The class “C” designation denotes fresh waters protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and other uses. A High Quality Waters (HQW)/ water supply watershed (WS-II) is present at the western end of the project area. A small portion of the project study area along NC 18 is located within the water supply watershed. This watershed includes Reddies River from its source and all of its tributaries. The Reddies River Water Supply Watershed maintains the HQW status until it reaches North Wilkesboro water supply dam.

There are no trout waters in the project study area. The NC Wildlife Resources Commission (WRC) has indicated that Mulberry Creek supports smallmouth bass, a popular game fish, in the project vicinity and possibly largemouth bass and spotted bass as well. The WRC has requested an in-water work moratorium from May 1 to July 15 for Mulberry Creek and its unnamed tributary to prevent off site sedimentation from impacting smallmouth bass fish eggs and fry downstream. NCDOT will determine if it is feasible to adhere to this moratorium during construction

The Yadkin-Pee Dee River Basin does not have designated Riparian Buffer Rules.

The USGS developed a uniform hydrologic unit cataloging (HUC) system used to organize and number watersheds based on hydrologic features. Each hydrologic unit is defined by an eight digit number.

Tributaries to streams are assigned the same hydrologic unit as the stream it flows to (receiving water). The USGS 8-digit hydrologic unit (HUC) in the project study area is 03040101. Each DWQ subbasin is assigned a stream index number; tributaries are assigned to the same subbasin as the receiving water. Mulberry Creek is identified by DWQ index number 12-42 and is depicted in the project study area as a perennial stream on both USGS topographic maps and county soil survey maps. The DWQ index number for Long Creek in the study area is 12-42-9; it is depicted as a perennial stream on topographic and soil survey maps (DWQ 2008a).

Section 303(d) of the Clean Water Act (CWA) requires states to develop a list of waters not meeting water quality standards or which have impaired uses. There is one stream listed in the North Carolina 2010 Draft 303(d) report within the project study area. Long Creek, from its source to Mulberry Creek (approximately 3,540 linear feet within the study area) was first listed in 1998 due to “impaired biological integrity”. There are no other 303(d) listed streams within a one-mile radius of the project study area.

The Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine water-quality monitoring stations strategically located for the collection of physical and chemical water quality data. The closest AMS monitoring site is located on the Yadkin River at US 421 Business in North Wilkesboro, approximately two miles southwest of the project study area. The AMS monitoring site is identified as Q0450000. This site was last sampled in 2001 and its “Bioclassification or Noted Parameter” is listed as Fecal Coliform (DWQ 2006c).

The North Carolina Index of Biotic Integrity (NCIBI) is used to assess the biological integrity of streams by examining the structure and health of the fish community. The index incorporates information about species richness and composition, trophic composition, fish abundance and fish condition. There is one NCIBI monitoring site located approximately 2.8 miles north of the study area. The station is located on Mulberry Creek at SR 1002. The site was last sampled in 2002, and is rated “Good” (DWQ, 2007).

Bioclassification criteria have been developed that are based on the number of benthic macroinvertebrates (primarily Ephemeroptera, Plecoptera, and Tricoptera) present in streams and rivers because they are very sensitive to the effects of water pollution. Streams and river reaches are given a bioclassification rating that ranges from Excellent to Poor based on benthic macroinvertebrate collection data. There is one benthic monitoring site located within the project area on Mulberry Creek off of NC 268. This site, identified as B-14, received a score of Excellent in 2001 and 2006 (DWQ, 2007).

Point source dischargers throughout North Carolina are regulated through the National Pollutant Discharge Elimination System (NPDES) program. Two active individual NPDES permit sites are located less than two miles south of the project on the Yadkin River. They are the cities of Wilkesboro and North Wilkesboro, which discharge 4.9 million gallons per day (MGD) and 2.0 MGD, respectively. A third permitted discharge is located roughly eight miles downstream of North Wilkesboro. There are no NPDES dischargers located within one mile of the project study area (2007a).

5.1.1.2 WETLANDS

Wetland delineations were conducted as part of the field investigations on February 11, 2008. Jurisdictional wetlands delineated during the field surveys are included in Table 5-3. A field review meeting with the USACE and DWQ was conducted on April 16, 2008 to confirm the jurisdictional boundaries of these wetland systems. A total of six wetlands were determined to be jurisdictional Waters of the US.

Table 5-3. Jurisdictional Wetlands

Wetland Name (Figure No.)	Wetland Area (ac)	Wetland Impacts (ac)	DWQ Score	Riverine Status	Soil Series	Cowardin Classification	On-Site Mitigation Potential
WA (2A)	0.01	0	4	Yes	UdC	PEM	No
WB (2B)	0.48	0.28	20	No	CkA	PEM	No
WC (2B)	0.13	0.13	20	No	CkA, SIB, MaC2	PEM/PSS	No
WD (2B)	0.04	0	15	Yes	RnE, PcB2	PFO	No
WE (2C)	0.02	0	0	No	PcC2	PEM	No
WF (2C)	0.11	0	11	No	PaD	PFO	No
Total	0.79	0.41					

5.1.1.3 SUMMARY OF ANTICIPATED EFFECTS

Construction activities for the proposed project would include the construction of a new bridge and replacing and extending existing culverts. The construction activities associated with the project will strictly follow NCDOT's *Best Management Practices for Construction and Maintenance Activities* (BMP-CMA) and *Protection of Surface Waters* (BMP-PSW). Sedimentation control guidelines will be strictly enforced during the construction stages of the project.

Primary sources of water quality degradation in urban and developed areas are non-point sources of discharge, which include surface water runoff and runoff from construction activities. Short-term impacts to water quality from construction-related activities include increased sedimentation and turbidity in nearby water resources. Long-term impacts include substrate destabilization, bank erosion, increased turbidity, altered flow rates, and possible temperature fluctuations within the channel due to removal of streamside vegetation.

The proposed project would impact eight streams, two wetland areas and one man-made pond. Impacts to streams (Table 5-1) are estimated at 1,703 linear feet. Impacts to wetlands (Table 5-3) are estimated at 0.41 acre. Pond impacts (Table 5-2) are estimated at 0.003 acre. Impact estimates were calculated based on the proposed roadway widening slope stake limits plus an additional 25 feet. Impacts are based upon preliminary design and could change during final design.

5.1.1.4 AVOIDANCE, MINIMIZATION AND MITIGATION

AVOIDANCE AND MINIMIZATION

The NCDOT will attempt to avoid and minimize impacts to streams and wetlands to the greatest extent practicable in choosing a preferred alternative and during final design.

The recommended Best-Fit Widening Alternative minimizes impacts to resources. However, it is not feasible for the proposed project to completely avoid impacts to the Waters of the US and still meet the purpose and need of the project.

Widening associated with the roadway improvements will be performed within the existing right of way to the maximum extent possible to minimize the amount of impacts to areas which are currently undisturbed.

COMPENSATORY MITIGATION

The USACE may require compensation for the loss of any wetlands greater than 0.1 acre, or if the activity causes more than 150 linear feet of perennial streambed impacts or intermittent streambed impacts if the intermittent stream has important aquatic function(s) as deemed by USACE. In accordance with 15A NCAC 2H .0506(h), DWQ may require compensation for impacts to 150 linear feet or more of jurisdictional streams and/or one acre or more of wetlands. Impacts of the proposed project are estimated at 1,703 linear feet of jurisdictional streams and 0.41 acre of jurisdictional wetlands. Final compensatory mitigation requirements for jurisdictional wetland and stream impacts are ultimately left to the discretion of the USACE and DWQ.

The NCDOT will investigate potential on-site stream and wetland mitigation opportunities once a final decision has been made. Off-site mitigation needed to satisfy the Federal Clean Water Act requirements for this project may be provided by the North Carolina Department of Environment and Natural Resources (NCDENR) Ecosystem Enhancement Program (EEP) in accordance with the “North Carolina Department of Environment and Natural Resources’ Ecosystem Enhancement Program In-Lieu Fee Instrument”, dated July 28, 2010.

5.1.1.5 ANTICIPATED PERMIT REQUIREMENTS

The proposed action will require permits pursuant to Section 401 and 404 of the Clean Water Act of 1977, as amended. A 401 Water Quality Certification from the Water Quality Section of the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Quality, will be needed for fill activity in adjacent wetlands and surface waters. A Section 404 permit issued by the US Army Corps of Engineers will be required to discharge and place fill materials into wetlands.

5.1.2 BIOTIC RESOURCES

5.1.2.1 PLANT COMMUNITIES (FLORA)

Two primary vegetative communities (see Table 5-4) were observed in the study area: mixed pine-hardwood forest and man-dominated urban/disturbed land. These communities cover approximately 383 acres, which include approximately 63 acres of Mixed Pine-Hardwood Forest, and 320 acres of urban/disturbed land. Areas of development or built-upon areas are included in the urban/disturbed community type. The proposed project would impact approximately 13 acres of Mixed Pine-Hardwood Forest and approximately 93 acres of urban/disturbed land.

Table 5-4. Terrestrial Community Types

Community Type	Total Acres in Study Area	Percentage of Study Area	Anticipated Impacts (acres)
Mixed Pine-Hardwood Forest	63.33	16.5%	12.87
Urban/Disturbed Land	320.11	83.5%	92.59
Total	383.44	100%	105.46

The mixed pine-hardwood forest community is found in the moderate elevations throughout the project area, usually immediately upslope of the alluvial forest community. This community is a variation of the Mesic Mixed Hardwood Forest (Piedmont Subtype) identified by Schafale and Weakley (1990), with an increased amount of pine. These communities occur on acidic soils in lower slopes, steep north-facing slopes, ravines, and occasionally well-drained small stream bottoms. Under natural conditions they are uneven-aged with old trees present; however, there are only a few locales within the project study area that contain older trees. This lack of older trees or large areas of uneven aged timber can be attributed to past disturbance activities such as agriculture and forest management. This community commonly represents the stage in the succession of forest development following disturbance. Reproduction occurs mainly in canopy gaps, with disturbed areas having increased amounts of pines and weedy hardwoods such as yellow poplar and sweetgum (Schafale and Weakley, 1990).

Due to the past timber harvesting and agriculture practices, the majority of the canopy is dominated by species such as white pine (*Pinus strobus*), yellow poplar (*Liriodendron tulipifera*), red maple (*Acer rubrum*), loblolly pine (*P. taeda*), and American beech (*Fagus grandifolia*). In addition to the canopy species, other sub canopy species include dogwood (*Cornus florida*), sourwood (*Oxydendrum arboreum*) and American holly (*Ilex opaca*).

Areas between the cutover areas and other vegetative communities often contain a thick and diverse midstory with a somewhat more established canopy than the cutover areas. Species present within this transition zone include Virginia pine (*P. virginiana*), red maple, Chinese privet (*Ligustrum sinense*), Japanese honeysuckle (*Lonicera japonica*), eastern red cedar (*Juniperus virginiana*), yellow poplar, wax myrtle (*Myrica cerifera*), strawberry bush (*Euonymus americana*), wild onion (*Allium* spp.), blackberry (*Rubus* sp.) and muscadine grape (*Vitis* sp.). These species are also often observed between other transition zones between the mixed pine-hardwood forest and other natural system communities.

Unique vegetative communities can often occur in locations adjacent to small streams. These areas are typically found in the headwaters to a stream or ditch where the topography surrounding the water body is steep. This characteristic forms a community sub-type with thin non-wetland corridors that rarely flood. Often this sub-type is found in residential areas where the small stream has not been disturbed for a long time (more than 15 years) and the vegetation has been allowed to develop distinct layers; however, they can also be found within larger mixed pine-hardwood forests. These thin corridors are dominated by loblolly pine, red maple, yellow poplar, and American beech in the canopy, with Chinese privet, eastern red cedar, and Japanese honeysuckle present in the understory. Other species often found in these areas include American elm (*Ulmus americana*), sweet gum (*Liquidambar styraciflua*), sycamore (*Platanus occidentalis*), black cherry (*Prunus serotina*), sourwood, chokeberry (*Sorbus arbutifolia*), huckleberry (*Vaccinium stamineum*), and Christmas fern (*Polystichum acrostichoides*).

Due to the fractured nature of the landscape within and surrounding the project area there are few tracts of land large enough to harbor the mature mixed pine/hardwood forest community. There are, however, a few good examples within the project area of mature mixed pine hardwood stands, especially in the eastern portion of the project. The dominant species include white pine, loblolly pine, sweet gum, northern red oak (*Quercus rubra*), eastern red cedar, and red maple. Other species often include American beech, white oak (*Quercus alba*), yellow poplar, Virginia pine, and heartleaf (*Hexastylis* spp.). A number of species more common to the oak-hickory forest such as pignut hickory (*Carya glabra*) and rock chestnut oak (*Quercus montana*) are often found in low concentrations as forest succession continues from a mixed pine-hardwood forest to an oak-hickory forest.

The urban/disturbed community is the dominant community in the study area and consists of areas that are periodically maintained by human influences, such as roadside and power line rights of way, regularly mowed lawns, commercial and industrial properties, and open areas. This community is especially prevalent in the western portion of the project area where residential and commercial properties

dominate. Vegetation within these areas tends to be low growing and contain many species of annuals; however, because the majority of the vegetation surveys were conducted in the winter months many of these species were not observed.

Areas referred to as disturbed corridors have had major disturbance due to utility construction (primarily sewer lines) in the past and are generally located in the bottomland landscapes. Representative areas consist of community edges along periodically maintained right of way easements. These areas are dominated by tree saplings such as sweet gum, red maple, and with blackberry (*Rubus* spp.), various goldenrods (*Solidago* spp.), and Japanese honeysuckle dominating the other vegetative layers. Other species present include wild rose (*Rosa multiflora*) and greenbrier. Wetland areas or pockets of standing water on or along these easements contain soft rush (*Juncus effusus*), cattail (*Typha latifolia*), bulrush (*Scirpus cyperinus*), and false nettle (*Boehmeria cylindrica*).

All of the varying types of land use in the urban/disturbed community tend to have similar vegetation, with few large trees and abundant herbaceous cover. The tree species observed includes eastern red cedar, red maple, black cherry, American elm, white oak, and loblolly pine. Many of the commercial properties have been landscaped with large tree species such as river birch (*Betula nigra*), southern magnolia (*Magnolia grandiflora*), and Bradford pear (*Pyrus calleryana*). Two common shrubs to this vegetative sub-type that occur both naturally and as escaped plants are wild and cultivated roses (*Rosa* spp.) and wax myrtle (*Myrica cerifera*). Fescue (*Festuca* spp.) is the dominant groundcover species. Other groundcover and herbaceous species include goldenrod, panic grass (*Panicum* spp.), broomsedge (*Andropogon* sp.), dog-fennel (*Eupatorium capillifolium*), Bermuda grass (*Cynodon dactylon*), and Japanese honeysuckle. Maintained easements such as power lines and road shoulders are comprised of the vegetation listed above as well as large amounts of blackberry, greenbrier, and poison ivy (*Toxicodendron radicans*).

5.1.2.2 WILDLIFE (FAUNA)

The forested areas in the study area offer good diversity of foraging, nesting, and cover habitat for many species of amphibians, reptiles, birds, and mammals. Species that may be associated with these types of communities are described below. An asterisk (*) indicates the species that were directly observed or for which evidence was noted during field reconnaissance.

Terrestrial reptile species inhabit fields, woodlands, and stream edges of the Piedmont and Blue Ridge Mountains of North Carolina. These areas include snakes such as the rough green snake (*Ophedrys aestivus*) and black rat snake (*Elaphe obsoleta*). Rough green snakes forage on spiders, moth and butterfly larvae, crickets, and grasshoppers, and will often forage among vines or shrubs along stream banks. The black rat snake will come out of forested habitat to forage on rodents in open areas. Other reptiles such as the eastern box turtle* (*Terrapene carolina*), eastern fence lizard (*Sceloporus undulatus*), and five-lined skink (*Eumeces fasciatus*) are also present within the study area. The eastern box turtle is a docile turtle that feeds on a wide variety of plants and small animals. The eastern fence lizard is commonly found in the urban/disturbed environment feeding on small to medium sized invertebrates. The five-lined skink is often observed scurrying along fences or rocks in full sunlight, feeding on arthropods such as spiders, crickets, grasshoppers, and beetles.

Many bird species may inhabit or migrate through the project study area. Birds generally tend to nest and forage within distinct vegetative communities depending upon many factors including food source, protection, and predation. Inhabitants of mixed pine-hardwood forest generally require a water source for foraging and in certain instances for nesting. Birds observed within this community include rusty black bird* (*Euphagus carolinus*) and European starling (*Sturnus vulgaris*). Inhabitants of the urban/disturbed community tend to be songbirds and birds that utilize man-made structures for nesting.

The birds often observed in the urban/disturbed community include mourning dove* (*Zenaida macroura*), blue jay* (*Cyanocitta cristata*), Carolina chickadee (*Parus carolinensis*), American robin* (*Turdus migratorius*), northern cardinal* (*Cardinalis cardinalis*), northern mockingbird* (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), Carolina wren* (*Thryothorus ludovicianus*), and dark-eyed junco (*Junco hyemalis*). Predatory species are usually found wherever food opportunities exist and are therefore, not bound to the same small areas as other bird species. These species may include American crow* (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture* (*Cathartes aura*), eastern screech owl (*Otus asio*), and great horned owl (*Bubo virginianus*).

A wide variety of mammals are expected to inhabit the study area and surrounding landscape. Mammals tend to move through vegetative communities readily in search of food or shelter. Some mammals are observed in residential and commercial areas at night due to their nocturnal feeding habits. These species include Virginia opossum* (*Didelphis virginiana*), raccoon (*Procyon lotor*), and eastern spotted skunk (*Spilogale putorius*). Mammals such as the bobcat (*Felis rufus*) and red fox (*Vulpes vulpes*) are very secretive and hide as deep as possible in undisturbed wooded areas. Still other mammals, such as the coyote (*Canis latrans*) and eastern harvest mouse (*Reithrodontomys humulis*) take advantage of agricultural land and forest edge ecotones. Some mammals truly can be found throughout the vicinity, from urban development to mature forests. These mammals include the eastern gray squirrel* (*Sciurus carolinensis*), chipmunk (*Tamias striatus*), eastern cottontail* (*Sylvilagus floridanus*), beaver* (*Castor canadensis*), and white-tailed deer* (*Odocoileus virginianus*).

Bats such as the eastern pipistrelle (*Pipistrellus subflavus*), the eastern red (*Lasiurus borealis*), and the evening bat (*Nycticeius humeralis*) may be present in the study area. The eastern pipistrelle is a common bat found in structures, caves, and crevices, often in places with more light than tolerated by other bats. The eastern red bat has a widespread distribution, and is found in similar habitats to the eastern pipistrelle but considerably closer to water. The evening bat is commonly found roosting beneath bridge structures but it also roosts in trees and buildings, and, as its name implies, is strictly nocturnal.

5.1.2.3 AQUATIC COMMUNITIES

The waters within the study area vary in their size, which creates habitat for a diversity of amphibians, reptiles, mammals, and fish species. Overall the project study area contains average habitat for aquatic species.

The majority of the project study area likely has amphibian populations limited to certain areas. Several locations, especially the large floodplain wetlands in the study area, are expected to contain a rich and diverse population of salamanders and frogs. Salamanders forage on insects, both aquatic and terrestrial, crustaceans, worms, and other organisms in forest floodplains and vernal pools. Salamanders can be found in a variety of habitats, although most are associated with small streams and seepages. They can also be found along streams where stones, large branches and other woody debris offer shelter for both the salamander and their food. They are most active at night, but can be found during the day by overturning logs and stones in wet areas along the stream banks. Salamanders such as the northern dusky salamander (*Desmognathus fuscus*) and slimy salamander (*Plethodon glutinosus*) are likely to occur. Other amphibians such as spring peepers (*Hyla crucifer*), pickerel frogs (*Rana palustris*), bullfrogs (*Rana catesbeiana*), and upland chorus frogs (*Pseudacris triseriata*) are likely to be present. Spring peepers and upland chorus frogs mainly inhabit woodlands, while pickerel frogs and bullfrogs are found along shaded streams, ponds and other wet areas.

Aquatic reptiles that spend the majority of their lives in aquatic communities and are somewhat common throughout this portion of North Carolina include the snapping turtle (*Chelydra serpentina*), eastern musk turtle (*Sternotherus odoratus*), yellowbelly slider (*Chrysemys scripta*), and northern water snake (*Nerodia sipedon*).

Turtles eat small invertebrates, insects, snails, and small aquatic plants, and they nest both in the water and on dry land. The northern water snake will eat primarily small fish and amphibians and is often found on the edges of streams, in wetlands, and on low, overhanging vegetation.

There are a few aquatic mammals found throughout North Carolina. Perhaps the two most common are the muskrat (*Ondatra zibethicus*) and the beaver. Both animals are nocturnal; therefore, the muskrat is most often only noticed through the occurrence of tracks, and beaver activity was observed during field investigations through the presence of slides, gnaws, and dams.

Species composition of fish varies to some degree with the size, flow rate, and type of food present within any given water body. Therefore, the types of fish found in the perennial streams are likely to be somewhat different than species found in the pond within the study area. Fish that are likely to utilize the perennial streams include largemouth bass (*Micropterus salmoides*), American eel (*Anguilla rostrata*), rosyside dace (*Clinostomus funduloides*), and creek chub (*Semotilus atromaculatus*). These fish thrive in the moderately flowing, soft substrate waters present within study area. The overhanging vegetation provides good locales for foraging on vegetation and benthic organisms, and hiding from predators. There are no streams identified as critical aquatic habitat for any protected species within a one-mile radius of the project study area.

5.1.2.4 SUMMARY OF ANTICIPATED EFFECTS

The proposed project would impact approximately 13 acres of Mixed Pine-Hardwood Forest and approximately 93 acres of urban/disturbed land. Impact estimates were calculated based on the proposed roadway widening slope stake limits plus an additional 25 feet. Impacts are based upon preliminary design and could change during final design.

Temporary fluctuation in populations of animal species which utilize terrestrial areas is anticipated during the course of construction. Slow-moving, burrowing, and subterranean organisms will be directly impacted by construction activities, while mobile organisms will be displaced to adjacent communities. Habitat reduction can occur when project construction affects undisturbed areas surrounding an existing man-dominated environment. When this occurs, competitive forces in the adapted communities will result in a redefinition of population equilibrium.

Aquatic organisms are very sensitive to the discharges and inputs resulting from construction activities. Impacts usually associated with in-stream construction include increased channelization and scouring of the streambed. In-stream construction alters the substrate and impacts adjacent stream-side vegetation. Such disturbances within the substrate lead to increased siltation that can clog the gills and feeding mechanisms of benthic organisms, fish, and amphibian species. The populations of these organisms are slow to recover and may not do so once a stream has been severely impacted.

Appropriate measures must be taken to avoid spillage of construction materials and control runoff. Such measures should include an erosion and sedimentation control plan, provisions for disposal and handling of waste materials and storage, stormwater management measures, and appropriate road maintenance measures. NCDOT's *Best Management Practices for Protection of Surface Waters* (BMP-PSW) and Sedimentation Control guidelines will be enforced during the construction stages of the project. Long-term impacts to water resources may include permanent changes to the stream banks and temperature increases caused by the removal of stream-side vegetation.

5.1.3 RARE AND PROTECTED SPECIES

Some populations of fauna and flora have been, or are, in decline due to either natural forces or their inability to coexist with humans. Federal law (under the provisions of Section 7 of the Endangered Species Act [ESA] of 1973, as amended) requires that any federal action likely to adversely affect a species listed as federally protected be subject to review by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS). Prohibited actions which may affect any species protected under the ESA are outlined in Section 9 of the Act.

Species identified as Endangered, Threatened, or Special Concern (SC) by the North Carolina Natural Heritage Program (NHP) list of rare plant and animal species are afforded state protection under the State Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979.

5.1.3.1 FEDERALLY PROTECTED SPECIES

As of September 22, 2010 the USFWS lists one federally protected species for Wilkes County. A brief description of the characteristics and habitat requirements for this species is provided below.

The bog turtle (*Clemmys muhlenbergii*) is listed as threatened due to similarity of appearance (T (S/A)). This taxon is not biologically endangered or threatened and is not subject to Section 7 consultation. Appropriate habitat for the bog turtle does not exist in the project area and the species is not known to occur within a one-mile radius of the project study area (NHP maps, reviewed on June 2, 2008 and May 14, 2010). Therefore, the project is expected to have No Effect on the species. There are no other federally threatened or endangered species listed for Wilkes County on the USFWS website, last updated September 22, 2010.

Bog Turtle (*Clemmys muhlenbergii*)

Biological Conclusion: No Effect

Bog turtles are a small (3- to 4.5-inch) turtle with a weakly keeled carapace (upper shell) that ranges from light brown to ebony. The species is readily distinguished from other turtles by a large, conspicuous, bright orange to yellow blotch on each side of its head. Bog turtles are semi-aquatic and are only infrequently active above their muddy habitats during specific times of the year and temperature ranges. They can be found during the spring mating season from June to July and at other times from April to October when the humidity is high, such as after a rain event, and temperatures are in the 70^os. Bog turtle habitat consists of bogs, swamps, marshy meadows, and other wet environments, specifically those which have soft muddy bottoms. Appropriate habitat for the bog turtle does not exist in the project area.

Natural Heritage Program maps were reviewed on June 2, 2008 and November 15, 2010 to determine if any species receiving federal protection have been identified near the study area. The map review confirmed that no federally protected species are known to occur within a one-mile radius of the study area.

5.1.3.2 FEDERAL SPECIES OF CONCERN/STATE PROTECTED SPECIES

Federal Species of Concern (FSC) are not legally protected under the Endangered Species Act and are not subject to any of its provisions, including Section 7. Species designated as FSC are defined as taxa which may or may not be listed in the future. These species were formerly Candidate 2 (C2) species or species under consideration for listing for which there is insufficient information to support listing.

The USFWS lists seven FSC for Wilkes County as of September 22, 2010. As of November 15, 2010, the NHP lists 31 species in Wilkes County as receiving protection under state laws. Natural Heritage Program maps were most recently reviewed on November 15, 2010 to determine if any FSC or state protected species have been identified near the study area. This map review confirmed that no FSC or state protected species are known to occur within a one-mile radius of the study area. Table 5-5 describes the federal species of concern for Wilkes County.

Table 5-5. Federal Species of Concern for Wilkes County

Common Name	Scientific Name	Preferred Habitat	State Status*	Habitat Present
Vertebrates				
Cerulean warbler	<i>Dendroica cerulea</i>	Mature hardwood forests; steep slopes and coves in mountains, natural levees in Coastal Plain [breeding season only]	SC	Yes
Eastern small-footed bat	<i>Myotis leibii</i>	Roosts in hollow trees (warmer months), in caves and mines (winter)	SC	No
Invertebrates				
Diana fritillary (butterfly)	<i>Speyeria diana</i>	Forested areas, wet or dry meadows, bogs, open hilltops; host plants -- violets	None	Yes
Regal fritillary (butterfly)	<i>Speyeria idalia</i>	Wet or dry meadows, bogs, open hilltops; host plants -- violets	SR	Yes
Plants				
Butternut	<i>Juglans cinera</i>	Usually found along river and creek corridors	None	Yes
Radford's St. John's-wort	<i>Hypericum sp. 1</i>	Cultivated fields, pastures, waste areas, and often in the edges of forests	None	Yes
Torrey's mountain-mint*	<i>Pycnanthemum torrei</i>	Dry upland forests and woodlands, over mafic rocks	SR-T	Yes

Note: SR – Significantly Rare, SC – Special Concern, -T – Throughout

5.1.4 SOILS

The process of soil development depends on both biotic and abiotic influences. These influences include past geologic activities, nature of parent materials, environmental and human influences, plant and animal activity, time, climate, and topographical position.

The study area is located within the Pacolet-Rion soil association (USDA 1997). Soil associations contain one or more mapping units occupying a unique natural landscape. Mapping units are named for the major soil series within the unit, but may contain minor inclusions of other soil series. The Pacolet-Rion

soil association is characterized as containing well drained soils, found on gently sloping to steep predominantly clayey or loamy subsoils on piedmont uplands.

As shown in Table 5-6, 11 soil mapping units are identified within the project study area. There are no hydric “A” soils for Wilkes County found within the study area (USDA 1997).

Table 5-6. Soil Mapping Units in R-2603 Project Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Chewacla loam 0-2 percent slopes, frequently flooded	CkA	Somewhat poorly drained	Hydric B
Masada sandy clay loam 2-8 percent slopes, eroded	MaB2	Well drained	Non-hydric
Masada sandy clay loam, 8 to 15 percent slopes, eroded	MaC2	Well drained	Non-hydric
Pacolet sandy loam, 15-25 percent slopes	PaD	Well drained	Non-hydric
Pacolet sandy clay loam 2-8 percent slopes, eroded	PcB2	Well drained	Non-hydric
Pacolet sandy clay loam 8-15 percent slopes, eroded	PcC2	Well drained	Non-hydric
Pacolet – Urban land complex 2-15 percent slopes	PrC	Well drained	Non-hydric
Rion fine sandy loam 25-60 percent slopes	RnE	Well drained	Non-hydric
State fine sandy loam, 1-6 percent slopes rarely flooded	StB	Well drained	Non-hydric
Toccoa sandy loam 0-3 percent slopes occasionally flooded	ToA	Well drained	Non-hydric
Udorthents – Urban land complex 1-15 percent slopes	UdC	NA	Non-hydric

Soils referred to as hydric “A” are completely hydric throughout the mapped soil unit. Hydric “B” soils are non-hydric but contain inclusions of hydric “A” soils, usually in depressional areas or along the border with other soil units. Based on the North Carolina hydric soils list (NRCS, 2005), mapped hydric soil units in Wilkes County include one hydric “B” soil unit, Chewacla loam 0-2 percent slopes.

5.2 FARMLAND

It is anticipated that the proposed project will impact soils that are recognized as important farmlands by the US Department of Agriculture Natural Resources Conservation Service (NRCS) (www.nc.nrcs.usda.gov/programs/soilsurvey/primefarmland.html). Important farmlands include three categories of soils: prime farmlands, unique farmlands, and statewide importance. State construction projects that receive funding from federal sources are directed to consider impacts to important

farmlands under the Farmland Protection Policy Act. State agencies are directed to consider impacts to farmlands under North Carolina Executive Order 96, *Preservation of Prime Agricultural and Forest Lands*.

A Farmland Conversion Impact Rating form (Appendix B) was completed for this project and submitted to the NRCS office in Wilkes County. Impacts to Prime and Unique Farmland are estimated at 46.7 acres and were calculated based on the project study area. Impacts to Statewide and Locally Important Farmland, also calculated based on the project study area, are estimated at 143.3 acres. Based upon impact rating forms and estimated impacts, no further coordination with the NRCS is anticipated.

Wilkes County adopted a Voluntary Agricultural District Ordinance on April 15, 2008. There are no Voluntary Agricultural District properties in the project study area.

5.3 CULTURAL RESOURCES

5.3.1 COMPLIANCE GUIDELINES

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires federal agencies to take into account the effect of their undertakings (federally-funded, licensed or permitted) on properties included in or eligible for inclusion in the National Register for Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

5.3.2 HISTORICAL ARCHITECTURAL RESOURCES

A field survey of the Area of Potential Effects (APE) was conducted for the proposed project by an architectural historian in February, 2010 pursuant to Section 106 of the National Historic Preservation Act. All properties within the APE were evaluated for National Register eligibility. The architectural historian concluded that no properties within the project's APE were considered eligible for the National Register of Historic Places. There are no National Register-listed or Study Listed properties within the project's APE. On March 19, 2010, the State Historic Preservation Office (HPO) concurred that compliance with Section 106 of the National Historic Preservation Act has been completed for this project. A copy of the signed concurrence form is included in Appendix B.

5.3.3 ARCHAEOLOGICAL RESOURCES

An archaeological survey was conducted for the proposed project on January 12, 2010. The survey was conducted pursuant to Section 106 of the National Historic Preservation Act and the guidelines issued by the Advisory Council on Historic Preservation. No archaeological deposits or above-ground historic structures/features eligible for listing on the National Register of Historic Places were identified by the survey and no further archaeological work is recommended. A finding of "no historic properties affected" is considered appropriate according to the guidelines issued by the Advisory Council on Historic Preservation. The HPO concurred with this finding on February 23, 2010. A copy of the concurrence letter is included in Appendix B.

5.4 SECTION 4(F)/6(F) RESOURCES

There are no Section 4(f) or Section 6(f) properties in the project study area.

5.5 SOCIAL EFFECTS

5.5.1 NEIGHBORHOODS/COMMUNITIES

The proposed project is not expected to separate or isolate existing neighborhoods, isolate portions of the community, create a barrier between residents and community facilities, or cause interruption in community cohesion or interaction. Impacts may occur to residences and businesses along NC 268 where property along the road may be reduced because of right of way requirements associated with the widening.

5.5.2 RELOCATION OF RESIDENCES AND BUSINESSES

The proposed project is expected to result in seven residential and four business displacements. A copy of the Relocation Report for the proposed project is located in Appendix E.

Property acquisitions associated with the proposed project are subject to the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended. The Act provides for uniform and equitable treatment of persons displaced from their homes, businesses, non-profit associations, or farms by federal and federally assisted programs, and establishes uniform and equitable land acquisition policies.

Relocation assistance payments and counseling will be provided to persons and businesses in accordance with the Act to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. All eligible displacees will be entitled to moving expenses. Benefits and services will be provided equitably to all residential and business relocatees without regard to race, color, religion, age, national origin, and disability as specified under Title VI of the Civil Rights Act of 1964.

When relocation is necessary, it is the policy of the NCDOT to ensure that comparable replacement housing will be available prior to construction of state and federally assisted projects. The North Carolina Board of Transportation has the following three programs to minimize the inconvenience of relocation:

- Relocation Assistance
- Relocation Moving Payments
- Relocation Replacement Housing Payments or Rent Supplement

Based upon the preliminary relocation study performed for this project, NCDOT anticipates that special relocation services will not be necessary. The project will not cause a housing shortage, additional housing programs will not be needed, Last Resort Housing will not be needed (but is available), and replacement housing within financial means will not be an issue. Business services will still be available after the project is complete, and suitable replacement business sites are available in the project area.

5.5.3 AESTHETICS

There are no natural features identified within the project study area that would have unique visual or aesthetic values for which public scenic protection or designation would be needed. Since the proposed project involves widening an existing roadway, construction of the project should not cause substantial changes to current views.

The Town of North Wilkesboro has expressed a desire to improve the overall aesthetic of NC 268 as it serves as a “gateway” to the Town. In addition to pedestrian facilities, the Town of North Wilkesboro envisions streetscape improvements in the form of trees, landscaping and lighting in the project area. The Town’s Comprehensive Plan includes a goal to create corridor overlay districts with design standards to strengthen the community appearance along NC 18, NC 115 and NC 268 entryways into the Town of North Wilkesboro. The Town’s zoning ordinance does not currently include corridor overlay districts.

NCDOT improvements to deteriorating pavement, concrete curbs, and gutters, as well as the addition of curb and gutter, sidewalks, and vegetated medians, are expected to improve the overall appearance of the existing facility. The NCDOT will coordinate with the Town of North Wilkesboro on streetscape improvements the Town plans to fund and implement. Some visual and aesthetic impacts could occur in areas where existing vegetation is removed for the new road widening. Overall, the project is considered to have a low visual impact in the project area.

5.5.4 ENVIRONMENTAL JUSTICE

Title VI and Environmental Justice considerations promote the fair treatment and involvement of all people, regardless of race, color, national origin, or income with respect to development, implementation, and enforcement of environmental laws and regulations.

In order to assess social aspects associated with the proposed project, a field review and review of demographic information, available through the US Census Bureau, were performed. The demographics of the Census Tract Block Groups in which the project corridor is located (Demographic Area) were obtained, as were the demographics of the Town of North Wilkesboro, Wilkes County, and North Carolina.

The 2000 Census demographics information indicates that the population of the Demographic Area is approximately 85 percent white. Black or African American persons comprise approximately 8.4 percent of the population in the Demographic Area, 4.1 percent in Wilkes County, 13.7 percent in the Town of North Wilkesboro, and 21.4 percent in North Carolina. The percent Hispanic or Latino population in the Demographic Area at approximately 4.6 percent is comparable to Wilkes County and North Carolina Hispanic or Latino populations. The Town of North Wilkesboro has a Hispanic or Latino population of approximately 11.3 percent.

The median household income is higher within the Demographic Area than it is within the Town of North Wilkesboro, but lower than it is within Wilkes County or North Carolina. Approximately 18 percent of the population within the Demographic Area lived below the poverty level in 2000. This is less than the percent of the population living below the poverty level within the Town of North Wilkesboro, but higher than in Wilkes County or North Carolina.

As noted in the Relocation Report in Appendix E, two of the seven residences anticipated to be relocated as a result of the project are owned or rented by minority individuals. None of the four businesses anticipated to be relocated are owned by minority individuals. Of the seven employees at the impacted businesses, one employee is a minority. No driveway control of access is proposed for the project and changes in access to homes and services are not anticipated. Based upon these considerations, the proposed project is not expected to have a disproportionate impact on low-income or minority populations.

5.5.5 LIMITED ENGLISH PROFICIENCY

Executive Order 13166 "Improving Access to Services for Persons with Limited English Proficiency" requires all recipients of federal funds to provide meaningful access to persons who are limited in their English proficiency (LEP). The US Department of Justice defines LEP individuals as those "who do not speak English as their primary language and who have a limited ability to read, write, speak, or understand English" (67 FR 41459). Data about LEP populations was gathered in the 2000 Census.

The Census data indicate there are no language groups within the Demographic Area in which more than five percent of the adult population or 1,000 persons speak English less than "Very Well". Therefore, demographic assessment does not indicate the presence of LEP language groups that exceed the Department of Justice's Safe Harbor threshold. However, NCDOT will include notice of Right of Language Access for future meetings for this project. Thus, the requirements of Executive Order 13166 appear to be satisfied.

5.5.6 BICYCLE AND PEDESTRIAN FACILITIES

A sidewalk is proposed on the south side of NC 268 from NC 18 to Shaver Street. Sidewalks are proposed along both sides of NC 268 from Shaver Street to the Town of North Wilkesboro limits near Aaron Call Road. Fourteen-foot outside lanes, to accommodate bicycles are proposed from Shaver Street to the Town of North Wilkesboro limits near Aaron Call Road. Four-foot paved shoulders to accommodate bicycles are proposed from Aaron Call Road to Airport Road. The proposed eastbound bridge over Mulberry Creek includes an eight-foot paved shoulder. Bicycle safe bridge railing will be provided on the NC 268 eastbound bridge over Mulberry Creek.

The Town of North Wilkesboro expressed a desire to have bicycle and pedestrian accommodations included as part of the proposed project in an August 22, 2007 letter (see Appendix B). In an August 17, 2010 letter, the Town reaffirmed a continued interest and commitment to share in the funding of sidewalks within the Town's limits. The Town on North Wilkesboro's Comprehensive Pedestrian Plan includes pedestrian facilities along NC 268 in its list of recommendations.

The construction of a sidewalk where included in the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the Town of North Wilkesboro. As outlined in NCDOT's *Pedestrian Policy Guidelines* dated October 1, 2000, NCDOT will share 80 percent of the construction cost of the sidewalk. The Town of North Wilkesboro will be responsible for the remaining 20 percent of construction costs.

The inclusion of sidewalks within the Town of North Wilkesboro limits would improve conditions for persons with mobility issues and improve overall pedestrian safety. The provision of bicycle accommodations as noted above would improve safety for cyclists along NC 268 in the project area.

5.5.7 RECREATIONAL FACILITIES

No parks are located in the project study area. The Woodlawn Community Center is located on 2nd Street. Other community recreational facilities include the North Wilkesboro Masonic Temple and Wilkes Jaycees, both located on School Bus Drive.

The NC Wildlife Resource Commission's (WRC) includes the Mulberry Creek crossing on its list of potential future public access projects. The WRC public access site at Mulberry Creek is expected to include an area where four-to five cars can park and possibly a set of steps to get canoes to the water.

The WRC currently does not have an anticipated date for the implementation of their proposed Mulberry Creek public access project.

5.5.8 OTHER PUBLIC FACILITIES AND SERVICES

North Wilkesboro Elementary School is located outside the project area on Flint Hill Road. It is expected that traffic from this school would use NC 268. There is a high school and middle school located on Airport Road approximately four miles past the airport. The Wilkes County School Bus Maintenance Center is on School Bus Drive. There are approximately eight bus routes on NC 268 between NC 18 and Airport Road.

Wilkes Community College North Wilkesboro Center is on White Pine Street. This facility is part of the college's Basic Skills program, which provides tools for adults in literacy, employment, and self-sufficiency.

Only one daycare facility is located within the project vicinity. The facility provides adult daycare services and is located off of NC 18 just south of NC 268 on Boston Avenue. No housing or care facilities specifically for elders, hospitals or other medical facilities were found in the project study area.

Several worship facilities are located within the project area, including Assembly of God's Word, Harvest Time Church, Liberty Grove Baptist Church, and Bread of Life (vacant). All of the churches, with the exception of the Liberty Grove Baptist Church, are located adjacent to NC 268.

One cemetery is located within the project vicinity on NC 18 south of NC 268. There was no sign or name at the entrance; however, it is in active use.

There are no post offices or police stations in the project area. Wilkes Rescue Squad is off of NC 18 just south of NC 268 on Boston Avenue. The Knotville Fire Department is located on NC 268 north of Airport Road. No other emergency medical or fire station facilities occur in the project area.

5.6 LAND USE

5.6.1 EXISTING LAND USE AND ZONING

Land use along the project corridor transitions from predominantly commercial at the western end to low density residential approaching the eastern end. Airport Road provides access to the Wilkes County Airport. The Town of North Wilkesboro's 575-acre Industrial Park, is located outside of the project area to the south, off of Liberty Grove Church Road.

There is a variety of land uses along NC 268 (see Figures 2A through 2C). Businesses typical to the project area include "Mom & Pop" stores, small restaurants, automotive repair, tire stores, used car sales, machine shops, a pawn shop, and several vacant commercial buildings. Interspersed among the business uses are residences and several institutional uses including churches, a school bus maintenance yard, Wilkes County Farm Bureau, and charitable organizations.

Residential uses are scattered along NC 268. A few residential areas are located on the north side of NC 268. Near the western end of the project, a residential area is accessed from Legion Road and Fairplains Road. Closer to the eastern end of the project, there are residential areas off of Vista Lane and Beaumont Poplar Street. A small mobile home park is located off of Queens Drive.

Much of the project corridor is located within the planning jurisdiction of the Town of North Wilkesboro. The Town does not have a current land use plan, but does enforce a zoning ordinance. The Town's Comprehensive Plan includes a goal to create corridor overlay districts with design standards to strengthen the community appearance along NC 18, NC 115 and NC 268 entryways into the Town of North Wilkesboro. The Town's zoning ordinance does not currently include corridor overlay districts.

Zoning along the roadway permits highway business land uses for most of the project area, from NC 18 to approximately halfway between Mulberry Creek and Airport Road. The remainder of the project area within the Town of North Wilkesboro limits is zoned for suburban residential land uses.

5.6.2 FUTURE LAND USE

Land use in the project area is regulated by both Wilkes County and the Town of North Wilkesboro. The county as well as North Wilkesboro have plans in place to guide development. These are summarized below.

5.6.2.1 WILKES COUNTY

Wilkes County Growth Management Plan, December 2001. The purpose of this plan is to provide a guide for development for the public and private sectors. The plan incorporates land use, infrastructure, and environmental protection into recommendations on development patterns and policies. The plan includes the proposed project as a recommended transportation project.

Wilkes County Zoning Ordinance, 1977 and 2003 Zoning Map. According to the County's *Growth Management Plan*, the current Wilkes County Zoning Ordinance was adopted in 1977. There are six areas within the county that have zoning. These areas are predominantly residential and are not within the project area.

Wilkes County Watershed Protection Ordinance, September 16, 1997. This ordinance was adopted to protect water supply watersheds in the county. It provides limitations on development as well as allowed uses for each watershed type.

5.6.2.2 TOWN OF NORTH WILKESBORO

Town of North Wilkesboro 25-Year Comprehensive Plan, December 2006. This plan is the Town of North Wilkesboro's first comprehensive attempt at recording a growth management strategy. According to the plan, more traditional industries are moving out of the area due to regional and national employment trends. The plan is intended to assist the Town in transitioning to a new type of economy that will include new types of residential, commercial, and industrial land uses.

Zoning Ordinance, October 2007 and 2010 Zoning Map. Zoning is regulated by the Town both within Town limits and within the Town's extraterritorial jurisdiction (ETJ), and is guided by the objectives of the Town's comprehensive plan. Highway Business zoning is predominant along NC 268, and Low Density Residential is common farther away from the road. A Light Industrial Area is prominent north of NC 268 near NC 18, and a General Industrial Area is located south of NC 268 west of Beaumont Poplar Street.

Comprehensive Pedestrian Plan, September 2010. The Town of North Wilkesboro developed this plan to assist in the expansion, promotion and funding of safe and efficient pedestrian facilities, programs and facilities throughout the Town. The plan includes recommendations for the inclusion of sidewalks within the Town's limits along NC 268.

5.6.3 PROJECT COMPATIBILITY WITH LOCAL PLANS

The proposed widening project is consistent with the various uses and plans that exist for the area.

5.7 INDIRECT AND CUMULATIVE EFFECTS

A Community Impact Assessment and Qualitative Indirect and Cumulative Effects Assessment report was completed for the proposed project in September 2008: *Community Impact Assessment and Qualitative Indirect and Cumulative Effects Assessment, NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)*. Additional details of the methodology and analysis supporting the information provided in this section are provided in the report, appended by reference.

The Department of Environment and Natural Resources, in 15A NCAC 1C .0101 *Conformity with North Carolina Environmental Policy Act, Statement of Purpose, Policy and Scope*, defines “Cumulative Effects” as those effects resulting “from the incremental impact of the proposed activity when added to other past, present, and reasonably foreseeable future activities regardless of what entities undertake such other activities.” Cumulative effects can result when activities taking place over time are collectively significant, even when individually those activities are minor. The Code defines “Indirect Effects” as those effects “caused by and resulting from the proposed activity although they are later in time or further removed in distance, but they are still reasonably foreseeable.”

5.7.1 POTENTIAL FOR INDIRECT AND CUMULATIVE EFFECTS

Several factors are taken into consideration when evaluating the potential for indirect and cumulative impacts, and to determine if further analysis is warranted. Examples may include whether a project conflicts with local planning, whether it serves economic and/or specific development purposes, if the project could stimulate complementary development, and how the project could affect natural features. The following is an assessment of these factors as they relate to the proposed project.

5.7.1.1 CONFLICT WITH LOCAL PLAN

The proposed project is not in conflict with local plans.

5.7.1.2 EXPLICIT ECONOMIC DEVELOPMENT PURPOSE

The proposed project does not have an economic development purpose.

5.7.1.3 PLANNED TO SERVE SPECIFIC DEVELOPMENT

The proposed project does not serve specific development.

5.7.1.4 NOTABLE FEATURES IN THE IMPACT AREA

There are 15 streams (Table 5-1), one pond (Table 5-2) and six wetlands (Table 5-3) in the project study area (see Figures 2A through 2C). Mulberry Creek, Long Creek, and unnamed tributaries (UTs) to Mulberry Creek and Long Creek account for the surface waters in the project study area. Mulberry Creek is a perennial stream and flows in a southerly direction in the center of the study area under NC 268 (Figure 2B). Long Creek is a perennial stream that flows in an easterly direction, paralleling NC 268 to the south and is located in the western half of the project (Stream S1 on Figure 2A). Streams within the project area have been assigned a primary water resource classification of “C”. A small portion of the

project study area along NC 18 at the western end of the project area is located within a High Quality Waters (HQW)/ water supply watershed (WS-II). Long Creek is included on the 2010 Draft 303(d) list due to “impaired biological integrity”. There are no trout waters in the project study area.

5.7.2 ANALYSIS OF INDIRECT AND CUMULATIVE EFFECTS

The proposed project is not expected to cause substantial indirect and cumulative growth along the project corridor. The project is not expected to influence population growth substantially beyond that which is forecasted.

Traffic service can be maintained throughout the project’s construction with no anticipated adverse effects on emergency services coverage in the area. No impacts to public services are anticipated. The project is not expected to disrupt community stability or neighborhood cohesion, impact community facilities, negatively impact property values, or have any negative visual-aesthetic implications. The project is not anticipated to have a disproportionate impact on low-income or minority populations.

Water and sewer services are available to developable land along NC 268 to near Airport Road, as well as to the Wilkes Industrial Park. The Town of North Wilkesboro’s Wastewater Treatment Plant has a capacity of two million gallons and currently has approximately 1.4 million gallons available. The proposed project will not provide new access to any areas, and growth is expected along NC 268 and in the industrial park regardless of the project.

Limited effects to property values are expected as a result of the proposed project. Currently, there is more supply than demand for land in the project area. Based on the North Wilkesboro 2006 Existing Land Use Map and field observations, underdeveloped and undeveloped land is present in large tracts in the eastern end and southern portion of the Impact Area. Approximately one-quarter to one-third of the project area is underdeveloped or undeveloped.

The area along NC 268 is expected to eventually build out with or without the project. As such, the widening of NC 268 is not likely to be a primary variable responsible for secondary growth, but it may be a factor in the rate anticipated development occurs. The improved roadway could make available parcels more attractive for business development. Development trends in the project area are expected to continue in the direction of light industrial and office uses. These development trends are anticipated in particular along the eastern end of NC 268 and in the Wilkes Industrial Park. As businesses grow and develop, it is possible some residential development could take place to serve future employees.

Increased traffic, noise, air pollution, and run-off from impervious surfaces could follow this development. Increased impervious surface area can introduce pollutants that could affect water quality and negatively impact filter feeding species that would be sensitive to increased sedimentation. Reduced water quality can over time cause a change in species richness and diversity. Within the project study area, Long Creek extends from near School Bus Drive to just east of Shaver Street, where the proposed widening of NC 268 begins. Design Standards in Sensitive Watersheds will be adhered to for sediment and erosion control procedures. Neither indirect nor cumulative effects are expected to the Reddies River Water Supply Watershed since only a small portion is within the project area and it is already built-upon.

The proposed project is expected to contribute cumulatively to travel time savings in the future if STIP Project R-616, the Wilkesboro – North Wilkesboro Bypass, is constructed. The bypass project would potentially connect to NC 268 at the NC 18 intersection. Cumulatively, improvements to NC 268 combined with STIP Project R-616, which would provide improved access to US 421, and continued

development of the Wilkes Industrial Park could affect regional land demand. STIP Project R-616 is not currently funded.

5.8 FLOOD HAZARD EVALUATION

Wilkes County is currently participating in the National Flood Insurance Regular Program. The only stream located in a detailed flood study area with a published floodway is Long Creek (Stream S1 on Figure 2A). No roadway widening is anticipated at Long Creek. The existing culvert is expected to be retained and a floodway modification would not be necessary. Two other stream crossings are located in FEMA Zone "A" areas: UT to Long Creek (Stream S2 on Figure 2A) and Mulberry Creek (Figure 2B). There are no properties that have been acquired with FEMA funds in the project study area.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP (dated 6/5/08), or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division 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 the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

5.9 TRAFFIC NOISE ANALYSIS

5.9.1 INTRODUCTION

In accordance with Title 23 Code of Federal Regulations Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (Title 23 CFR 772), each Type I highway project must be analyzed for predicted traffic noise impacts. Type I projects are proposed Federal or Federal-aid highway projects for construction of a highway on new location or improvements of an existing highway which significantly changes the horizontal or vertical alignment or increases the vehicle capacity. Traffic noise impacts are determined from the current procedures for the abatement of highway traffic noise and construction noise found in Title 23 CFR 772, which also includes provisions for traffic noise abatement measures. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Details of the methodology and analysis supporting the information provided in this section are provided in the *Traffic Noise Analysis* completed in March 2010. The *Traffic Noise Analysis* is located in the project file and appended by reference.

5.9.2 TRAFFIC NOISE IMPACTS AND NOISE CONTOURS

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in the table below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels.

Table 5-7. Predicted Traffic Noise Impacts by Alternative

Alternative	Traffic Noise Impacts*			
	Residential	Churches/Schools	Businesses	Total
Build	4	0	1	5
No-Build	2	0	0	2

*Per TNM[®] 2.5 and in accordance with 23 CFR Part 772

The maximum extent of the 72- and 67- dB(A) noise level contours measured from the center of the proposed roadway is 67 feet and 110 feet, respectively.

5.9.3 NO BUILD ALTERNATIVE

The Traffic Noise Analysis also considered traffic noise impacts for the No Build Alternative. If the proposed project does not occur, two residential receptors are predicted to experience traffic noise impacts and the future traffic noise levels will increase by approximately 9 dB(A). Based upon research, humans barely detect noise level changes of 2-3 dB(A). A 5-dB(A) change is more readily noticeable. Therefore, most people working and living near the roadway will notice this predicted increase.

5.9.4 TRAFFIC NOISE ABATEMENT MEASURES

Measures for reducing or eliminating the traffic noise impacts were considered for all impacted receptors in each alternative. The primary noise abatement measures evaluated for highway projects include highway alignment changes, traffic system management measures, buffer acquisition and noise barriers. For each of these measures, benefits versus costs, engineering feasibility, effectiveness and practicability, land use issues, and other factors were included in the noise abatement considerations.

Substantially changing the highway alignment to minimize noise impacts is not considered to be a viable option for this project due to engineering and/or environmental factors. Traffic system management measures are not considered viable for noise abatement due to the negative impact they would have on the capacity and level of service of the proposed roadway. Costs to acquire buffer zones for impacted receptors will exceed the NCDOT abatement threshold of \$35,000 per benefited receptor, causing this abatement measure to be unreasonable.

5.9.5 NOISE BARRIERS

Noise barriers include three basic types: vegetative barriers, earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. For this project, the cost of acquiring additional right of way and planting sufficient vegetation is estimated to exceed the NCDOT abatement threshold of \$35,000 per benefited receptor. Also, for this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed the NCDOT abatement threshold of \$35,000 per benefited receptor.

This project will maintain uncontrolled right of way access, meaning that most commercial establishments and residences will have direct access connections to the proposed project, and all intersections will adjoin the project at grade. Businesses, churches and other related establishments require accessibility and high visibility. Noise barriers do not allow uncontrolled access, easy accessibility or high visibility, and would therefore not be acceptable abatement measures for this project. The project Traffic Noise Analysis identified no areas of potentially feasible and reasonable traffic noise abatement. Final assessment of potential traffic noise impacts and consideration of abatement measures – if applicable – will be made upon the completion of the project design and the public involvement process.

5.9.6 SUMMARY

Based on this preliminary study, traffic noise abatement is not recommended and no noise abatement measures are proposed. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772. No additional noise analysis will be performed for this project unless warranted by a significant change in the project scope, vehicle capacity or alignment.

In accordance with NCDOT Traffic Noise Abatement Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Finding of No Significant Impact (FONSI). For development occurring after this date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.

5.10 AIR QUALITY ANALYSIS

An Air Quality Analysis was completed for the proposed project in March 2010. Additional details of the methodology and analysis supporting the information provided in this section are provided in the March 26, 2010 air quality analysis report: *Air Quality Analysis, Widening of NC 268-Elkin Highway*, which is located in the project file and appended by reference.

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide (CO), nitrogen oxide (NO), hydrocarbons (HC), particulate matter, sulfur dioxide (SO₂), and lead (Pb) (listed in order of decreasing emission rate).

5.10.1 TRANSPORTATION CONFORMITY

In North Carolina, EPA has designated the North Carolina Division of Air Quality (NCDAQ) as the lead agency for enforcing federal laws and regulations dealing with air pollution in North Carolina. The State legislature enacted air quality rules for Air Pollution Control Requirements under North Carolina Administrative Code (NCAC) 15A NCAC 2D, with Air Quality Permit Procedures mandated under 15A NCAC 2Q. These air pollution control regulations require transportation projects to conform to the pollution control plans in areas where poor air quality has led to a designation as a non-attainment area.

The project is located Wilkes County, which has been determined to comply with the National Ambient Air Quality Standards. The proposed project is located in an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

5.10.2 MOBILE SOURCE AIR TOXICS (MSATs)

Recently, concerns for air toxics impacts are more frequent on transportation projects during the NEPA process. Transportation agencies are increasingly expected by the public and other agencies to address MSAT impacts in their environmental documents as the science emerges. Mobile Source Air Toxics (MSATs) analysis is a continuing area of research where, while much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health impacts from MSATs are limited. These limitations impede FHWA's ability to evaluate how mobile source health risks should factor into project-level decision-making under the National Environmental Policy Act (NEPA). Also, EPA has not established regulatory concentration targets for the six relevant MSAT pollutants appropriate for use in the project development process. FHWA has several research projects underway to more clearly define potential risks from MSAT emissions associated with transportation projects. While this research is ongoing, FHWA requires each NEPA document to qualitatively address MSATs and their relationship to the specific highway project through a tiered approach per the US DOT, Federal Highway Administration memorandum, "Interim Guidance on Air Toxic Analysis in NEPA Documents", dated February 3, 2006. The FHWA will continue to monitor the developing research in this emerging field. A qualitative analysis of MSATs for this project appears in its entirety in the March 26, 2010 project *Air Quality Analysis*, which is located in the project file and appended by reference.

5.10.3 CONSTRUCTION AIR QUALITY EFFECTS

During construction of the proposed project, all materials resulting from clearing and grubbing, demolition or other operations will be removed from the project, burned or otherwise disposed of by the Contractor. Any burning done will be done in accordance with applicable local laws and ordinances and regulations of the North Carolina State air quality implementation plan (SIP) for air quality in compliance with 15 NCAC 2D.0520. Care will be taken to insure burning will be done at the greatest distance practical from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will be performed under constant surveillance. Also during construction, measures will be taken to reduce the dust generated by construction when the control of dust is necessary for the protection and comfort of motorists or area residents. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process, and no additional reports are necessary.

5.10.4 SUMMARY

Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the air. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. New highways or the widening of existing highways increase localized levels of vehicle emissions, but these increases could be offset due to increases in speeds from reductions in congestion and because vehicle emissions will decrease in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly.

The proposed project is located in Wilkes County, which complies with the National Ambient Air Quality Standards. This project will not add substantial new capacity or create a facility that is likely to meaningfully increase emissions. Therefore, it is not expected to create any adverse effects on the air quality of this attainment area.

5.11 GEOENVIRONMENTAL

5.11.1 GEOLOGIC STRUCTURES AND GEOMORPHOLOGY

The topography is gently rolling Piedmont, bisected by the alluvial plain of Mulberry Creek. The project corridor lies with the Brevard Fault Zone. Rock core recovered from borings near the existing bridge foundation is a meta-diorite. No crystalline rock was noted in the existing cuts. Alluvium is present on both sides of Mulberry Creek but primarily on the eastern side. Residual soils make up the remaining material. Some thin seams of possible weathered rock were observed in one existing cut. The saprolite is primarily a sandy silt with mica that appears to have a high potential to erode.

5.11.2 HAZARDOUS MATERIALS AND UNDERGROUND STORAGE TANKS

A November 2007 Geotechnical Report identified 21 sites presently or formerly containing possible petroleum underground storage tanks (USTs) within the project area. Figures 2A through 2C show the locations of these sites. Ferrell Gas has two above-ground propane tanks in the southeast quadrant of NC 268 and Liberty Grove Church Road.

Impacts from petroleum contaminated soils are anticipated at three sites presently or formerly containing possible petroleum USTs. The sites are:

- Robert's Produce, located on the south side on NC 268 at the Sidney Avenue intersection. No evidence of a UST system was noted during the geotechnical investigation site visit. It is anticipated this site would have a low impact to the proposed project.
- Bread of Life Church, located on the south side of NC 268 at the Pebble Street intersection. No evidence of a UST system was noted during the geotechnical investigation site visit. It is anticipated this site would have a low impact to the proposed project.
- US Hair Force, located in the northwest quadrant of the intersection of NC 268 and Airport Road. Two possible vent pipes were noted extending from the eastern corner of the renovated roofline during the geotechnical investigation site visit. It is anticipated this site would have a low impact to the proposed project.

Gardner Glass Products, Inc. has been archived from the inventory of active Superfund Sites. The property is located at 201 Elkin Highway on the five-lane portion of NC 268 between NC 18 and SR 1979. According to the EPA website (last accessed 11/16/2010), the "Archive" designation indicates the site "has no further interest under the Federal Superfund Program based on available information." The website notes that "EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. The archive designation is removed and the site is returned to the CERCLIS inventory if more substantive assessment and/or any cleanup work is necessary under the Federal Superfund Program."

No hazardous waste sites or landfills were identified within the project study area. No other geoenvironmental concerns were identified in the project study area.

5.12 CONSTRUCTION IMPACTS

Impacts from ground disturbing activities will occur during construction within the project right of way. Examples of activities related to construction include: clearing and grubbing; traffic maintenance; bridge construction; utility construction; and, roadway paving.

Short-term construction impacts associated with the proposed project may occur in the areas of water quality, natural resources, noise, and air quality. A temporary peak in local spending from contractors and construction workers would be a benefit during construction of the proposed project. Since construction operations would be limited to the time needed to complete the project, both benefits and impacts to resources would be considered temporary. Potential construction-related impacts can be minimized by adherence to the following established construction methods:

- All materials resulting from clearing and grubbing, demolition or other operations will be removed from the project, burned or otherwise disposed of by the contractor. Any burning will be done in accordance with the applicable local laws and ordinances and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D .0520. Care will be taken to ensure burning will be done at the greatest distance practical from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will be performed under constant surveillance.
- Measures will be taken to reduce the dust generated by construction when the control of dust is necessary for the protection and comfort of motorists or area residents.
- The major construction elements of this project are expected to be earth removal, hauling, grading, and paving. General construction noise impacts such as temporary speech interference for passersby and those individuals living or working near the project, can be expected particularly from paving operations and from earth-moving equipment during grading operations. Noise construction impacts during project construction are of short duration and transmission loss characteristics of surrounding wooded areas and other natural and man-made features will moderate the effects of intrusive construction noise. Such noise will be limited to daylight hours as much as possible.
- Provisions will be taken during construction to prevent erosion, sedimentation, and construction damage to forested areas outside of the right-of-way and construction limits. Trees outside of the construction limits should be protected from construction activities to prevent skinning tree trunks by heavy equipment, exposing roots, and smothering trees from fill dirt around the base.
- Strict adherence to the sedimentation and erosion control plan will be required, including limiting areas and duration of exposed earth and stabilizing exposed areas as quickly as possible.
- Traffic service in specific areas of the project may be subject to brief disruptions during construction. Measures will be taken to maintain the flow of traffic. Access to residential and commercial areas is expected to be maintained during project construction.

5.13 SUMMARY OF SOCIAL, ECONOMIC AND ENVIRONMENTAL EFFECTS

Table 5-8 summarizes the social, economic and environmental impacts anticipated for R-2603. The recommended alternative will improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area. The recommended alternative will provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street. Measures to avoid and minimize environmental impacts include using a best-fit alignment for widening. Widening the existing road is not expected to cause substantial adverse impacts to the human or natural environments. The proposed project is compatible with local plans.

Table 5-8. Summary of R-2603 Project Impacts

Evaluation Factors	Best-Fit Widening Alternative
Project Length (miles)	3.6 (2.9 widening)
Interchanges	0
Railroad Crossings	0
Schools	0
Recreational Areas/Parks	0
Churches	0
Cemeteries	0
Utilities	Relocate 1,200 ft. water line, 1,200 ft. sewer line, utility poles
Historic Properties	0
Archaeological Sites	0
Federal Listed Threatened/Endangered Species Present in Corridor	0
State Listed Threatened or Endangered Species	0
100 Year Floodplain and Floodway Crossings	3
Forest Impacts (acres)	12.87
Prime and Unique Farmlands ¹ (acres)	46.7
Potential Residential Relocations	7
Potential Business Relocations	4
Hazardous Material Sites	3
Delineated Wetland Impacts (no. crossings/acres)	2 / 0.4
Delineated Stream Impacts (no. crossings/linear feet)	9/ 1,703
Riparian Buffer Impacts	0
Water Supply Watersheds/Critical Area	0
Wildlife Refuges and Gamelands	0
On-site Restoration Potential	Yes (S1, S3, S4, S10)
Impacted Noise Receptor	5 (4 residences, 1 business)
Section 4(f) Impacts	0
Federal Lands	0
Low Income Population Impacts	0
Minority Population Impacts	2 Minority Relocations ²
Significant Natural Heritage Program Areas	0
Existing and Proposed Greenway Crossings	0
Right of Way Cost Estimate	\$4,755,000
Construction and Utility Relocations Cost Estimates	\$20,071,121

¹ Impacts to Prime Farmland from NRCS Form AD 1006 (see Appendix B) calculated based on study area. AD 1006 Impacts to Statewide and Local Important Farmland total 143.3 acres.

² Minority relocations are included in the seven Potential Residential Relocations.

6.0 COMMENTS AND COORDINATION

This project was coordinated with appropriate federal, state, and local agencies and the public. Comments and concerns expressed were incorporated into this document, and copies of responses received are included in Appendix B.

6.1 AGENCY COORDINATION

A project scoping letter announcing the start of R-2603 project development, environmental and engineering studies was mailed out to federal, state and local agencies in June 2007. The letter requested recipients supply information that would be helpful in evaluating potential environmental impacts of the project and invited them to a project scoping meeting held in August 2007. A list of agencies contacted for comments via scoping letters is provided below. An asterisk (*) next to the name indicates that a written response was received.

- Federal Highway Administration (FHWA)
- US Environmental Protection Agency
- US Army Corps of Engineers
- US Fish and Wildlife Service
- State Clearing House – Department of Administration*
- NC Department of Public Instruction, Financial and Business Service
- NC Department of Cultural Resources, Division of Historical Resources, State Historic Preservation Office (HPO)*
- NC Department of Environment and Natural Resources (NCDENR) *
 - Division of Water Quality*
 - Natural Heritage Program*
 - NC Wildlife Resources Commission*
- NC Department of Transportation
 - Alternative Delivery Unit
 - Aviation Division
 - Bicycle and Pedestrian Division *
 - Board of Transportation Member, Division 11
 - Bridge Maintenance Unit
 - Communications Office
 - Congestion Management Unit *
 - Construction Unit
 - Geotechnical Engineering Unit
 - High Country Rural Planning Organization*

- Highway Design Branch
- Highway Division 11*
- Human Environment Unit
- Hydraulics Unit
- Location and Survey – Field Ops
- Locations and Surveys Unit*
- Natural Environment Unit
- Photogrammetry Unit
- Preconstruction
- Program Development Branch
- Project Development & Environmental Analysis
- Project Services Unit
- Rail Division*
- Roadside Environmental Unit
- Roadway Design Unit
- Right of Way Branch
- Structure Design Unit
- Title VI/Environmental Justice – Civil Rights
- Traffic Engineering & Safety Systems Branch
- Traffic Safety Systems Management
- Transportation Planning Branch*
- Utilities Coordination Unit
- Work Zone Traffic Control
- Local Agencies and Interest Groups
 - Cultural Resources/Tribal Historic Preservation Office, Eastern Band of Cherokee Indians
 - Town of North Wilkesboro Government*
 - Wilkes County Government*
 - Wilkes County EMS
 - Wilkes County Schools

6.1.1 SCOPING MEETING

On August 15, 2007, a project scoping meeting was held to exchange information about the project. Federal, state and local agency representatives were invited to participate in the scoping meeting. Representatives from NCDOT, FHWA, USACE and the High Country Rural Planning Organization attended the meeting.

6.1.2 SECTION 404/NEPA MERGER PROCESS

The agencies represented on the R-2603 Section 404/NEPA Merger Team are:

- Federal Highway Administration
- US Environmental Protection Agency
- US Army Corps of Engineers
- US Fish and Wildlife Service
- NC Department of Transportation
- NC Wildlife Resources Commission
- NC Division of Water Quality
- NC State Historic Preservation Office

A NEPA/Section 404 Merger Screening Meeting was conducted on May 21, 2007. Representatives from NCDOT, FHWA, USACE, and DWQ discussed the project and potential environmental impacts. It was determined the project should be placed in the Merger Process because of the potential for stream and wetland impacts.

On November 18, 2008, the NEPA/Section 404 Merger Team reached concurrence on Purpose and Need and the Study Area Defined (Concurrence Point 1) and Detailed Study Alternatives Carried Forward (Concurrence Point 2). Copies of the signed concurrence forms are included in Appendix C.

On July 22, 2010, the NEPA/Section 404 Merger Team reached concurrence on Bridging and Alignment Review (Concurrence Point 2A). Representatives from Wilkes County, the Town of North Wilkesboro and the High Country Rural Planning Organization attended the meeting. A copy of the signed concurrence form is included in Appendix C.

The NCDOT will continue to coordinate with the Merger Team and local officials throughout the project development process.

6.1.3 OTHER MEETINGS

Early coordination meetings were held with local planners in March 2007 to discuss the proposed project. Town representatives indicated that the public would be supportive of widening improvements to NC 268 due to the peak hour congestion currently experienced along the route.

6.2 PUBLIC INVOLVEMENT

Efforts were undertaken early in the project's planning stages to involve agencies, local officials, and citizens in the project development process.

6.2.1 NEWSLETTER

A comprehensive mailing list was developed for distribution of a project newsletter to introduce the project and to announce a planned Citizen's Informational Workshop. A copy of the March 2008 newsletter is included in Appendix D. The newsletter was sent to over 250 individuals and agencies on the project mailing list, including property owners in the project vicinity.

6.2.2 CITIZENS INFORMATIONAL WORKSHOP AND LOCAL OFFICIALS MEETING

A Local Officials Meeting and a Citizens Informational Workshop were held for the proposed project on April 14, 2008 at the North Wilkesboro Elementary School Cafeteria. A newsletter was sent announcing the meeting and advertisements were placed in local newspapers. The Local Officials Meeting was held from 3:30 to 4:30 p.m. The Citizens Informational Workshop was held from 4:30 to 6:30 p.m.

The purpose of the meetings was to introduce the project, solicit community comments and concerns, and answer questions on the project. The format for the meetings was informal. A sign-in sheet and comment forms were located at the entrance. Copies of the newsletter were also available. Several project boards were displayed for citizens to view. Verbal and written comments were received at the meetings and are summarized below. A copy of the workshop handout and written comments received are included Appendix D.

6.2.2.1 LOCAL OFFICIALS MEETING – APRIL 14, 2008

One local official, the North Wilkesboro Town Manager, attended the Local Officials Meeting. Verbal comments included:

- The Town of North Wilkesboro just annexed 400 acres south of Mulberry Creek (zoned as General Industrial) as part of the industrial park.
- Several tenants are considering locating in the industrial park, including a correctional facility and a green power generator.
- The Town is interested in a cost share arrangement with the NCDOT to construct sidewalks. The Town would like to see pedestrian friendly enhancements extend to the corporate limits.
- The project should include components that would visually discourage the use of the center turn lane as an acceleration lane.
- A future bypass (R-616) may tie into NC 268 at Airport Road.

6.2.2.2 CITIZENS INFORMATIONAL WORKSHOP – APRIL 14, 2008

Twenty-eight citizens and six local officials attended the Citizens Informational Workshop. Both verbal and written comments were received. These are categorized by topic and summarized below.

Project Timing

- The project has been needed for a long time. Please expedite the process.
- One citizen had questions on the scope of the project and the project schedule.

Project Impacts to Property

- The owner of Holland's Used Cars noted he is not concerned if his property is taken because the project is really needed.

- The owner of Jimco Gas on Legion Road said previously the five-lane road stopped there because of potential impacts to the gas station and home on opposite sides of the road. He noted he is not concerned if the project were to take either parcel.
- Gary Hutchinson owns 80 acres east of Mulberry Creek on the north side (Blackburn Farm Tyson Chicken). He would like the project to avoid his land.
- Two people living along NC 268 near Holland's Used Cars expressed a concern that they already live too close to the road. They noted that the house has been in the family a long time.
- Fred Reeves requested information on the Hazmat/UST designation shown on the workshop map associated with Ellis Automotive. The business leases Mr. Reeves' property at 820 Elkin Highway.
- Owners of a property located at 713 Elkin Highway request adequate notice if their property is to be taken. They have small children and do not want to be left at the edge of a four-lane highway.
- Owners of a property located at 1515 Elkin Highway hope that their property is not affected and would prefer that land on the opposite side of the road is used for right of way if needed. Previously, a portion of their property was purchased for right of way and trees were removed. They would like to see the trees replaced.

Project Design

- The project should be five lanes using one as a turning lane. Emergency vehicles have difficulty getting to Airport Road on a two-lane road. The project is a great idea.
- Citizens at 915 Main Street currently cannot turn onto their property when going east on the 2nd Street Ramp. They are concerned about the intersection of NC 268 and the 2nd Street Ramp / Flint Hill Road.

Other Comments

- One citizen wanted sidewalks on NC 18.
- Several citizens asked about the location of future median openings.

6.3 DISTRIBUTION OF THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment will be circulated to federal and state agencies for review and comment. A 30-day comment period, starting after the distribution of the Environmental Assessment by the State Clearinghouse, will be provided to obtain comments on the proposed action and assessment of environmental impacts. Copies of the Environmental Assessment will also be distributed to locations in the vicinity of the project area for public access prior to the Public Hearing. Responses to comments regarding the project and Environmental Assessment will be provided in a final environmental document.

6.4 PUBLIC HEARING

NCDOT will conduct a public hearing for R-2603 to review the recommended design and Environmental Assessment with the public, and receive their comments. Formal notices will be included

in the local newspapers a minimum of 30 days prior to the Hearing. Additional notices for the meeting will also be sent to persons on the project mailing list.

7.0 LIST OF REFERENCES AND TECHNICAL REPORTS

EPA Superfund website <http://cfpub.epa.gov/supercpad/cursites>

Gibson Engineers, PC. April 8, 2008. *R-2603 Accident Analysis*.

Gibson Engineers, PC. September, 2008. *R-2603 Capacity Analysis Report*.

Mulkey Engineers and Consultants. August 2007. *Scoping Meeting Report, NC 268 (Elkin Highway) Improvements, Multi-lanes East of NC 18 to SR 1966 (Airport Road)*.

Mulkey Engineers and Consultants. July 2008. *Preliminary Hydraulics Study for Environmental Impact, NC 268 (Elkin Highway) Improvements Multi-Lanes East of NC 18 to SR 1966 (Airport Road)*.

Mulkey Engineers and Consultants. August 2008. *Natural Resources Technical Report, TIP R-2603, NC 268 (Elkin Highway) Road Widening Project*.

Mulkey Engineers and Consultants. September 2008. *Community Impact Assessment and Qualitative Indirect and Cumulative Effects Assessment, NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966), NCDOT TIP Project No. R-2603*.

Mulkey Engineers and Consultants. November 2008. *Purpose and Need and Study Area Defined (Concurrence Point 1) and determine Design Options for Detailed Study (Concurrence Point 2), NC 268 (Elkin Highway) Widening and Improvements from NC 18 in to SR 1966 (Airport Road)*.

Mulkey Engineers and Consultants. July 2010. *Bridging and Alignment Review (Concurrence Point 2A and Selection of Least Environmentally Damaging Practicable Alternative (Concurrence Point 3), NC 268 (Elkin Highway) Widening and Improvements from NC 18 in to SR 1966 (Airport Road)*.

North Carolina Department of Transportation. *2009-2015 State Transportation Improvement Program*.
www.ncdot.org.

North Carolina Department of Transportation. Functional Classification Maps. <http://www.ncdot.org/planning/development/TIP/func/maps/FuncMaps.htm>.

North Carolina Department of Transportation. June 1990. *Feasibility Study, NC 268 from Existing Multi-lanes East of NC 18 to SR 1966*.

North Carolina Department of Transportation. August 15, 2007. *Location and Surveys Scoping Comments Memorandum*.

North Carolina Department of Transportation. November 2007. *Geotechnical Pre-Scoping Report, NC 268 from Multi-lanes East of NC 18 to SR 1966 (Airport Road)*.

North Carolina Department of Transportation. June 27, 2008. *Road Safety Review, NC 268 from NC 18 (Second Street) in North Wilkesboro east to approximately 0.5 miles west of the Surry County Line in Wilkes County*.

North Carolina Department of Transportation. January 2010. *Archaeology Survey Report, Proposed Widening and Improvements to NC 268 (Elkin Highway) from NC 18 to SR 1966 (Airport Road)*.

North Carolina Department of Transportation. March 2010. *Traffic Noise Analysis, NC 268 (Elkin Highway) from NC 18 to SR 1966 (Airport Road)*.

North Carolina Department of Transportation. March 2010. *Air Quality Analysis, Widening of NC 268-Elkin Highway*.

North Carolina Department of Transportation. March 2010. *R-2603 Preliminary Right of Way Cost Estimate*.

North Carolina Department of Transportation. April 2010. *R-2603 Preliminary Construction Cost Estimate*.

North Carolina Department of Transportation. April 2010. *R-2603 Relocation Report*.

North Carolina Department of Transportation. May 2010. *Natural Resources Technical Report Addendum, NC 268 Widening (Elkin Highway) from NC 18 to Airport Road*.

Town of North Wilkesboro. www.north-wilkesboro.com. *Town of North Wilkesboro Pedestrian Plan*

APPENDIX A – FIGURES

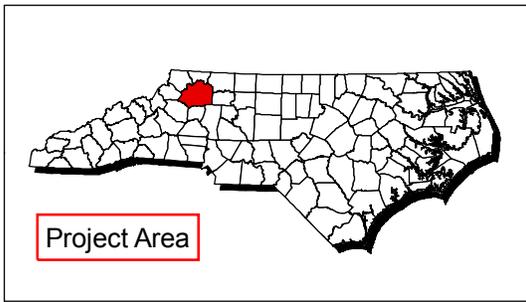
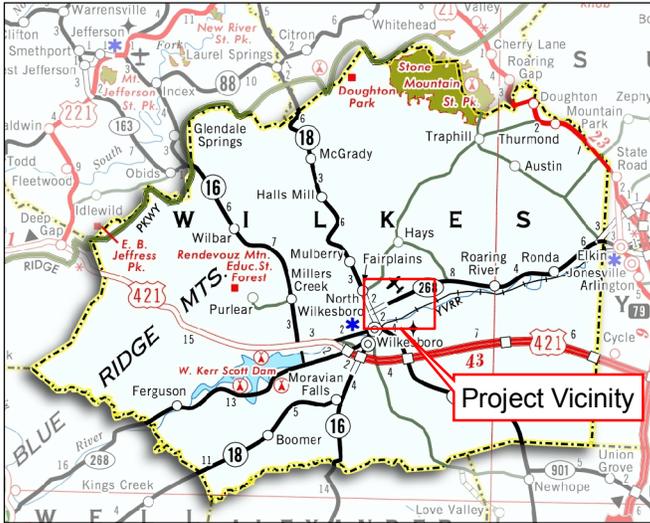


Figure 1

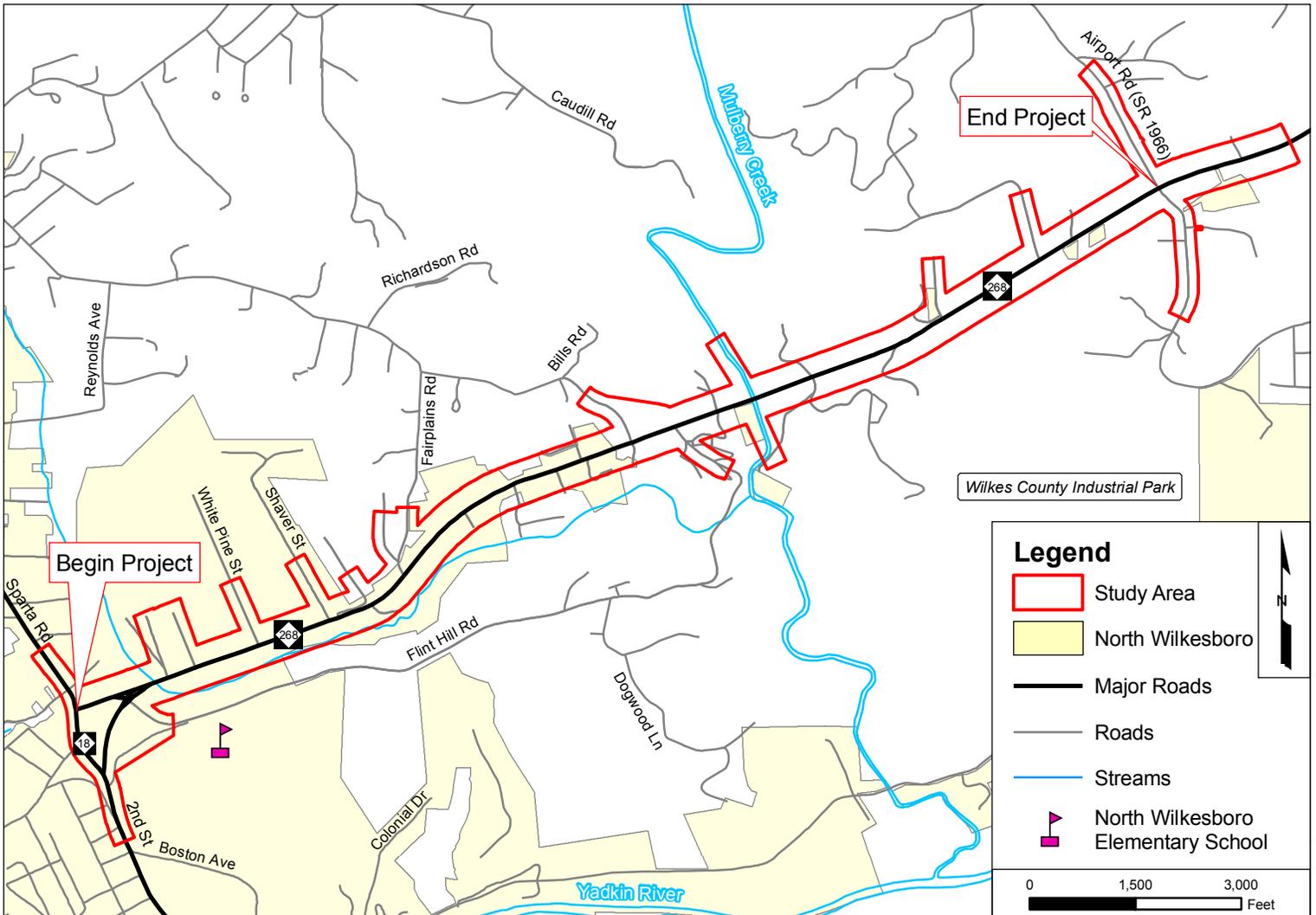
Project Vicinity

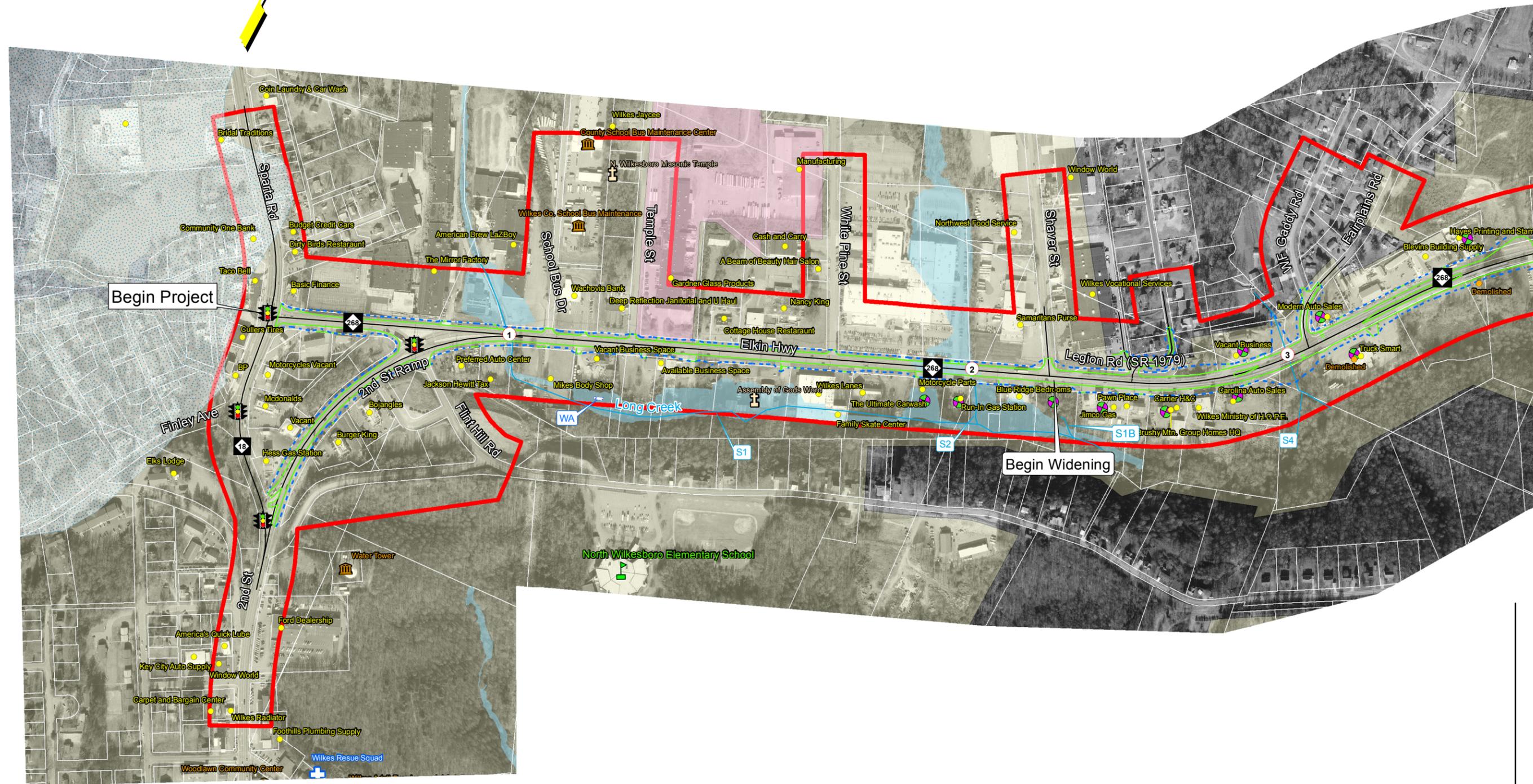
R-2603

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to SR 1966 (Airport Road)
Wilkes County, North Carolina



North Carolina
Department of Transportation





Match to Figure 2B



Prepared For:
North Carolina Department
of Transportation

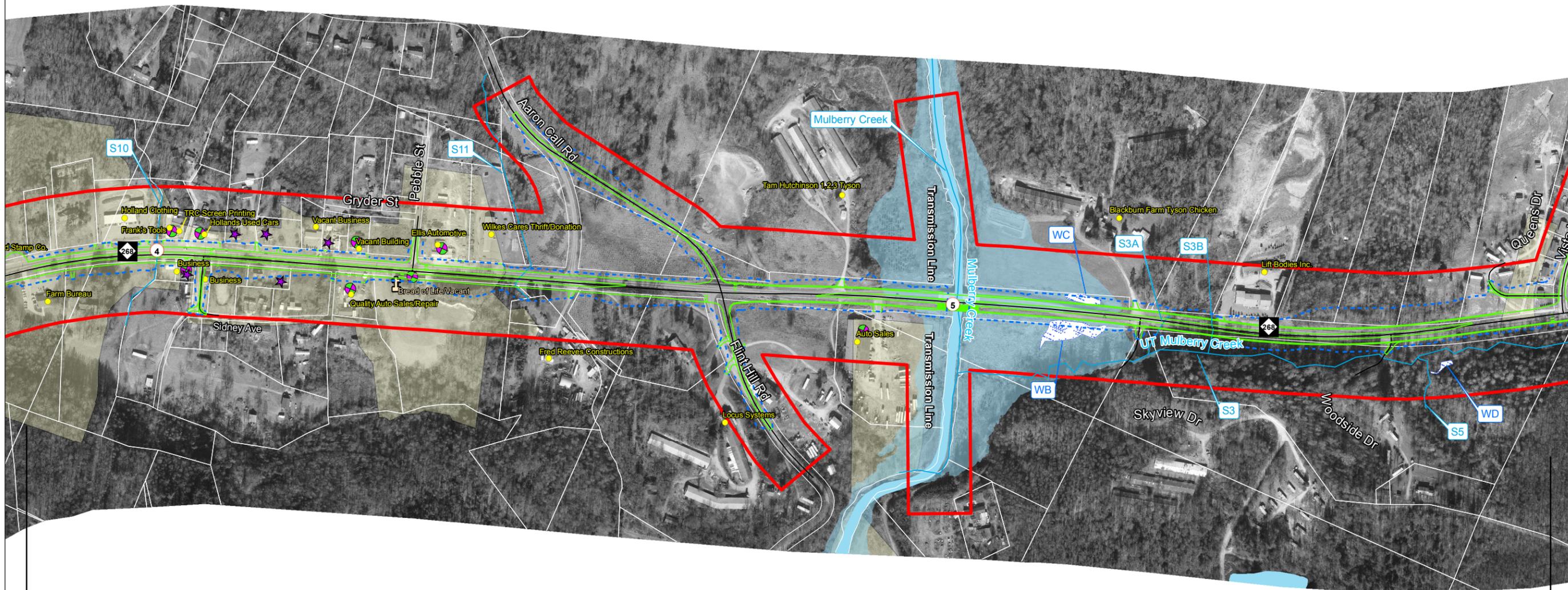


0 250 500 1,000
Feet

NC 268 Widening and Improvements
Notable Features
 NCDOT TIP Project No. R-2603
 NC 18 to SR 1966 (Airport Road)
 Wilkes County, North Carolina
 Map Date: 11/23/10
 Orthophotography: NCDOT, 2008

Legend	
	Study Area
	North Wilkesboro
	Parcels
	Waterbody
	Wetlands
	Reddies River WS-II
	Superfund (Archived)
	Edge of Pavement
	Centerline
	Slope Stakes
	Significant Natural Heritage Area
	100 Year Floodplain
	Streams
	Hazmat/Underground Storage Tanks
	Hydraulic Sites
	Natural Heritage Program Sites
	Schools
	Government Facilities
	Emergency Facilities
	Churches
	Businesses
	Impacted Noise Receptors

Figure
2A



Match to Figure 2A

Match to Figure 2C



Prepared For:
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of Transportation



NC 268 Widening and Improvements
Notable Features
 NCDOT TIP Project No. R-2603
 NC 18 to SR 1966 (Airport Road)
 Wilkes County, North Carolina
 Map Date: 11/23/10
 Orthophotography: NCDOT, 2008

Legend

- Study Area
- North Wilkesboro
- Parcels
- Waterbody
- Wetlands
- Reddies River WS-II
- Superfund (Archived)
- Edge of Pavement
- Centerline
- Slope Stakes
- Significant Natural Heritage Area
- 100 Year Floodplain
- Streams
- Hazmat/Underground Storage Tanks
- Hydraulic Sites
- Natural Heritage Program Sites
- Schools
- Government Facilities
- Emergency Facilities
- Churches
- Businesses
- ★ Impacted Noise Receptors

Figure
2B



Match to Figure 2B



Prepared For:
North Carolina Department
of Transportation



NC 268 Widening and Improvements
Notable Features
NCDOT TIP Project No. R-2603
NC 18 to SR 1966 (Airport Road)
Wilkes County, North Carolina
Map Date: 11/23/10
Orthophotography: NCDOT, 2008

Legend

- Study Area
- North Wilkesboro
- Parcels
- Waterbody
- Wetlands
- Reddies River WS-II
- Superfund (Archived)
- Edge of Pavement
- Centerline
- Slope Stakes
- Significant Natural Heritage Area
- 100 Year Floodplain
- Streams
- Hazmat/Underground Storage Tanks
- Hydraulic Sites
- Natural Heritage Program Sites
- Schools
- Government Facilities
- + Emergency Facilities
- ⛪ Churches
- Businesses
- ★ Impacted Noise Receptors

Figure
2C

2007

R-2603 Wilkes

Widening of NC 268-Elkin Hwy

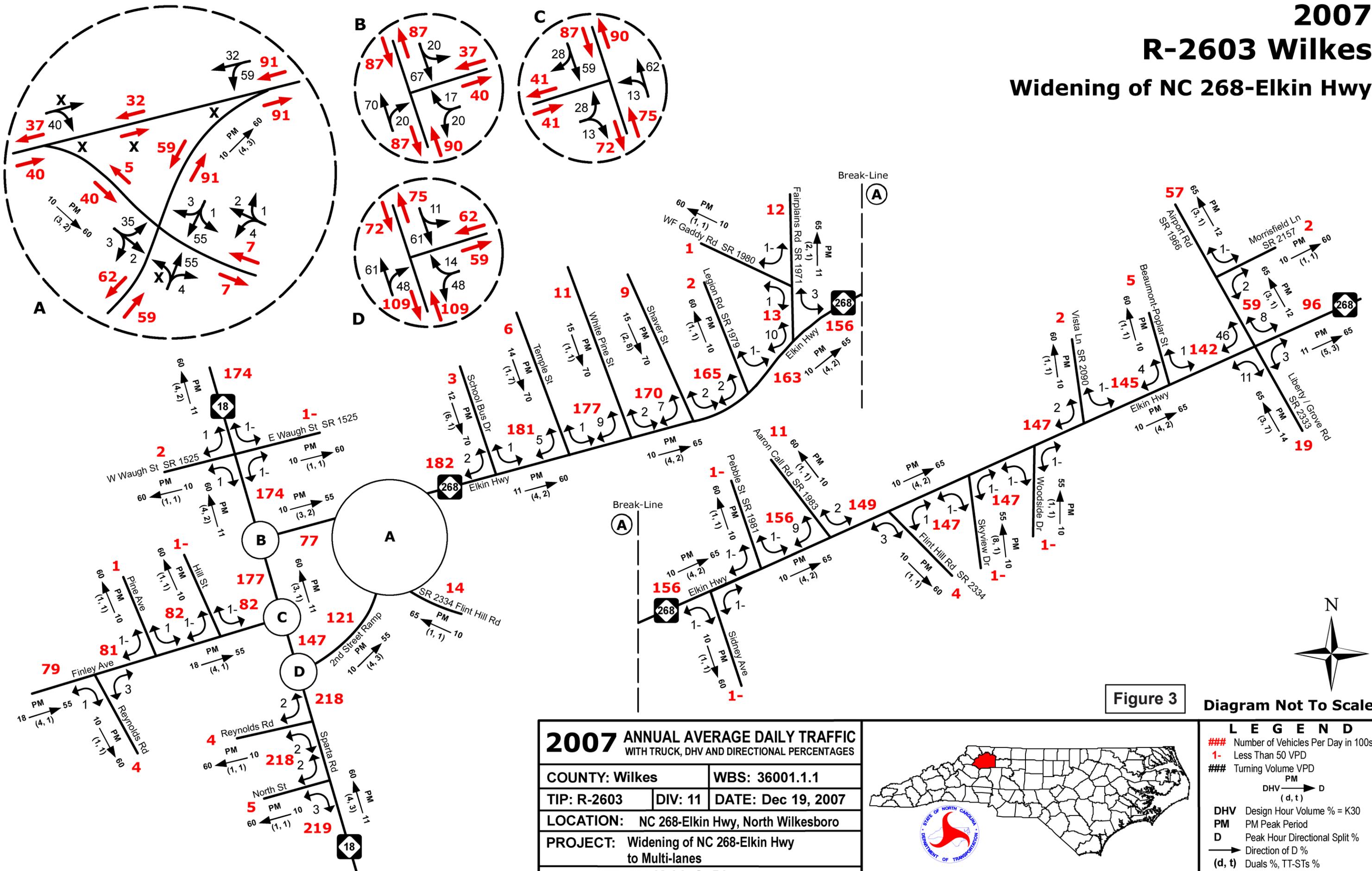
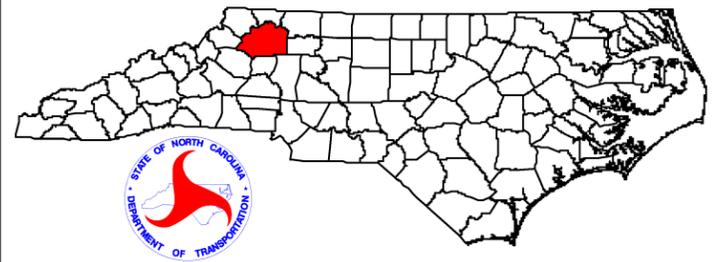


Figure 3

Diagram Not To Scale

2007 ANNUAL AVERAGE DAILY TRAFFIC WITH TRUCK, DHV AND DIRECTIONAL PERCENTAGES		
COUNTY: Wilkes	WBS: 36001.1.1	
TIP: R-2603	DIV: 11	DATE: Dec 19, 2007
LOCATION: NC 268-Elkin Hwy, North Wilkesboro		
PROJECT: Widening of NC 268-Elkin Hwy to Multi-lanes		
PREPARED BY: Keith G. Dixon		



LEGEND

Number of Vehicles Per Day in 100s
 1- Less Than 50 VPD
 ### Turning Volume VPD
 PM
 DHV → D
 (d, t)
 DHV Design Hour Volume % = K30
 PM PM Peak Period
 D Peak Hour Directional Split %
 → Direction of D %
 (d, t) Duals %, TT-STs %
 X Movement Prohibited

2035

R-2603 Wilkes

Widening of NC 268-Elkin Hwy

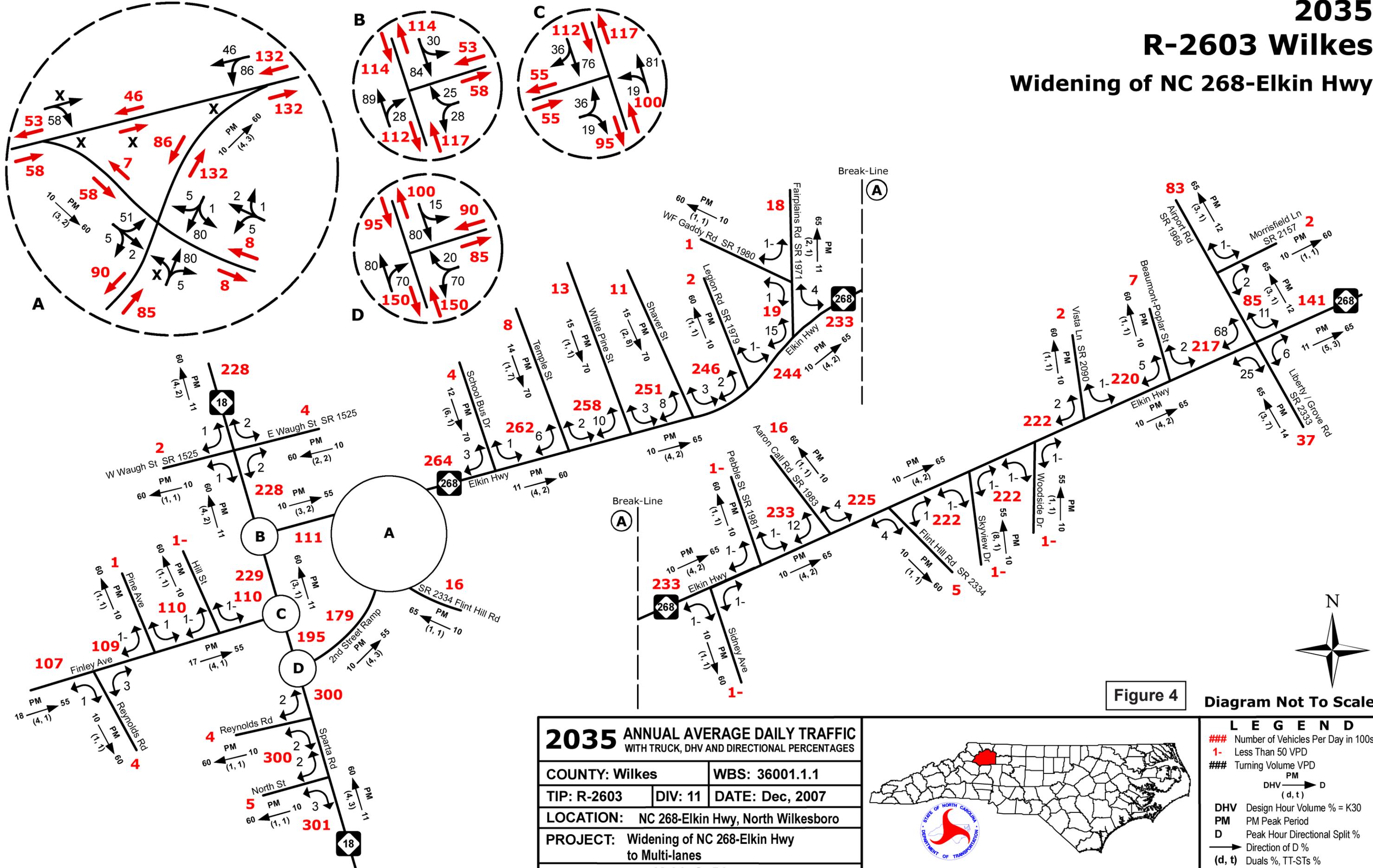
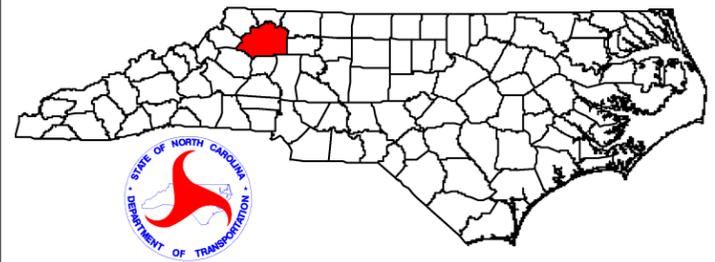


Figure 4

Diagram Not To Scale

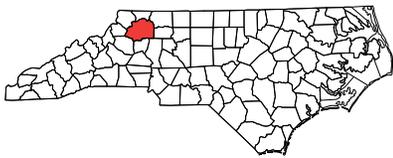
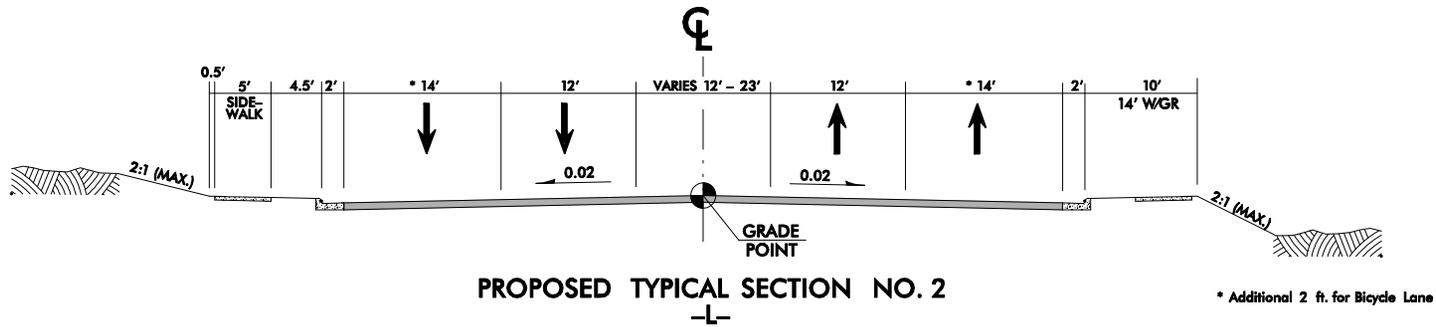
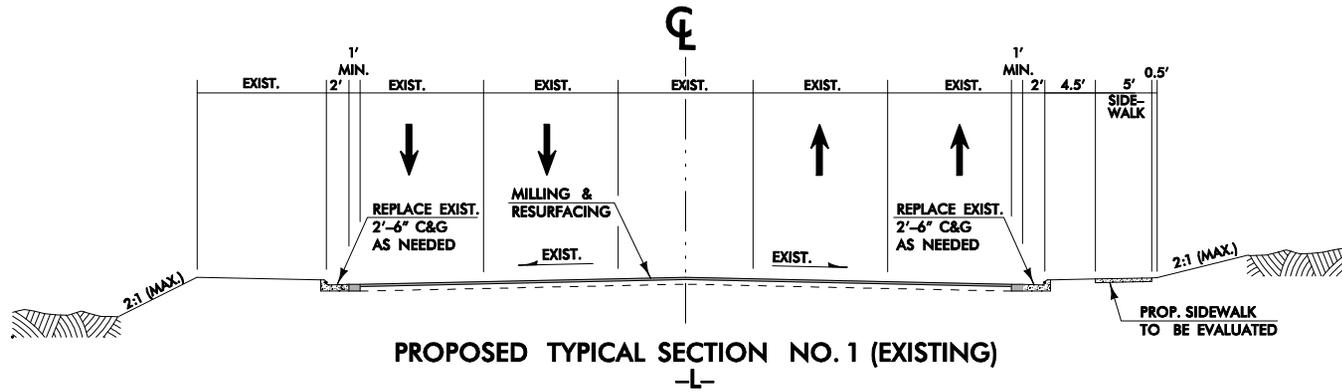


2035 ANNUAL AVERAGE DAILY TRAFFIC WITH TRUCK, DHV AND DIRECTIONAL PERCENTAGES		
COUNTY: Wilkes		WBS: 36001.1.1
TIP: R-2603	DIV: 11	DATE: Dec, 2007
LOCATION: NC 268-Elkin Hwy, North Wilkesboro		
PROJECT: Widening of NC 268-Elkin Hwy to Multi-lanes		
PREPARED BY: Keith G. Dixon		



LEGEND

- ### Number of Vehicles Per Day in 100s
- 1- Less Than 50 VPD
- ### Turning Volume VPD
- PM Peak Period
- D Peak Hour Directional Split %
- Direction of D %
- (d, t) Duals %, TT-STs %
- X Movement Prohibited



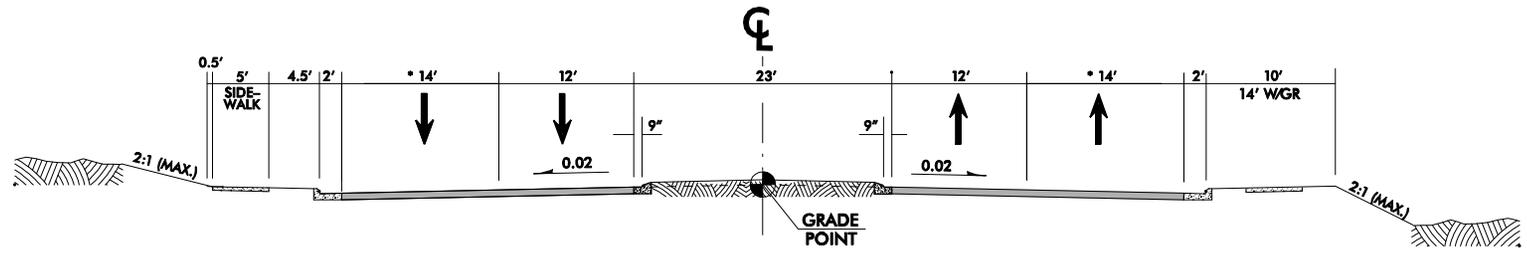
Typical Sections

R-2603
 Proposed Transportation Improvement to NC 268 (Elkin Highway)
 From East of NC 18 to West of SR 1966 (Airport Road)
 Wilkes County, North Carolina

Prepared For:
 North Carolina Department of Transportation

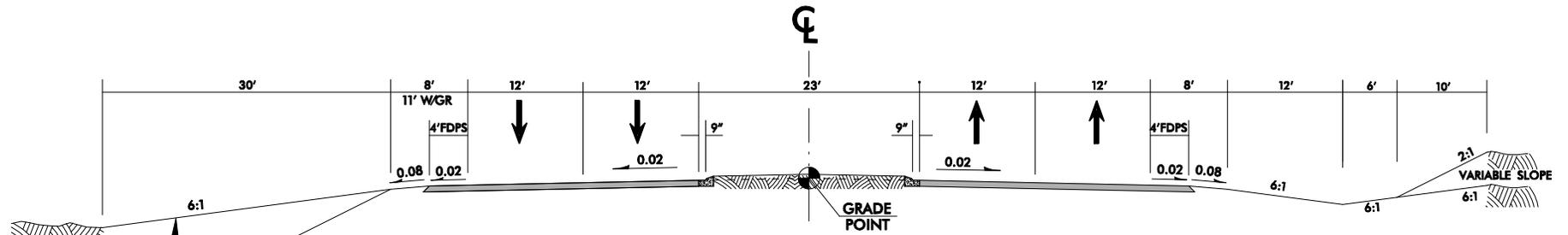
Figure

5



PROPOSED TYPICAL SECTION NO. 3

* Additional 2 ft. for Bicycle Lane



PROPOSED TYPICAL SECTION NO. 4



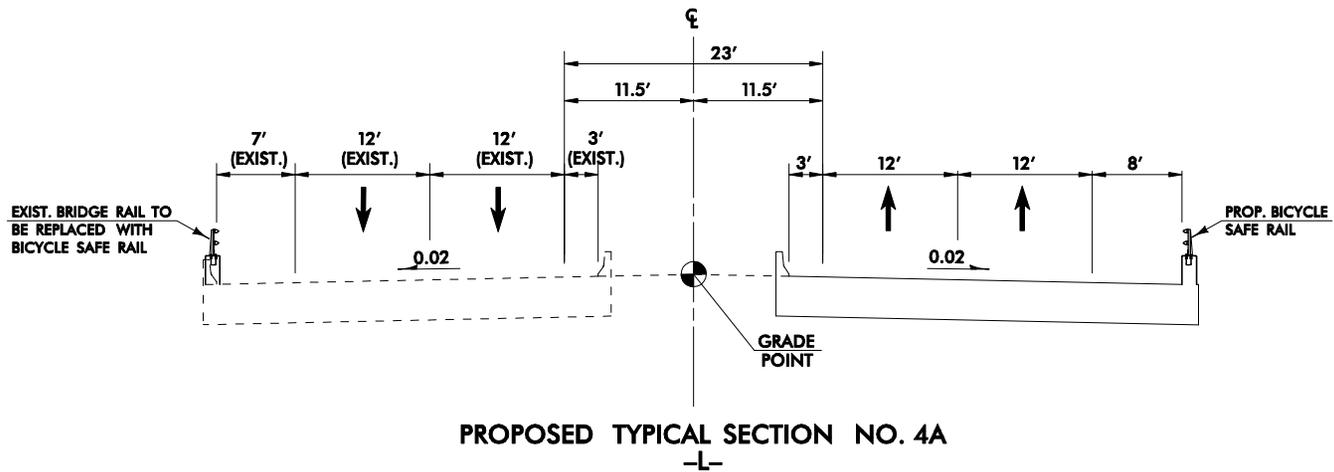
Typical Sections

R-2603
 Proposed Transportation Improvement to NC 268 (Elkin Highway)
 From East of NC 18 to West of SR 1966 (Airport Road)
 Wilkes County, North Carolina

Prepared For:
 North Carolina Department of Transportation

Figure

6



Typical Sections

R-2603
 Proposed Transportation Improvement to NC 268 (Elkin Highway)
 From East of NC 18 to West of SR 1966 (Airport Road)
 Wilkes County, North Carolina

Prepared For:
 North Carolina Department of Transportation

Figure

7

APPENDIX B – AGENCY CORRESPONDENCE

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

COPY

Action Id. 200801913

County: Wilkes

U.S.G.S. Quad: Wilkesboro

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: Mr. Ahmad Al-Sharawneh
Address: NCDOT PDEA
1548 Mail Service Center
Raleigh, NC 27699
Telephone No.: 919-733-7844 x258

Property description:

Size (acres)	<u>3 miles</u>	Nearest Town	<u>Smithfield</u>
Nearest Waterway	<u>Mulberry Creek and Long Creek</u>	River Basin	<u>Yadkin-Pee Dee</u>
USGS HUC	<u>03040101</u>	Coordinates	N <u>36.1910</u> W <u>-81.1144</u>

Location description The project site is approximately 3 miles of Elkin HWY 268 located between NC HWY 18 and Shaver Rd., near North Wilkesboro, Wilkes County, North Carolina. Aquatic features on site drain to Mulberry and Long Creeks in the Yadkin River basin.

Indicate Which of the Following Apply:

A. Preliminary Determination

- Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are waters of the U.S. including wetlands on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

We strongly suggest you have the waters of the U.S. including wetlands on your project area delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

The Waters of the U.S. including wetlands on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

Action ID: 200801913

The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Monte Matthews at 919-554-4884 ext 30.

C. Basis For Determination

Areas on site meet wetland criteria as described in the Corps 1987 Delineation Manual and an Established OHWM.

D. Remarks

Site Visit was conducted to verify the extent of jurisdiction on April 16, 2008.

E. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn: Jean Manuele, Field Office Chief,
Raleigh Regulatory Field Office
3331 Heritage Trade Dr., suite 105
Wake Forest, North Carolina 27587

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by August 17, 2008

It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Monte Matthews



Date June 17, 2008

Expiration Date June 17, 2013

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://regulatory.usacesurvey.com/> to complete the survey online.

Copy furnished:
Mulkey Engineers and Consultants
ATTN: Brian Dustin
6750 Tryon Rd.
Cary NC, 27518

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Ahmad Al-Sharawneh NCDOT PDEA	File Number: SAW-2008- 01913	Date: June 17, 2008
Attached is:		See Section below
<input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)		B
<input type="checkbox"/> PERMIT DENIAL		C
<input checked="" type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION		D
<input type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
Monte Matthews, Project Manager
Raleigh Regulatory Field Office
3331 Heritage Trade Dr., suite 105
Wake Forest, NC 27587

If you only have questions regarding the appeal process you may also contact:
Jean Manuele, Field Office Chief
Raleigh Regulatory Field Office
3331 Heritage Trade Dr., suite 105
Wake Forest, NC 27587

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
---	-------	-------------------

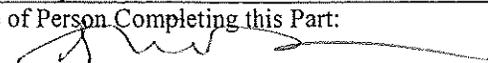
For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

**District Engineer, Wilmington Regulatory Division, Attn: Jean Manuele, Field Office Chief,
Raleigh Regulatory Field Office, 3331 Heritage Trade Dr., suite 105, Wake Forest, North Carolina
27587**

For Permit denials and Proffered Permits send this form to:

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell,
Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta,
Georgia 30303-8801**

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

Part I (To be Completed by Federal Agency)		3. Date of Land Evaluation Request 2/22/08	4. Sheet 1 of 1		
1. Names of Project NC 268 Improvements, TIP No. R-2603		5. Federal Agency Involved NCDOT, FHWA			
2. Type of Project Road widening		6. County and State Wilkes County, NC			
PART II (To be completed by SCS)		1. Date Request Received by SCS.	2. Person Completing Form		
3. Does the corridor contain prime unique statewide or local important farmland? Yes <input checked="" type="checkbox"/> (If no the FPPA does not apply - Do not complete additional parts of this form No <input type="checkbox"/>		4. Acres Irrigated	Average Farm Size 98 ac		
5. Major Crop(s) CORN, HAY, SOYBEANS	6. Farmable Land in Government Jurisdiction: 254,308	7. Amount of Farmland As Defined in FPPA 182,240			
8. Name of Land Evaluation System Used WILKES CALES	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by SCS 3/7/08			
PART III (To be completed by Federal Agency)		Alternative Corridor for Segment			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres to be Converted Directly		381 100 ac	190		
B. Total Acres to be Converted Indirectly or to Receive Services					
C. Total Acres in Corridor		381 100 ac			
PART IV (To be completed by SCS) Land Evaluation Information					
A. Total Acres Prime and Unique Farmland		46.7			
B. Total Acres Statewide and Local Important Farmland		143.3			
C. Percentage of Farmland in County or Local Govt. Unit to be Converted		<1.0%			
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value		25.9%			
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0-100 Points)		63			
PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use	15	3			
2. Perimeter in Nonurban Use	10	3			
3. Percent of Corridor Being Farmed	20	1			
4. Protection Provided by State and Local Government	20	20			
5. Size of Present Farm Unit Compared to Average	10	0			
6. Creation of Nonfarmable Farmland	25	1			
7. Availability of Farm Support Services	5	5			
8. On-Farm Investments	20	5			
9. Effects of Conversion On Farm Support Services	25	0			
10. Compatibility with Existing Agricultural Use	10	5			
TOTAL CORRIDOR ASSESSMENT POINTS		160	43		
PART VII (To be completed by Federal Agency)					
Relative Value of Farmland (From Part V)		100	63		
Total Corridor Assessment (Form Part VI above or a local site assessment)		160	43		
TOTAL POINTS (Total of above 2 lines)		260	106		
1. Corridor Selected: A	2. Total Acres of Farmlands to be Converted by Project: 190 ac.	3. Date of Selection: Not yet official, but only one corridor considered.	4. Was a Local Site Assessment Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
5. Reason for Selection: Only one corridor under consideration.					
Signature of Person Completing this Part: 			Date 3-28-08		

NOTE: Complete a form for each segment with more than one Alternative Corridor



North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

June 19, 2007

Mr. Gregory Thorpe
N.C. Department of Transportation
Project Dev. & Env. Analysis Branch
1548 Mail Service Center
Raleigh NC 27699-1534

Dear Mr. Thorpe:

Subject: Scoping - Widening of NC 268 (Elkin Highway) from two lanes to multi-lanes from east of NC 18 to SR 1966 (Airport Road) in Wilkes County. TIP No. R-2603

The N. C. State Clearinghouse has received the above project for intergovernmental review. This project has been assigned State Application Number 07-E-4220-0388. Please use this number with all inquiries or correspondence with this office.

Review of this project should be completed on or before 07/19/2007. Should you have any questions, please call (919)807-2425.

Sincerely,

A handwritten signature in cursive script that reads "Chrys Baggett".

Ms. Chrys Baggett
Environmental Policy Act Coordinator

cc: Ahmad Al-Sharawneh, Project Engineer

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail: Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina



JUL 25 2007

North Carolina Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

July 20, 2007

Mr. Gregory Thorpe
N.C. Department of Transportation
Project Dev. & Env. Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1534

Dear Mr. Thorpe:

Re: SCH File # 07-E-4220-0388; Scoping; Widening of NC 268 (Elkin Highway) from two lanes to multi-lanes from east of NC 18 to SR 1966 (Airport Road) in Wilkes County. TIP No. R-2603

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script that reads "Chrys Baggett/376".

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region D

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina



July 13, 2007

MEMORANDUM

To: Melba McGee, Environmental Coordinator, DENR

From: Sue Homewood, NC Division of Water Quality, Winston-Salem Regional Office

Subject: Scoping comments on proposed improvements to NC 268 (Elkin Highway) in Wilkes County, State Project No. 36001.1.1, TIP R-2603, DENR Project Number 07-0388 due 7/16/2007.

Reference NCDOT correspondence dated June 15, 2007 in which you requested comments for the referenced project. Preliminary analysis of the project reveals the potential for multiple impacts to perennial streams and jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number
Long Creek	Yadkin	C	12-42-9
Mulberry Creek	Yadkin	C	12-42
UT to Mulberry Creek	Yadkin	C	12-42

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

Project Specific Comments:

1. Long Creek is class C; 303(d) waters of the State. Long Creek is on the 303(d) list for impaired use for aquatic life due to impaired biological integrity. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Long Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

General Project Comments:

1. The environmental document shall provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

2. Environmental assessment alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.
4. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.
5. DWQ is very concerned with sediment and erosion impacts that could result from this project. NC DOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
6. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
7. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
8. Bridge supports (bents) shall not be placed in the stream when possible.
9. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.
10. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices*.
11. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured

concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

12. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
13. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
14. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
15. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3494/Nationwide Permit No. 6 for Survey Activities.
16. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
17. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures should be used to prevent excavation in flowing water.
18. Sediment and erosion control measures shall not be placed in wetlands and streams.
19. Borrow/waste areas shall avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.
20. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent

inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

21. Heavy equipment shall be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
22. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.
23. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Sue Homewood at 336-771-4964

cc: Monte Matthews, US Army Corps of Engineers, Raleigh Field Office
Marla Chambers, NC Wildlife Resources Commission
Marella Buncick, US Fish and Wildlife Service
DWQ Winston-Salem Regional Office
DWQ 401 Transportation Permitting Unit



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

April 29, 2008

Mr. Brian Dustin
Mulkey Engineers and Consultants
6750 Tryon Road
Cary, NC. 27518

Subject: NCDOT TIP # R-2603, Wilkes County
Improvements and widening of NC 268 from NC 18 to Airport Road
On-Site Determination for Applicability to the Mitigation Rules (15A NCAC 2H .0506(h))

Dear Mr. Dustin:

On April 16, 2008, at your request and in your attendance, David Wainwright and Amy Euliss, Division of Water Quality (DWQ) staff, conducted an on-site determination to review drainage features located within the current project area of R-2603; along NC 268, for applicability to the mitigation rules (15A NCAC 2H .0506(h)). The drainage features are approximated on the attached map signed and dated April 23, 2008.

Features visited or located within the project area include:

Feature ID	Stream Name	Site Visited	Stream Type	Mitigation Required
S1	Long Creek	No	Perennial	Yes
S1B	UT to Long Creek	Yes	Intermittent	No
S2	UT to Long Creek	Yes	Intermittent	No
S3	UT to Mulberry Creek	Yes	Perennial	Yes
S3A	UT to Mulberry Creek	Yes	Intermittent	No
S3B	UT to Mulberry Creek	No	Intermittent	No
S4	UT to Long Creek	No	Perennial	Yes
	Mulberry Creek	No	Perennial	Yes
S5	UT to Mulberry Creek	No	Intermittent	No
S6	UT to Mulberry Creek	No	Ephemeral	No
S7	UT to Mulberry Creek	No	Intermittent	No
S8	UT to Mulberry Creek	Yes	Ephemeral	No
S9	UT to Mulberry Creek	Yes	Ephemeral	No
S10	UT to Long Creek	Yes	Intermittent	No

Please note that other sites identified in the jurisdiction verification request package but not reviewed on site by DWQ will be considered accurate as presented. Many of these sites (if not all) are indicated in the above table with a "No" in the "Site Visited" column, indicating the given feature was not field verified.

The DWQ believes that Feature 8 and Feature 9 may be the same feature. While this feature is not shown on the USGS 1:24,000 USGS topoquad maps as a blue-line feature, it does appear to be shown as a continuous feature on the NRCS

soil map surveys. Additionally, discussions with a local gentleman during the field review support this. It was indicated in discussion that this single feature is controlled by a man-made pond, located to the north of NC 268, along Airport Road.

This letter only addresses the applicability to the mitigation rules and does not approve any activity within Waters of the United States, or Waters of the State. Any impacts to wetlands, or streams must comply with the 404/401 regulations and any other required federal, state and local regulations.

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 the DWQ 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 John Dorney, DWQ Wetlands/401 Unit, 1650 Mail Service Center, Raleigh, NC 27699-1650. Individuals that dispute a determination by the DWQ or Delegated Local Authority that "exempts" a surface water from the mitigation rules may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. 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 David Wainwright at (919)715-3415 or at David.Wainwright@ncmail.net.

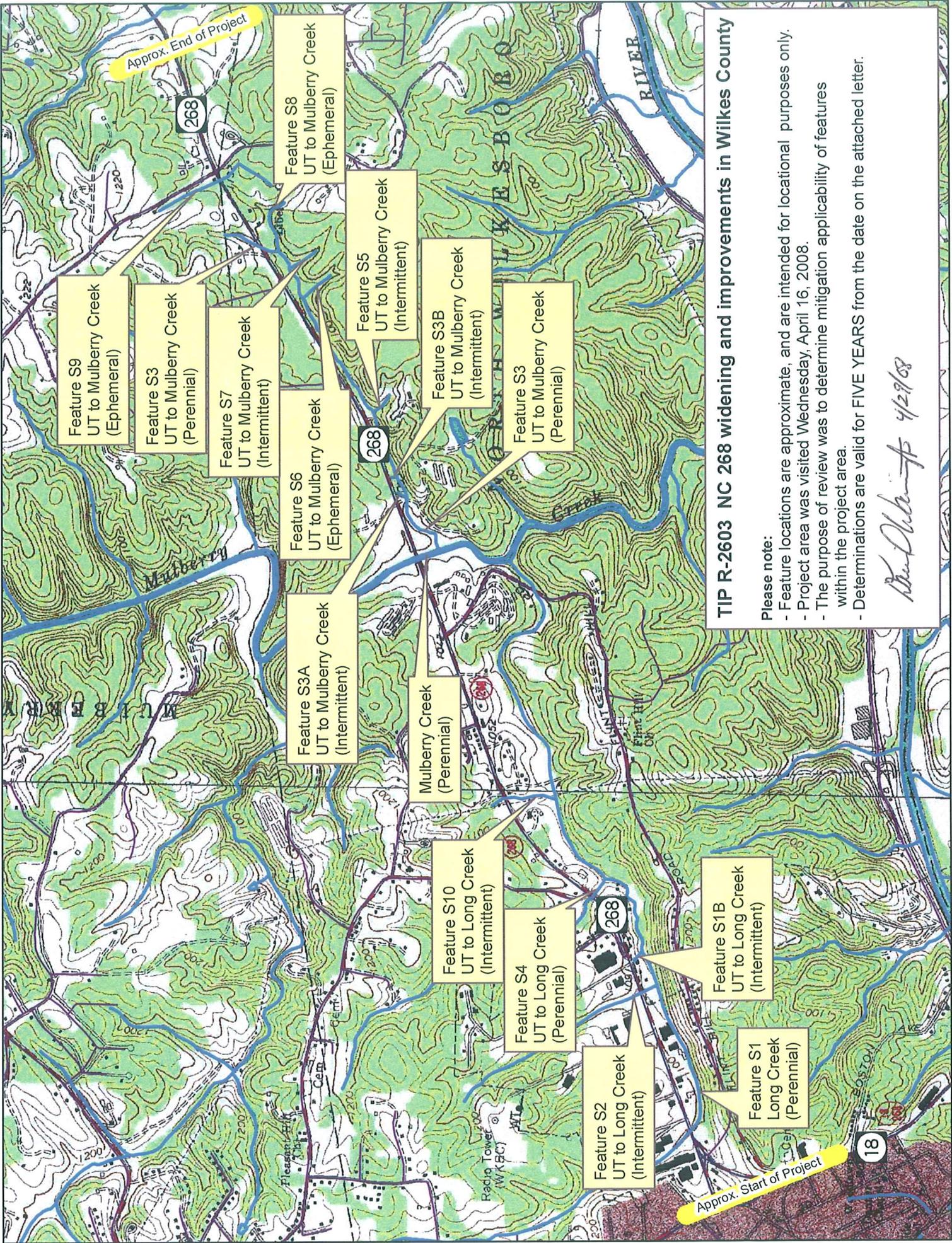
Sincerely,



David Wainwright

Attachments: Signed location map

cc: Monte Matthews, US Army Corps of Engineers – Raleigh Regulatory Field Office
Amy Euliss, DWQ Winston-Salem Office
File Copy



Feature S9
UT to Mulberry Creek
(Ephemeral)

Feature S3
UT to Mulberry Creek
(Perennial)

Feature S7
UT to Mulberry Creek
(Intermittent)

Feature S6
UT to Mulberry Creek
(Ephemeral)

Feature S3A
UT to Mulberry Creek
(Intermittent)

Mulberry Creek
(Perennial)

Feature S10
UT to Long Creek
(Intermittent)

Feature S4
UT to Long Creek
(Perennial)

Feature S2
UT to Long Creek
(Intermittent)

Feature S1B
UT to Long Creek
(Intermittent)

Feature S1
Long Creek
(Perennial)

Feature S8
UT to Mulberry Creek
(Ephemeral)

Feature S5
UT to Mulberry Creek
(Intermittent)

Feature S3B
UT to Mulberry Creek
(Intermittent)

Feature S3
UT to Mulberry Creek
(Perennial)

TIP R-2603 NC 268 widening and improvements in Wilkes County

Please note:

- Feature locations are approximate, and are intended for locational purposes only.
- Project area was visited Wednesday, April 16, 2008.
- The purpose of review was to determine mitigation applicability of features within the project area.
- Determinations are valid for FIVE YEARS from the date on the attached letter.

Robert Chalmers 4/29/08



North Carolina Department of Environment and Natural Resources

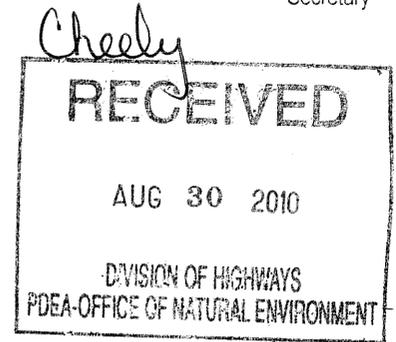
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

August 25, 2010

Erin Cheely
Natural Environment Unit
1598 MAIL SERVICE CENTER (Mail)
RALEIGH NC 27699-1598



Subject: NCDOT TIP #R-2603, Wilkes County
UT to Mulberry Creek [Yadkin, 12-42, C]

On-Site Determination for Applicability to the Mitigation Rules (15A NCAC 2H .0506(h))

Dear Ms. Cheely:

On May 25, 2010, at your request and in your attendance, Amy Euliss, NC Division of Water Quality (NCDWQ) staff, conducted an on-site determination to review an additional drainage feature located on the northwest corner of the intersection between Hwy 268 and Aaron Call Road for applicability to the mitigation rules (15A NCAC 2H .0506(h)). The drainage feature is approximated on the attached map initialed and dated August 25, 2010.

Table 1: Jurisdictional stream determinations for B-4701

Feature ID	Stream Name	Site visited	Stream Type*
S11	UT to Mulberry Creek	Yes	Intermittent

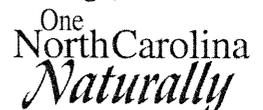
Please note that no other features at the site were evaluated. The original jurisdictional determination letter dated April 29, 2008 remains valid for all other features on the project. This letter does not apply to reaches of the channel [or drainage feature] further downstream from the NCDOT project area, or to any other drainage features in the vicinity.

This letter only addresses the applicability to the mitigation rules and 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 and streams must comply with 404/401 regulations, water supply regulations (15A NCAC 2B .0216), and any other required federal, state and local regulations.

The owner (or future owners) or permittee should notify NCDWQ (and other relevant agencies) of this decision 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 NCDWQ 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 Brian Wrenn, NCDWQ Wetlands/401 Unit, 1650 Mail Service Center, Raleigh,

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: <http://h2o.enr.state.nc.us/ncwetlands/>



NC 27699-1650. Individuals that dispute a determination by NCDWQ or Delegated Local Authority that "exempts" a surface water from the mitigation rules may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. NCDWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. 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 Amy Euliss at 336-771-4959 or at amy.euliss@ncdenr.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Amy Euliss', written in a cursive style.

Amy Euliss

Attachments: Signed Location Map

cc: Monte Matthews, US Army Corps of Engineers – Raleigh Regulatory Field Office
NCDWQ Wetlands 401 Transportation permitting Unit
File Copy

R-2603 NRTR Addendum



JE 8/25/2010



⊠ North Carolina Wildlife Resources Commission ⊠

Richard B. Hamilton, Executive Director

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Marla Chambers, Western NCDOT Permit Coordinator *Marla Chambers*
Habitat Conservation Program, NCWRC

DATE: July 11, 2007

SUBJECT: Review of NCDOT scoping sheets for improvements to NC 268 (Elkin Highway) from the existing multi-lane section east of NC 18 to SR 1966 (Airport Road), Wilkes County. TIP No. R-2603. OLIA Project No. 07-0388, due 7/16/2007.

North Carolina Department of Transportation (NCDOT) is requesting comments from the North Carolina Wildlife Resources Commission (NCWRC) regarding impacts to fish and wildlife resources resulting from the subject project. Staff biologists have reviewed the information provided on the scoping sheets and have the following preliminary comments. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The NCDOT proposes to widen NC 268 (Elkin Highway) from two lanes to a four-lane divided facility from the existing multi-lane section east of NC 18 to SR 1966 (Airport Road). Stream crossings along the project include Mulberry Creek, Long Creek, and an unnamed tributary (UT) to Long Creek, all Class C waters. An UT to Mulberry Creek parallels NC 268 on the south side between Mulberry Creek and the eastern end of the project. Long Creek runs parallel to the roadway, also on the south side, from near the west end of the project to its confluence with Mulberry Creek.

Mulberry Creek supports smallmouth bass, a popular game fish, in the project vicinity and possibly largemouth bass and spotted bass, as well. An in-water work moratorium should apply to Mulberry Creek and its UT from May 1 to July 15 to prevent off-site sedimentation from impacting fish eggs and fry downstream of the site. Long Creek is on the 303(d) list of impaired

waters. We recommend that sediment and erosion control measures adhere to the design standards for sensitive watersheds for this project.

In addition, to help facilitate document preparation and the review process, our general information needs are outlined below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. Potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with the following programs:

The Natural Heritage Program
<http://www.ncnhp.org>
1601 Mail Service Center
Raleigh, N. C. 27699-1601

and,

NCDA Plant Conservation Program
P. O. Box 27647
Raleigh, N. C. 27611
(919) 733-3610

2. Description of any streams or wetlands affected by the project. If applicable, include the linear feet of stream that will be channelized or relocated.
3. Cover type maps showing wetland acreage impacted by the project. Wetland acreage should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (USACE). If the USACE is not consulted, the person delineating wetlands should be identified and criteria listed.
4. Cover type maps showing acreage of upland wildlife habitat impacted by the proposed project. Potential borrow sites and waste areas should be included.
5. Show the extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).
6. Include the mitigation plan for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.
7. Address the overall environmental effects of the project construction and quantify the contribution of this individual project to environmental degradation.

8. Provide a discussion of the probable impacts on natural resources, which will result from secondary development, facilitated by the improved road access.
9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages of this project. If you have any questions regarding these comments, please contact me at (704) 984-1070.

cc: Marella Buncick, USFWS
Sue Homewood, NCDWQ



North Carolina Department of Environment and Natural Resources

Michael F. Easley Governor

William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee *✓*
Project Review Coordinator

RE: 07-0388 Scoping, Proposed Improvements to NC 268 in Wilkes
County

DATE: July 19, 2007

The Department of Environment and Natural Resources has reviewed the proposed project. The attached comments are a result of this review. More specific comments will be provided during the environmental review process.

Thank you for the opportunity to respond. If during the preparation of the environmental document, additional information is needed, the applicant is encouraged to notify our respective divisions.

Attachments

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

After review of this project it has been determined that the DENR permits and/or approvals indicated may need to be obtained in order for the project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of this form. All applications, information and guidelines relative to these permits and approvals are available from the same Regional Office.

PERMITS	FEDERAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Project To Complete Time (in days)
<input type="checkbox"/> Permits covering & certain wastewater treatment facilities, sewer system extensions & sewer systems not discharging into surface waters.	Application 90 days before begin construction and start of construction contract. On-site inspection. Post-application technical conference usual.	30 days (90 days)
<input type="checkbox"/> NPDES permits to discharge into surface waters and/or permits covering and certain wastewater facilities discharging into surface waters.	Application 180 days before begin activity. On-site inspection pre-application conference usual. Additionally, storm permit to construct wastewater treatment facility required after NPDES. Ready time 30 days after receipt of plans or issue of NPDES permit whichever is later.	60-120 days (N/A)
<input type="checkbox"/> Water Use Permit	Pre-application technical conference usually necessary.	30 days (N/A)
<input type="checkbox"/> Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input type="checkbox"/> Drudge and Fill Permit	Application form must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filing may require statement to fill from N.C. Department of Administration and Federal Drudge and Fill Permit.	30 days (90 days)
<input checked="" type="checkbox"/> Permits covering & certain Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC Chapter 20.0100.24.6000	N/A	60 days
<input checked="" type="checkbox"/> Any open burning associated with utility projects must be in compliance with 15 A NCAC 20.1100.0000		
<input type="checkbox"/> Demolition of structures of structures containing asbestos materials must be in compliance with 15 A NCAC 20.1110.0010 (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-757-4000.	N/A	60 days (90 days)
<input type="checkbox"/> Complex Source Permit required under 15 A NCAC 20.0100		
<input checked="" type="checkbox"/> The Sedimentation Pollution Control Act of 1975 must be properly addressed for any and all dredging activity. An erosion & sedimentation control plan will be required if any earthmoving is to be conducted. Plan files with other Regional Office and the County Section, or with the local governing authority. A fee of \$30 for the first acre of any open project.		15 days (30 days)
<input type="checkbox"/> The Sedimentation Pollution Control Act of 1975 must be addressed with respect to the water control Ordinance.		15 days
<input type="checkbox"/> Sedimentation and erosion control must be addressed in accordance with NCDOT's approval program. Particular attention should be given to design and installation of appropriate sedimentation and erosion control systems as well as stable stormwater conveyance and outlet.		
<input type="checkbox"/> Mining Permit	On-site inspection usual. Survey based filed with DENR. Erosion control plan with type, time and number of acres affected and. Any are mined greater than one acre must be permitted. The application must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/> Home Heating Burning Permit	On-site inspection by N.C. Division of Forest Resources if permit area less than 4 acres.	1 day (N/A)
<input type="checkbox"/> Special Ground Clearance Burning Permit (22 counties in accordance with local ordinance)	On-site inspection by N.C. Division of Forest Resources required if more than five acres of ground clearance activity involved. Applications should be received at least 10 days before activity is to be completed.	1 day (N/A)
<input type="checkbox"/> Oil Refining facilities	N/A	30-120 days

PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Secretary (LHR)
<input type="checkbox"/> Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to prepare plans, record construction, verify construction is according to DENR approved plans. May also require permit under manure control program and a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)
<input type="checkbox"/> Permits to drill exploratory oil or gas well	Fee survey bond of \$5,000 with DENR, naming to State of N.C. conditional warranty well opened by drill operator shall, upon abandonment, be plugged according to DENR rules and regulations.	70 days (N/A)
<input type="checkbox"/> Geophysical Exploration Permit	Application filed with DENR at least 70 days prior to issue of permit. Application by letter. No standard application form.	70 days (N/A)
<input type="checkbox"/> Some Other Construction Permit	Application fees based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	7.5 - 20 days (N/A)
<input type="checkbox"/> AOT Water Quality Certification	N/A	55 days (120 days)
<input type="checkbox"/> CAMA Permit for MAJOR development	\$250.00 fee must accompany application	60 days (120 days)
<input type="checkbox"/> CAMA Permit for MINOR development	\$25.00 fee must accompany application	15 days (15 days)
<input type="checkbox"/>	Several geospatial monuments are located in or near the project area. If any monuments need to be moved or destroyed, please notify: N.C. Geospatial Survey, Box 27657, Raleigh, N.C. 27617	
<input checked="" type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A Subchapter 2C.0100.	
<input checked="" type="checkbox"/>	Notification of the proper regional offices requested if "operator" and/or ground storage tanks (GTS) are discovered during any excavation operation.	
<input type="checkbox"/>	Compliance with 15A NCAC 2B 1000 (Control Stormwater Runoff) is required.	45 days (N/A)
<p>Other comments (attach additional pages as necessary) being consulted on the comment authority:</p> <p>1. <i>Cathy Bentall, USF Section / DWM 6/24/07</i></p> <p>2. <i>Shari Knight, DP Section / DWO 6/25/07</i></p> <p><i>Steve Hill, AWP Section 6/25/07</i></p> <p>④ <i>Margaret Love, DAP 6/27/2007</i></p> <p>⑤ <i>NCDOT has a delegated program. Matthew Datt 6/28/07-LR</i></p>		

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

Asheville Regional Office
59 Woodfin Place
Asheville, N.C. 28801
(828) 257-6206

Mooreville Regional Office
819 North Main Street
Mooreville, N.C. 28115
(704) 663-1699

Wilmington Regional Office
137 Cardinal Drive Extension
Wilmington, N.C. 28405
(910) 295-3900

Fayetteville Regional Office
225 Green Street, Suite 714
Fayetteville, N.C. 28301
(910) 486-1547

Raleigh Regional Office
2500 Barrett Drive, P.O. Box 27637
Raleigh, N.C. 27611
(919) 571-4700

Winston-Salem Regional Office
585 Woughton Street
Winston-Salem, N.C. 27107
(336) 771-4600

Washington Regional Office
107 Washington Square, N.W.
Washington, N.C. 27286
(336) 251-4170



JUN 29 2007

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

June 27, 2007

MEMORANDUM

TO: Gregory J. Thorpe, DOT Project Development and Environmental Analysis

FROM: Harry LeGrand, Natural Heritage Program

SUBJECT: Improvements to NC 268 (Elkin Highway), from east of NC 18 to SR 1966 (Airport Road); Wilkes County

REFERENCE: WBS No. 36001.1.1, TIP Project No. R-2603

The Natural Heritage Program has no record of rare species, significant natural communities, or significant natural heritage areas at the site nor within a mile of the project area. Although our maps do not show records of such natural heritage elements in the project area, it does not necessarily mean that they are not present. It may simply mean that the area has not been surveyed. The use of Natural Heritage Program data should not be substituted for actual field surveys, particularly if the project area contains suitable habitat for rare species, significant natural communities, or priority natural areas.

You may wish to check the Natural Heritage Program database website at www.ncnhp.org for a listing of rare plants and animals and significant natural communities in the county and on the quad map.

Please do not hesitate to contact me at 919-715-8697 if you have questions or need further information.

PDEA BRANCH		
JUN 29 2007		
<input checked="" type="checkbox"/>	PDW	HEU Staff Eng
<input type="checkbox"/>	PDE	NEU PRep
<input type="checkbox"/>	PDC	CMgmt Sec.
<input type="checkbox"/>	PDB	
<input type="checkbox"/>	FYI	
<input type="checkbox"/>	Take appropriate Ac	
<input type="checkbox"/>	Prepare reply for	

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
 Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

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North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

July 18, 2007

MEMORANDUM

TO: Gregory J. Thorpe
NCDOT – Project Development and Environmental Analysis

FROM: Peter Sandbeck *PBS*

SUBJECT: Widen NC 268 (Elkin Hwy), East of NC 18 to SR 1966, R-2603, Wilkes County, ER 07-1281

Thank you for your letter of June 15, 2007, concerning the above project.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area. However, since this area has not been surveyed in over twenty-five years, there may structures of which we are unaware located within the planning area.

If there are any structures more than fifty years old on or adjacent to the project site, please arrange an edibility meeting with our office. If there are no buildings over fifty years old on or adjacent to the project, please notify us in writing.

There are no known recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location or significance of archaeological resources. Based on the topographic and hydrological situation, and the density of previously recorded sites in the area, there is a high probability for the presence of prehistoric or historic archaeological sites.

We recommend that a comprehensive survey be conducted by an experienced archaeologist to identify and evaluate the significance of archaeological remains that may be damaged or destroyed by the proposed project. Potential effects on unknown resources must be assessed prior to the initiation of construction activities.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763 ext. 246. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Matt Wilkerson, NCDOT

bc: Claggett/Hall County

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6545/715-4801



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

February 23, 2010

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
NCDOT Division of Highways

FROM: Peter Sandbeck *for Peter Sandbeck*

SUBJECT: Widening NC 268 (Elkin Highway), East of NC 18 to SR 1966, R-2603, Wilkes County,
ER 07-1281

Thank you for your letter of January 28, 2010, transmitting the archaeological survey report by Scott Halvorsen for the above project.

During the course of the survey, no sites were located within the project area. Mr. Halvorsen has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: NC 268 Widening and Improvements from NC 18 to SR 1966 (Airport Rd)

On 19 March 2010, representatives of the

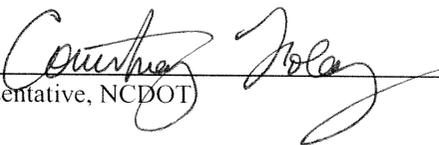
- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (HPO)
- Other

Reviewed the subject project at historic architectural resources photograph review session/consultation and

All parties present agreed

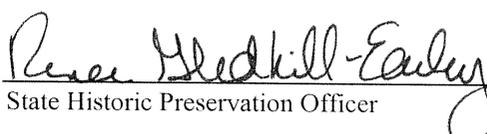
- There are no properties over fifty years old within the project's Area of Potential Effects (APE).
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's APE.
- There are properties over fifty years old within the project's APE, but based on the historical information available and the photographs of each property, the properties identified as 1-36 are considered not eligible for the National Register and no further evaluation of them is necessary. Photographs of these properties are attached.
- There are no National Register-listed or Study Listed properties within the project's APE.
- All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- More information is requested on properties _____.

Signed:

 19 MARCH 2010
 Representative, NCDOT Date

 FHWA, for the Division Administrator, or other Federal Agency Date

 Representative, HPO Date

 3-19-10
 State Historic Preservation Officer Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

September 25, 2007

MEMORANDUM TO: Trent Beaver, PE
Division Const. Engineer – Div. 11

FROM: Doug Tetzlaff
District Engineer – Dist. III

SUBJECT: Project Recommendations – NC 268 East, Wilkes Co.
(Associated with TIP Project ID# R-2603)

As requested, the North Wilkesboro District office has reviewed the existing multi-lane section of NC 268 East, from NC 18 to the vicinity of SR 1979 (Legion Drive) for possible inclusion of needed upgrades within subject TIP project.

The described section approximates 0.80 miles in length, having two distinct and separate connections with NC 18 on the western end of noted section. It is thought that the existing multi-lane was constructed approx. (40) years ago, within Project No. 6.800573 (plan sheets attached). A later intersection relocation of SR 2334 (Flint Hill Road) was performed sometime between 1984-87, resulting in channelization changes at the NC 268/SR 2334 signalized intersection (no plans available).

Our review resulted in the following recommendations;

- Curb & Gutter – A large majority of existing Curb & Gutter shows significant distress (spalling, total deterioration), with the eastbound roadway edge being in the worst overall condition. Given the estimated overall age and current condition, the total replacement of all Curb & Gutter along this section is recommended, having an **approximate** total length of 8,500 L.F. of curb/gutter replacement. Given the limited Curb & Gutter activity in our area, this office has no current cost data for this item.
- Drainage Structure Upgrades – Majority of catch basins inspected had loose (common) brick & non-standard or obsolete grates/frames. If the Curb & Gutter replacement noted above is considered viable, it is recommended that all existing drainage structures be replaced. Review of previous project plan sheets indicates there are approx. (30) structures within roadway section. Most recent unit cost within our records to re-construct a (CB) is between (\$1600 –2000) each, with an additional \$500 for grate/frame.

- Stormwater Pipeline (under Curb & Gutter) – All existing pipe under the Curb & Gutter seems to be corrugated metal, near the end of its service life. Our best approximation is 4,000 feet of total length that needs replacement in conjunction with Curb & Gutter work.
- Roadway Crosslines/Structures – There are a number of larger cross-line structures that carry either live streams or off-site stormwater. It should be noted that there is significant impervious area to the north along this section from adjacent industrial & office facilities. Additional hydraulics review to determine adequacy of current size and condition is recommended.
 - (7'X8") RC Box Culvert – inlet east of Carolina Mirror
 - 48" RCP – vicinity of White Pine Street (NS-Town)
 - 6'X6' RC Box Culvert – vicinity of Shaver Street (NS-Town)

There have been recent instances of the roadway flooding within the sag area near the former Carolina Mirror Complex, at the first culvert indicated above.

- The existing roadway needs milling & resurfacing over the entire section length. (Raleigh comments indicate that resurfacing costs have been estimated.) Milling is warranted due to previous overlay being extended into the Gutter section.
- The intersection at NC 268 and SR 2334 was reconfigured and constructed at a later date from the original multi-lane project. A number of existing large concrete traffic islands were expanded with asphalt and all currently are in very poor condition and warrant replacement. (Surface area is not known & would require field confirmation.) There are also existing traffic islands at the southernmost intersection of NC18/NC 268 that would warrant replacement based on current condition of concrete.
- Consideration of new sidewalks – Visible conflicts would seem to be limited to approx. (8) existing street lights (both sides). Placement of sidewalk would probably be most viable adjacent to the eastbound lane, given the existence of fire hydrants/waterline in close proximity to the roadway on opposite side.

It is hoped these review comments are found beneficial; please advise if any further information is needed at this time.

Attachment

DJT/gb



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

MEMO TO: Gregory J. Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch

FROM: Helen Chaney
Division of Bicycle and Pedestrian Transportation

DATE: September 25, 2007

SUBJECT: R2603 – Improvements to NC 268 (Elkin Highway), Wilkes County

MESSAGE: In response to your request for information on the widening of NC 268 (Elkin Highway), the Division of Bicycle and Pedestrian Transportation has the following comments.

The study area runs along NC 268 (Elkin Highway) from east of NC 18 to SR 1966 (Airport Road) for a total span of roughly 3.2 miles. NC 268 (Elkin Highway) from SR 1966 westward to Shaver Street is currently a two-lane, undivided roadway. NC 268 (Elkin Highway) from Shaver Street westward to NC 18 features both four- and five-lane undivided segments. The study area does not feature sidewalks. Curb and gutter is intermittent along the corridor. Engineers with the North Carolina Department of Transportation are currently working to determine the design for the new roadway. As of yet, the number of lanes and presence of curb and gutter or paved shoulder has not been decided.

The western 1.6 miles of the study area lies within North Wilkesboro, while the eastern 1.6 miles the study area lies outside of municipal boundaries in Wilkes County. The study area is surrounded by several pedestrian and bicycle trip attractors. In the near vicinity of the intersection of NC 268 (Elkin Highway) and NC 18 is located North Wilkesboro Elementary (a distance of .2 miles), Montessory Learning Center (a distance of .7 miles) and the Harvest Time Christian Academy (a distance of 1.2 miles). Along NC 268 (Elkin Highway) in the western half of the study area, which falls within the North Wilkesboro limits, are located two restaurants, a bowling alley, a skating rink, and two housing

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF BICYCLE & PEDESTRIAN TRANSPORTATION
1552 MAIL SERVICE CENTER
RALEIGH NC 27699-1552

TELEPHONE: 919-807-0780
FAX: 919-807-0768
WEBSITE: WWW.NCDOT.ORG/TRANSIT/BICYCLE/
EMAIL: HMCHANNEY@DOT.STATE.NC.US

LOCATION:
CAMERON VILLAGE
401 OBERLIN RD.
SUITE 250
RALEIGH NC

subdivisions. Hank Perkins, Town Manager, expects the pace of development along this segment of corridor to continue.

The Town of North Wilkesboro has a commitment to accommodating the travel needs of pedestrians and bicyclists, as evidenced by the verbiage included in the town's 25-Year comprehensive plan, adopted by the town board December 5th, 2006. One of the plan's objectives is to "ensure that all development provides safe, attractive, and convenient accessibility to pedestrians, bicyclists, and vehicles." The town's dedication to improving walking conditions is further evidenced by the town's participation in NCDOT's Bicycle and Pedestrian Planning Initiative. Under the initiative, the town will use NCDOT awarded funds and a local match to produce a pedestrian plan for the town. The planning process for the pedestrian plan will begin in the fall of this year.

According to Rawls Howard, Planning Director, the town would be interested in entering into a cost-sharing agreement to construct sidewalks along the portion of the study area that lies within the town limits. In addition, the town of North Wilkesboro would like for NCDOT to implement bicycle facilities along the portion of the study area that lies within the town limits, as part of the road-widening project.

Eddie Barnes, Planning Director of Wilkes County, has emphasized the importance of bicycle facilities along the portion of the study area that lies outside of municipal boundaries. Mr. Barnes reports that cyclists are not currently riding along eastern half of the NC 268 study area, and attributes this lack of cycling activity to the absence of a paved shoulder and the high speed of traffic. Mr. Barnes expressed his belief that cyclists would likely ride along this segment of roadway, if bicycle accommodations were provided. There is currently very little development along this segment of corridor that might serve as trip attractions for bicyclists. However, he noted that NC 268 is a major east-west corridor linking North Wilkesboro and Elkin. In the long-term, this corridor, with the proper bicycle accommodations, could provide a valuable cycling link between the two municipalities. Mr. Barnes noted that the county has been working with the national park service to plan a greenway that would follow the Yadkin River. Cyclists could ride along NC 268 and connect to the proposed greenway, once built, by way of a connecting street. In the near term, Mr. Barnes believes that this corridor, if equipped with bicycle accommodations, would likely be used by recreational cyclists.

Wilkes County is invested in planning for and accommodating the needs of cyclists. The county is currently working with the High Country Council of Governments to create a bicycle plan, which will outline safe on-street routes for bicyclists, identify gaps within the network, provide a prioritized listing of projects and identify potential funding sources for improvements. The plan is in draft stage currently and is expected to be completed by early 2008.

Many residents of Wilkes County enjoy cycling both on-street and off-street. An active cyclist group, the Brushy Mountain Cyclist Group, has identified a number of on-street routes in Wilkes County and in other parts of northwest North Carolina. Group participants, who come from Wilkes County and beyond, gather together to ride these routes. The Brushy Mountain Cyclist Group is also active in improving conditions for cyclists, having

worked together with the council of governments and the county over this past year to develop the bicycle plan for Wilkes County.

As mentioned above, NCDOT engineers have not yet determined whether the facility will be equipped with curb and gutter or will feature a paved shoulder. If the facility is reconstructed with curb and gutter, our division recommends wide outside lanes of 14 feet in width to accommodate bicyclist. If the facility, instead, is reconstructed with paved shoulder segments, then we recommend a striped paved shoulder (shoulder-type bicycle lane) of a minimum width of 4 feet. This striped paved shoulder should not feature a painted bicycle symbol. These bicycle facilities, by allowing for alternative means of travel, could help to lessen traffic congestion along the corridor.

While the Town of North Wilkesboro has expressed interest in implementing bicycle lanes along the portion of the study area that lies within the town limits, our division would not recommend bicycle lanes along this corridor. The aerial photography that we have examined shows that there are numerous driveways along the corridor. Cars pulling into and out of these driveways would interfere with the safe passage of bicyclists within a bicycle lane. Our division has notified the town that this segment of roadway is not suited for bicycle lanes, in our view. We have asked Rawls Howard, the town's planning director, whether the town would be interested in having either a wide outside lane or a paved shoulder provided along the study area. Mr. Howard expressed that the town would be interested in such a facility.

The Division of Bicycle and Pedestrian Transportation appreciates this opportunity to comment. If you need additional information please contact me at 919-807-0780.

cc: Tom Norman, Director, Division of Bicycle and Pedestrian Transportation
Tim Gardiner, Public Involvement and Community Studies



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 15, 2007

MEMORANDUM TO: Mr. Gregory J. Thorpe, Ph.D. Director
Project Development and Environmental Analysis Branch

FROM: Mr. Charles W. Brown, PE, PLS
State Location and Surveys Engineer

SUBJECT: Scoping Comments for Improvements to NC 268,
WBS 36001.1.1, Wilkes County, TIP No. R-2603

Utilities:

Charter Communications has aerial fiber-optic TV cables within the project study area.

Embarq has both aerial and buried fiber-optic and/or copper telecommunication cables in the project study area with an underground fiber-optic cable along both sides of NC 268.

Blue Ridge Electrical Membership Corporation has dual tower high-tension transmission lines crossing NC 268 at West bridge approach parallel to flood plain of Mulberry Creek.

Duke Energy has aerial power lines with underground service within the project study area with high-tension transmission lines over NC 268 at School Bus Drive. Duke Energy poles carry both Charter's and Embarq's Communication Cables including numerous fiber-optic and copper conduit over Mulberry Creek parallel to and South of sewer main/ new bridge.

Frontier Energy has a 6" plastic natural gas main on Airport Road crossing under NC 268 along Liberty Grove Church Road and a 6" plastic gas main along NC 268 East of NC 18.

The Town of North Wilkesboro has an 8" DI sanitary sewer main crossing South of new bridge over Mulberry Creek on concrete piers. They have 8" PVC sanitary sewer mains along NC 268 from NC 18 to 200 feet past Airport Road that turns behind Ferrell Gas with 8" VC sanitary sewer mains on side streets. Each direction along NC 268 from both East and West of new bridge flows toward Mulberry Creek then South to a pump station. An 8" CI sanitary sewer force main runs parallel in between NC 268 and Flint Hill Road.

The Town of North Wilkesboro has a 16" DI water main along NC 18 at the NC 268 intersection. They have an 8" CI water main along NC 268 with 6" or 8" CI water mains along side streets. The Town sells water to the Mulberry-Fair Plains Water Association.

The Mulberry-Fair Plains Water Association buys water from North Wilkesboro at meter along NC 268 near Shaver Street with service running Northeast in an 8" AC water main reduced to 6" AC water main near Flint Hill Road to Blue Ridge Water Association meter.

Blue Ridge Water Association buys water from Mulberry-Fair Plains Water Association at meter crossing creek to pump station in 6" AC water main running Northeast on NC 268.

Environmental:

Underground/aboveground petroleum storage tanks in project study area. Ferrell Gas has 2 aboveground propane tanks in Southeast quadrant of NC 268 and Liberty Grove Church Road. Embarq has fiber-optic hub station in Northwest quad of NC 268 and Airport Road. Johnson Oil Company on NC 268. Mulberry Creek flows South into Yadkin River Basin.

Cultural:

Knotville Volunteer Fire Department entrance located just East of signalized intersection at the end of project study area. NC 268 facility travels through agricultural, commercial, industrial, residential, churches and school traffic areas. Cell Tower and Elevated Water Storage Tank located within the Southeast quadrant of NC 268 intersection with NC 18.

Engineering:

Commercial driveways will be a challenge. Posted speed limits along NC 268 range from 55 mph East of Mulberry Creek, 45 mph West of Flint Hill Road, and 35 mph West of Blevins Building Supply. Street lighting located inside the North Wilkesboro City Limits. New bridge built under TIP B-3714 is South of tangent with utilities relocated over West approach as well as downstream to accommodate future construction of additional bridge. No utilities are attached to concrete pre-stressed girders of new bridge. Five-lane section ends at Legion Drive. Roadside mailboxes along NC 268 impede traffic flow. Blue Ridge Water Association has 6" water main crossing Mulberry Creek North of proposed bridge.

PLT

CC: Mr. Art McMillan, PE, State Highway Design Engineer
Mr. Jay Bennett, PE, State Roadway Design Engineer
Mr. Dave Henderson, PE, State Hydraulics Engineer
Mr. Njoroge Wainaina, PE, State Geotechnical Engineer
Mr. Phil Harris, PE, State Natural Environment Engineer
Mr. Ahmad Al-Sharawneh, Project Development Engineer



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

1554 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1554

W. LYNDO TIPPETT
SECRETARY

July 10, 2007

MEMORANDUM TO: North Carolina State Clearinghouse
Department of Administration
Intergovernmental Review

FROM: Sarah Smith, PE *JMS*
NCDOT Transportation Planning Branch

SUBJECT: 07-E-4220-0388 Wilkes County



Thank you for allowing the Transportation Planning Branch to review this document. I have the following comments.

- The functional classification of NC 268 is major collector outside of the North Wilksboro Urban Area (east of Mulberry Creek). The functional classification of NC 268 is minor arterial inside the North Wilksboro Urban Area (from NC 18 to Mulberry Creek). For more information on functional classification and to view the functional classification maps visit <http://www.ncdot.org/doh/preconstruct/tpb/FCS/default.html>.
- Wilkes County does not have an adopted Thoroughfare Plan or Comprehensive Transportation Plan. North Wilksboro and Wilksboro have a combined Thoroughfare Plan that was adopted in 1993. Part of NC 268 is included in this plan. In the plan NC 268 is classified as an Existing Major Thoroughfare. The plan recommends that NC 268 be widened to four lanes from east of NC 18 to SR 1966.

If you have any questions please feel free to contact me at 919-715-5737 ext. 74.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 31, 2007

TIP Project: R-2603
Division: 11
County: Wilkes
Description: NC 268 from multi-lanes east of NC 18 to SR 1966 (Shub Queen Road)

MEMORANDUM

TO: Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch
Attention: Ahmad Al-Sharawneh, Project Development Engineer

FROM: Erin M. Hendee, P.E., Plan Review Project Design Engineer
Congestion Management Section

Erin Hendee

SUBJECT: Scoping Comments

As requested, the Plan Review Group of the Traffic Engineering and Safety Systems Branch has completed a review of the scoping information sheets for this project. The traffic-related information listed below is provided to develop the scope of work for the project development, environmental and engineering studies. Based on our review, we have the following comments.

Congestion Management Section

- We recommend that a four-lane median divided facility be constructed for this project.

High Country & Foothills Regional Office

- There are three existing signals on this project:
 - NC18 at NC 268A
 - NC 268 at NC 268A
 - NC 268 at SR 1966 (Airport Road)
- Do not foresee any new signals at this time.
- Recommend strongly looking at the four lane divided section. No other comments at this time.

MAILING ADDRESS:
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH
1561 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1592

TELEPHONE: 919-773-2800
FAX: 919-771-2745
WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BUILDING
750 N. GREENFIELD PARKWAY
GARNER, NORTH CAROLINA 27529

Traffic Safety Unit

- Crash analysis was provided in the July 6, 2007 Safety Review for TIP Project R-2603 memorandum.

We request that the above-mentioned cost estimate information be included in the project construction cost. Detailed cost estimate information is available upon request. If additional information is required, please feel free to contact Bao Long Le, Plan Review Design Engineer, or me at (919) 773-2800.

EMH/skw

cc: M. A. Pettyjohn, P.E. (Attention: J. D. Ledbetter, Jr., P.E.)
T. Hart, P.E. (Attention: J. Bridges, P.E.)
T. M. Hopkins, P.E. (Attention: A. D. Wyatt, P.E., PTOE, B. K. Mayhew, P.E.)
J. A. Hamrick, P.E.
P. L. Alexander, P.E.
C. L. Evans (Attention: E. E. Honeycutt)
J. H. Dunlop, P.E.
R. W. King, P.E.
J. S. Bourne, P.E.
A. R. Cook, P.E.
D. Lane



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

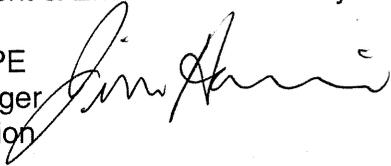
LYNDO TIPPETT
SECRETARY

June 21, 2007

Memorandum

To: Mr. Gregory J. Thorpe, Ph.D., Director
Project Development & Environmental Analysis Branch

Attn: Ahmad Al-Sharawneh, Project Development Engineer
Project Development & Environmental Analysis Branch

From: James B. Harris, PE
Engineering Manager
NCDOT Rail Division 

State Project: R-2603
F/A Project: WBS No. 3600.1.1.1
Counties: Wilkes
Description: Improvements to NC 268 (Elkin Highway), east of NC 18 to SR 1966 (Airport Rd.)

Subject: Start of Study

The NCDOT Rail Division is in receipt of your scoping letter on the above subject improvement project.

After review of the project scoping letter and location of the project in relation to nearby railroad tracks, it has been determined that no railroad interaction exists.

Thank you for keeping the Rail Division involved in the early project planning stages. Please call Charles Tew, Engineering Technician at 715-5807 if you have any additional questions.

JBH/cet

Cc: file

MAILING ADDRESS:
RAIL DIVISION
ENGINEERING & SAFETY BRANCH
1556 MSC
RALEIGH NC 27699-1556

TELEPHONE: 919-715-8803
FAX: 919-715-8804

WEBSITE: www.bytrain.org

LOCATION:
CAPITAL YARD
862 CAPITAL BOULEVARD
RALEIGH, NC 27603



High Country Rural Planning Organization (RPO)

Municipalities and Counties of

Alleghany, Ashe, Avery, Mitchell, Watauga, Wilkes, and Yancey

"Serving North Carolina's High Country with Continuing, Cooperative, and Comprehensive Transportation Planning"



Warren Taylor, RTAC Chair

Craig Hughes, LPA Transportation Planner

Don Adams, RTCC Chair

August 16, 2007

Ahmad Al-Sharawneh
NCDOT – Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Subject: TIP # R-2603

Mr. Al-Sharawneh,

The High Country RPO supports the decision of NCDOT to improve and widen NC 268 from NC 18 to Airport Road in North Wilkesboro. Currently, the project is ranked #20 on our 2009-2015 Priority Needs List. The RPO believes this project will enhance the transportation network in the region as well as in North Wilkesboro. As discussed at the scoping meeting on August 15, 2007, I have met with the Town of North Wilkesboro and they have requested that I emphasize the Town's desire to have sidewalks, bike lanes and streetcaping improvements included with this project.

Currently, the Town of North Wilkesboro is in the process of preparing a Pedestrian Plan. The plan should be complete within the next year and a half. Town officials have expressed a desire for the plan to recommend sidewalks for this facility. In addition, officials have indicated that their Comprehensive Plan that was approved in December 2006 describes a need for pedestrian facilities and for enhanced design standards in this area.

The Town realizes that sidewalk construction will add to the cost of the project, and is willing to participate with a required 20% match for towns of this size as stated in the NCDOT Policy and Procedure Manual. The Town is anxious to discuss this opportunity with NCDOT and looks forward to seeing these improvements in place.

In addition to the sidewalks, the Town of North Wilkesboro has indicated that they would like to see streetscape improvements included as part of this project. NC 268 is a vital entryway into the Town of North Wilkesboro and because of this, the Town would like to include streetscape type improvements in the project in the form of street trees, landscaping and lighting.

If you have any questions or would like additional information, please feel free to contact me.

Sincerely,

Craig Hughes, AICP
Transportation Planner

REQUEST FOR REVIEW

Please review the attached notification and indicate your response. If your agency requires additional information, contact the applicant directly or call High Country Council of Governments' Clearinghouse. Please submit your response to the address below by the due date indicated.

Phone: (828) 265-5434

Fax 265-5439

SCH Number 07-E-4220-0388 Date 06-22-07 Response Date 07-06-07

**Please Sign and Return
This Page Only To:**

High Country Council of Governments
Clearinghouse Coordinator
P.O. Box 1820
Boone, NC 28607

Reviewers:

Gary Page, Wilkes County Manager



Response: This agency has reviewed the notification and offers the following recommendation: (Check appropriate response/more than one can be checked)

No Comment

Favorable. The project is in agreement with the goals and objectives of this agency's programs.

Unfavorable. The project is not in agreement with the goals and objectives of this agency's programs.

Potential Problem (s). Identify:

Comments:

Reviewed by

Name: *Gary L. Page*

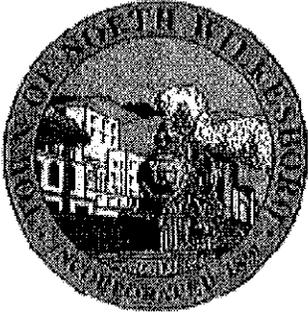
Agency: *Wilkes Co.*

Date: *6/26/07*

RECEIVED
Division of Highways

AUG 27 2007

Preconstruction
Project Development and
Environmental Analysis Branch



TOWN OF NORTH WILKESBORO

P. O. Box 218
North Wilkesboro, NC 28659
E-mail: townhall@north-wilkesboro.com
Bus. (336) 667-7129
Fax (336) 838-1779

August 22, 2007

Ahmad Al-Sharawneh
NCDOT – Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Subject: TIP # R-2603

Mr. Al-Sharawneh,

The Town of North Wilkesboro supports the decision of NCDOT to improve and widen NC 268 from NC 18 to Airport Road in North Wilkesboro. The Town believes this project will enhance our transportation network. Our Town would like to take this opportunity to express our desire to have sidewalks on both sides of NC 268, pedestrian crosswalks, a landscaped median, bike lanes, street lighting, and streetcaping improvements.

Currently, the Town of North Wilkesboro is in the process of preparing a Pedestrian Plan. The plan should be complete within the next year and a half. This section of road will be identified in the plan for sidewalk improvements. The Town realizes that sidewalk construction will add to the cost of the project, and is willing to participate with the required 20% match for towns of this size as stated in the NCDOT Policy and Procedure Manual. This participation would be contingent on project scope and anticipated budget for these improvements once these estimates are known.

This area is already designated in our Comprehensive Plan as an “overlay district” that will have special design standards. The plan also specifies that that Town would like to “continue to plan, implement, and encourage projects that enhance the appearance of major corridors”. NC 268 is a vital entryway into the Town of North Wilkesboro and the Town would like to see improvements that enhance our town and its future development. We would appreciate NCDOT’s assistance in making this possible.

The Town is anxious to discuss this opportunity with NCDOT and looks forward to seeing these improvements in place.

If you have any questions or would like additional information, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rawls Howard".

Rawls Howard, AICP
Planning Director
Town of North Wilkesboro



TOWN OF NORTH WILKESBORO

Post Office Box 218
North Wilkesboro, North Carolina 28659
Bus. (336) 667-7129
Fax (336) 838-1779

August 17, 2010

Gregory J. Thorpe, Ph.D.
Environmental Management Director Program Development
and Environmental Analysis Branch

ATTN: Marshall Edwards, Project Dev. Engineer
1548 Mail Service Center
Raleigh, NC 27699-1548

(Fax #919-733-9794)

Gentlemen:

This letter is to advise that the Town of North Wilkesboro is still interested in adding sidewalk on Project R-2603, widening of Highway 268 beginning from Hwy. 18 to Airport Road, in North Wilkesboro, Wilkes County. According to the preliminary cost estimate we were given, the Town's cost for adding the sidewalk will be approximately \$50,309 and we are committed to funding that portion of the project.

If you need any additional information, please feel free to contact me.

Sincerely,

William H. Perkins, Jr.
Town Manager

whp:km

MEETING NOTES

TO: Ahmad Al-Sharawneh, NCDOT

FROM: Liz Kovasckitz, Mulkey Engineers and Consultants

DATE: September 4, 2007

SUBJECT: Project Scoping Meeting, NC 268 Widening, Wilkes County, NCDOT TIP Project R-2603

A scoping meeting was held for the subject project on August 15, 2007. Meeting attendees are listed below. A summary of the meeting follows.

MEETING PARTICIPANTS

Craig Hughes	High Country RPO
Monte Matthews	USACE
Jake Riggsbee	FHWA
Trent Beaver	NCDOT – Division 11 Construction
Marc Cheek	NCDOT – Structure Design
Jurek Gedzior	NCDOT - Photogrammetry
Anna Gregory	NCDOT
Imran Ahmed	NCDOT – Congestion Management
Erin Hendee	NCDOT – Congestion Management
Ray Lotfi	NCDOT – Program Development/TIP
Becky Luce-Clark	NCDOT – Program Development/Scheduling
Bruce Payne	NCDOT – Roadway Design
Tony Houser	NCDOT – Roadway Design
Leonard Scarborough	NCDOT – R/W
Erin Schubert	NCDOT – PDEA/NEU
Carla Dagnino	NCDOT – PDEA/NEU
Jerry Snead	NCDOT - Hydraulics
Tobline Thigpen	NCDOT – Signals and Geometrics
Pat Tuttle	NCDOT – Location and Surveys
Narcisa Woods	NCDOT – Office of Civil Rights
Jay Woolard	NCDOT – Work Zone Traffic Control
Lori Donaldson	NCDOT – Work Zone Traffic Control
Teresa Hart	NCDOT – PDEA
Stacy Oberhausen	NCDOT – PDEA
Ahmad Al-Sharawneh	NCDOT – PDEA
Johnny Banks	Mulkey
Colista Freeman	Mulkey
Liz Kovasckitz	Mulkey

Ahmad Al-Sharawneh opened the meeting with a brief description of the project and informed the participants that the purpose of the meeting was to present information about the project and gather information. Mr. Al-Sharawneh asked the attendees to introduce themselves for the record. Participants were provided with project informational packets, which included meeting agendas, scoping handouts, scoping sheets, and project figures. Maps showing the project vicinity and notable project features were displayed. Mr. Al-Sharawneh asked Liz Kovasckitz to proceed with the agenda and the presentation.

Ms. Kovasckitz began the presentation with an overview of the project and study area. The project is proposes to improve NC 268 from east of NC 18 to SR 1966 (Airport Road) in North Wilkesboro, Wilkes County. The length of the project is approximately 2.6 miles. NC 268 is classified as a Major Collector outside of North Wilkesboro and a Minor Arterial inside of North Wilkesboro. The estimated right-of-way cost for the project is approximately \$3,400,000 and estimated construction cost is \$11,851,000. The project is unfunded, but it is programmed for planning and environmental studies in the 2007-2013 TIP. Project impacts will be documented in an Environmental Assessment, which is scheduled for completion in October 2009.

A Merger Screening Meeting was held on May 21, 2007. It was determined that the project will follow the NEPA/Section 404 Merger Process because of potential stream impacts. The proposed study area begins at NC 18 and ends just east of SR 1966, with a 600-foot width based on the roadway centerline. The width takes into consideration areas of steep topography and proximity of streams to adjacent roads. The study area will be reviewed and defined at Concurrence Point 1.

Ms. Kovasckitz then provided the general need for the project. NC 268 in the project area is heavily traveled by trucks and passenger vehicles. From its intersection with NC 18 to School Bus Drive, NC 268 is a four-lane undivided section. It then transitions to a five-lane curb and gutter section until Shaver Street, where it becomes a two-lane shoulder section through the rest of the project area. The project feasibility study indicated that 1990 traffic ranged from 8,200 vehicles per day (vpd) at the eastern end to 19,800 vpd at the western end. Traffic in 2010 was projected to range from 12,500 vpd at the eastern end to 27,000 vpd at the western end. Information found on NCDOT's website indicated that traffic in 2005 was 17,000 vpd at the western end of the project. Traffic is anticipated to increase along NC 268 in the future. An industrial complex is located near the eastern end of the study corridor, which Wilkes County plans to expand.

The presentation included pictures of the project area, which illustrated the variety of land uses along NC 268. Near the western end of the project land use is predominantly commercial, transitioning to more low-density residential at the eastern end. There are a mix of businesses in the commercial area, including "mom and pop" stores, automobile sales, auto repair, and gas stations. There are two areas of concentrated residential development on the north side of NC 268 in the project area. Near the western end of the project, a residential area is accessed from Legion Road and Fairplains Road. Farther east, a residential area is located along Vista Lane. One small mobile home park is also located along Queens Drive, which might house low-income individuals.

Ms. Kovasckitz presented a video of the entire project corridor, recorded during a site visit in March 2007. She pointed out various area features during the video presentation.

Notable features of each section of the project corridor, from west to east, were then presented using aerial photography and site-visit photos. Among the notable features shown were:

- Five hazardous materials sites
 - Carolina Mirror
 - Mike's Auto Body
 - Gardner Glass Co. (archived Superfund site)
 - B&R Service
 - Ellis Auto Parts
- Three signalized intersections
 - NC 18 and NC 268
 - 2nd Street ramp and NC 268
 - SR 1966 and NC 268

- Three NC 268 stream crossings
 - Long Creek (culvert)
 - Unnamed Tributary (UT) to Long Creek (culvert)
 - Mulberry Creek (bridge)
- Two NPDES facilities
 - Town of North Wilkesboro Mulberry WWTP
 - Carolina Glass and Mirror
- UT to Mulberry Creek – This stream runs parallel and adjacent to the south side of NC 268 for approximately 3,000 feet, beginning just east of the Mulberry Creek crossing. There are potential wetlands associated with this stream in the project area. Woodside Drive, which intersects NC 268, crosses this UT with a culvert on the south side of NC 268 within the project study area. Along this section of NC 268, the topography tends to be steep immediately adjacent to the road.
- Utilities, including overhead power lines, buried cables, and sewer, are located along the south side of NC 268. There is also an overhead transmission line that crosses NC 268 immediately west of the Mulberry Creek Bridge.

Ms. Kovasckitz then shared scoping comments that were received prior to the meeting, as follows:

- **Division of Water Quality:** DWQ is concerned with sediment and erosion impacts that could occur since Long Creek is on 303(d) list for impaired use for aquatic life due to impaired biological integrity. They recommend the most protective sediment and erosion control BMPs be implemented to reduce risk of nutrient runoff. They requested that road design plans provide treatment of stormwater runoff using most recent version of the NCDWQ *Stormwater Best Management Practices*.
- **Wildlife Resources Commission:** An in-water work moratorium should apply to Mulberry Creek and its UT from May 1 to July 15 to prevent off-site sedimentation from impacting fish (smallmouth bass, largemouth bass, spotted bass) eggs and fry downstream of site. They recommend sediment and erosion control measures for sensitive watersheds since Long Creek is on 303(d) list.
- **Natural Heritage Program:** There is no record of rare species, significant natural communities, or significant natural heritage areas at the site or within one mile of project area.
- **Wilkes County:** The project is in agreement with the goals and objectives of Wilkes County's programs.
- **NCDOT – Rail Division:** There is no railroad interaction.
- **NCDOT – Transportation Planning Branch:** TPB provided information on the functional classifications of NC 268, as well as the combined North Wilkesboro/Wilkesboro Thoroughfare Plan.
- **NCDOT – Division 11:** The Division recommends shifting the beginning of project to the east (at the end of the existing five-lane section). They also recommend a five-lane section from the existing five-lane section to Mulberry Creek and a four-lane divided section from Mulberry Creek to SR 1966.
- **NCDOT – Traffic Engineering:** A four-lane divided facility is recommended for the entire project. No additional signals, beyond the three existing signals on NC 268 in the project area, are foreseen at this time.

The participants were then asked to provide comments on the project as follows:

NCDOT-PDEA/STATE AND FEDERAL AGENCIES

■ **NATURAL ENVIRONMENT**

- **U.S. Fish and Wildlife Service:** Not in attendance.
- **U.S. Army Corps of Engineers:** Make sure SR 1966 is a logical terminus. Ms. Kovasckitz stated that a traffic forecast will be completed for the project, which is anticipated to show a substantial change in traffic at the NC 268/SR 1966 intersection. Also, the Wilkesboro/North Wilkesboro Combined Thoroughfare Plan shows SR 1966 as the terminus for the widening project. It was stated that Wilkes County would eventually like to widen the entire NC 268 corridor through the county, although there are no immediate plans for widening.
- **U.S. Environmental Protection Agency:** Not in attendance.
- **N.C. Division of Water Quality:** Not in attendance. Comments received prior to meeting.
- **N.C. Wildlife Resources Commission:** Not in attendance. Comments received prior to meeting.
- **N.C. Natural Heritage Program:** Not in attendance. Comments received prior to meeting.
- **NCDOT Natural Environment Unit:** NEU requested that they be invited to the USACE field verification meeting. They requested a copy of the WRC comment letter regarding the in-water work moratorium.
- **Others:** There were no other natural environment comments.

■ **HUMAN ENVIRONMENT**

- **NCDOT Historic Architecture:** Not in attendance.
- **NCDOT Archaeology:** Not in attendance.
- **State Historic Preservation Office:** Not in attendance.
- **Eastern Band of Cherokee Indians:** Not in attendance.
- **NCDOT Public Involvement & Community Studies:** Not in attendance.
- **Others:** There were no other human environment comments.

FHWA/DIVISION 11/NCDOT BRANCHES

- **FHWA:** No comments.
- **Division 11:** The Division recommended milling, resurfacing, and replacing curb and gutter along the existing five-lane section, widening NC 268 to a five-lane section from the existing five-lane to just before Mulberry Creek (near Flint Hill Road), and widening NC 268 to a four-lane divided section for the rest of the project area. Trent Beaver indicated that the intersection of Flint Hill Road and NC 268 (near Mulberry Creek) is a high-accident location. Most collisions seem to involve vehicles making left turns onto NC 268 from Flint Hill Road. The Division prefers not to change the configuration of the 2nd Street ramp/NC 268 intersection.
- **Roadway Design:** The project study area should include 1,000 feet down each Y-line. The study area should also extend 2,000 feet along NC 268 beyond the SR 1966 intersection and along SR 1966.
- **Hydraulics:** New flood studies are currently underway in Wilkes County. They should be completed and effective within a year. Streams will then have regulated floodways. Therefore, final design should be coordinated with FEMA. Hydro recommends avoiding the stream that runs parallel and adjacent to NC 268. There are potential mitigation opportunities in the area.
- **Structure Design:** No comments.

- **Geotechnical Engineering:** Not in attendance.
- **Bicycle and Pedestrian Division:** Not in attendance.
- **Location and Surveys:** Pat Tuttle provided written comments from Location and Surveys at the meeting. A verbal summary of the written comments was presented.
- **Transportation Planning Branch:** Not in attendance. Comments received prior to meeting.
- **Traffic Engineering Branch:** Congestion Management offered assistance to PDEA on traffic forecast request modification. Erin Hendee indicated that ADTs (no peak hour traffic), dual turn movements, and stick diagrams will be needed, including 1,000 feet down each Y-line and 2,000 feet along NC 268 and SR 1966 beyond the NC 268/ SR 1966 intersection. She also stated that traffic will be needed at the following intersections: NC 18/NC 268 and NC 18/2nd Street ramp. Any nearby SR routes intersecting with NC 18 should also be included in the forecast. Congestion Management also recommends that the entire project be four-lane divided because of potential design-year traffic problems with a five-lane section.
- **Right of Way Branch:** No comments.
- **Utilities Coordination:** Information provided by Location and Surveys.
- **Program Development Branch:** The project is proposed for funding in the upcoming draft TIP, with Right of Way in 2013 and Let in 2015. The draft TIP has not yet been approved.
- **Others:** Jurek Gedzior of Photogrammetry asked if additional mapping would be needed for the project. Ms. Kovasckitz stated that aerial photography for the project was originally completed under the SB 1005 Program, and all information was given to Ron Allen in 2005. It was decided that the mapping information should be reviewed to determine if any additional or updated mapping is needed, since mapping requests will be submitted soon.

INPUT FROM LOCAL GOVERNMENT/OTHERS

- **Wilkes County:** Not in attendance. Comments received prior to meeting.
- **North Wilkesboro:** Not in attendance.
- **High Country RPO:** The Wilkes County Comprehensive Plan was approved in December 2006. It includes a large bicycle and pedestrian component. Local officials would like bicycle and pedestrian accommodations included in the project, since many pedestrians travel NC 268, including handicapped students walking to and from the Wilkes County Vocational School. Teresa Hart stated that NCDOT has a cost-share policy for construction of sidewalks, based on population. NCDOT will coordinate with local officials regarding bicycle and pedestrian accommodations. Craig Hughes (RPO) was asked about Wilkes County future development and zoning. He stated that the county has flexible zoning, which allows it to be open to areas of small developments. Ms. Kovasckitz added that it was her understanding that the county plans to expand the industrial park near the eastern end of the project area, and a mountain home development will be built in the North Wilkesboro area. Ms. Hendee stated that the traffic forecast should consider future growth. In addition to comments at the meeting, the RPO was asked to provide written comments to NCDOT.
- **Others:** There were no other local government comments.

SUMMARY/FINAL COMMENTS

Stacy Oberhausen asked if there were any other comments from the meeting participants. There were none. She suggested that written comments be provided to ensure all concerns are addressed during project development. The meeting was then adjourned.

CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Ahmad Al-Sharawneh at aalsharawneh@dot.state.nc.us or the writer in writing within seven (7) days.

LK/cf

cc: scoping/start of study mailing list

**APPENDIX C – NEPA/SECTION
404 MERGER FORMS AND
MEETING MINUTES**

MEETING NOTES

TO: Ahmad Al-Sharawneh, NCDOT

FROM: Liz Kovasckitz, Mulkey Engineers and Consultants

DATE: May 23, 2007

SUBJECT: Merger Screening Meeting, NC 268 Widening, Wilkes County, NCDOT TIP Project R-2603

A Merger Screening meeting was held for the subject project on May 21, 2007. Meeting attendees are listed below. A summary of the Merger Screening meeting follows.

MEETING PARTICIPANTS

Ahmad Al-Sharawneh	NCDOT – PDEA
Johnny Banks	Mulkey
Colista Freeman, PE	Mulkey
Sue Homewood	NCDWQ
Tim Jordan, PE	Mulkey
Liz Kovasckitz, AICP	Mulkey
Monte Matthews	USACE
Stacy Oberhausen, PE	NCDOT – PDEA
Jake Riggsbee, PE	FHWA

Ahmad Al-Sharawneh opened the meeting by brief description of the project and informed the participants that the purpose of the meeting was to determine if the project should be placed in the Merger '01 Process. Mr. Al-Sharawneh asked the attendees to introduce themselves for the record. Participants were provided with guidelines for the Merger '01 Screening Process. Also, they were provided with meeting agendas and project informational packets. Maps showing the project vicinity and notable project features were displayed. Mr. Al-Sharawneh asked Ms. Kovasckitz to proceed with the agenda and the presentation.

Ms. Kovasckitz began the presentation with an overview of the project and study area. The project is Transportation Improvement Program (TIP) Number R-2603 and proposes to improve NC 268 from NC 18 to SR 1966 (Airport Road) in North Wilkesboro, Wilkes County. The study area begins at NC 18 and ends just east of SR 1966. The length of the project is approximately 2.6 miles. The estimated right-of-way cost for the project is \$3,400,000 and estimated construction cost is \$10,700,000. There is currently no right-of-way or construction funding for R-2603, but it is programmed for planning and environmental studies in the 2007-2013 TIP. Project impacts will be documented in an Environmental Assessment.

There are two other TIP projects in the area: R-616 and B-3714. R-616 is a proposed Wilkesboro-North Wilkesboro Bypass from NC 18 to US 421. It is unfunded in the current TIP. B-3714 is the replacement of Bridge Number 83 on NC 268 over Mulberry Creek, which was completed in 2006. Later, after reviewing the file it was determined that the current location of the new structure anticipated the construction of a dual structure to the south of the existing structure under R-2603.

Ms. Kovasckitz then provided the purpose and need for the project. NC 268 in the project area is heavily traveled by trucks and passenger vehicles. From NC 18 to the NC 18 split near School Bus Drive, NC 268 is a four-lane undivided section. It then transitions to a five-lane curb and gutter section until Shaver Street, where it becomes a two-lane shoulder section through the rest of the project area. The project feasibility study indicated that 1990 traffic ranged from 8,200 vehicles per day (vpd) at the eastern end to 19,800 vpd at the western end. Traffic in 2010 was projected to range from 12,500 vpd at the eastern end to 27,000 vpd at the western end. Traffic in 2005 was 17,000 vpd at the western end of the project. Traffic is anticipated to increase along NC 268 in the future. An industrial complex is located near the eastern end of the study corridor, which Wilkes County plans to expand. The purpose of the project is to provide adequate capacity for current and future traffic and to enhance safety in the project area.

The presentation included pictures of the project area, which illustrated the variety of land uses along NC 268. Near the western end of the project land use is predominantly commercial, transitioning to more low-density residential at the eastern end. There are a mix of businesses in the commercial area, including “mom and pop” stores, automobile sales, auto repair, and gas stations. There are three main residential developments in the project area, including one trailer park.

Notable features of each section of the project corridor, from west to east, were then presented using aerial photography and site-visit photos. Among the notable features shown were:

- Five hazardous materials sites
 - Carolina Mirror – It was noted that there are plans for this property to be redeveloped into several smaller businesses.
 - Mike’s Auto Body
 - Gardner Glass Co.
 - B&R Service
 - Ellis Auto Parts
- Three signalized intersections
 - NC 18 and NC 268
 - 2nd Street ramp and NC 268
 - SR 1966 and NC 268
- Three NC 268 stream crossings
 - Long Creek (culvert)
 - Unnamed Tributary (UT) to Long Creek (culvert)
 - Mulberry Creek (bridge)
- Two NPDES facilities
 - Town of North Wilkesboro Mulberry WWTP
 - Carolina Glass and Mirror
- UT to Mulberry Creek – This stream runs parallel and adjacent to the south side of NC 268 for approximately 3,000 feet, beginning just east of the Mulberry Creek crossing. There are potential wetlands associated with this stream in the project area. Woodside Drive, which intersects NC 268, crosses this UT with a culvert on the south side of NC 268 within the project study area. Along this section of NC 268, the topography tends to be steep immediately adjacent to the road.
- Utilities, including overhead power lines, buried cables, and sewer, are located along the south side of NC 268. There is also an overhead transmission line that crosses NC 268 immediately west of the Mulberry Creek bridge.

Ms. Kovasckitz then presented a video of the entire project corridor, recorded during a site visit in March 2007. She pointed out various area features during the video presentation.

The meeting was then opened for discussion. Ms. Kovasckitz was asked to clarify why the four-lane and five-lane sections of NC 268 were included in the project. She stated that improvements might be made to these sections, even if lanes are not added. She was then asked what the proposed typical section is. She responded that the feasibility study recommended a 64-foot wide five-lane curb and gutter section from the existing multi-lane section to Mulberry Creek and a 60-foot wide shoulder section with ten-foot usable shoulders, including two-foot paved shoulders, from Mulberry Creek to SR 1966. Ms. Kovasckitz also clarified for participants that the proposed project does not include new location options.

It was noted that the section of the project with the parallel UT will probably determine if the project goes through the Merger Process. Stacy Oberhausen suggested that the project be placed in the Merger Process. She noted that when more detailed wetland and stream impact information is available, it can be determined if the project should remain in the process or be removed. It was agreed by the Merger 01 Team Leaders (NCDOT, FHWA, NCDENR–DWQ & USACE) that because of the potential for stream and wetland impacts, the project will be a Merger project. A Concurrence Point 1 (Purpose and Need and Study Area) meeting will be held. Once agreement is reached on Concurrence Point 1, functional designs will be prepared and more detailed impact information will be available. If wetland and stream impacts are below the threshold for the Merger process, a Concurrence Point 2 (Alternatives for Further Study) informational packet will be completed and sent to the Merger 01 Team Leaders to determine whether or not the project should continue in the Merger 01 process.

CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Ahmad Al-Sharawneh at aalsharawneh@dot.state.nc.us or the writer in writing within seven (7) days.

LK/cf

cc: meeting attendees
Teresa Hart, PE, CPM

MEETING NOTES

TO: Meeting Participants

FROM: Liz Kovasckitz, Mulkey Engineers and Consultants

DATE: December 5, 2008

SUBJECT: Merger Concurrence Points 1 and 2 Meeting, NC 268 Improvements, Wilkes County, NCDOT TIP Project R-2603

A NEPA/Section 404 Merger Team meeting was held for the subject project on November 18, 2008 in the Board Room of the NCDOT Highway Building. The purpose of the meeting was to establish the project study area, present information to support concurrence on purpose and need, and determine alternatives to carry forward for detailed study. Meeting attendees are listed below. A summary of the meeting follows.

MEETING PARTICIPANTS

Ahmad Al-Sharawneh	NCDOT – PDEA
Johnny Banks	Mulkey
Trent Beaver	NCDOT – Division 11 (via conference call)
Donnie Brew	FHWA
Marella Buncick	USFWS
Marla Chambers	NCWRC
Erin Cheely	NCDOT – PDEA/NEU
Shantray Dickens	NCDOT – PDEA/HEU
James Dunlop	NCDOT – Congestion Management
Amy Euliss	NCDWQ
Colista Freeman	Mulkey
Teresa Hart	NCDOT – PDEA
Erin Hendee	NCDOT – Congestion Management
Bruce Klappenbach	NCDOT – Structure Design
Liz Kovasckitz	Mulkey
Monte Matthews	USACE
Chris Militscher	USEPA
Stacy Oberhausen	NCDOT – PDEA
Bruce Payne	NCDOT – Roadway Design
Amy Simes	NCDENR
Sarah Smith	NCDOT – Transportation Planning
Jerry Snead	NCDOT – Hydraulics
Erica Snyder	NCDOT – Roadway Design
Greg Thorpe	NCDOT – PDEA

Monte Matthews opened the meeting by welcoming attendees and asking them to introduce themselves for the record. Ahmad Al-Sharawneh then gave a brief description of the project. Extra copies of the meeting agenda and project informational packets that were provided in advance of the meeting were made available. Maps showing the project vicinity and notable project features were displayed. Mr. Al-Sharawneh asked Liz Kovasckitz to proceed with the agenda and the presentation.

Ms. Kavasckitz stated that there was one change to the project informational packet:

- Page 12, Table 2-1, Row 3: Change “D” to “B” under the 2007 LOS column for the NC 268 road segment from School Bus Drive to Shaver Street.

Ms. Kavasckitz began the presentation with an overview of the meeting agenda and a description of the meeting purpose, which was to reach concurrence on the Purpose and Need and Study Area Defined (Concurrence Point 1) and Design Options for Detailed Study (Concurrence Point 2). She then provided general project information and a study area description.

Transportation Improvement Program (TIP) Project R-2603 is the widening and improvement of NC 268 from NC 18 to SR 1966 (Airport Road) in Wilkes County and the Town of North Wilkesboro. The NC 268 project study corridor begins at the signalized intersection of NC 268 and NC 18 and ends 2,000 feet east of the intersection of NC 268 and Airport Road. The study area is a 600-foot wide corridor along NC 268 and extends 1,000 feet down the intersecting streets. The study area includes the 2nd Street ramp connection between NC 18 and NC 268. At the eastern end of the proposed project, the study area extends 2,000 feet in each direction along Airport Road and 2,000 feet east on NC 268 from its intersection with Airport Road.

Ms. Kavasckitz stated that an Environmental Assessment will be completed for the project. The current schedule shows right of way in 2013 and construction in 2015. Several other projects in the vicinity of R-2603 are listed in the 2009-2015 TIP, including one completed project (B-3714), two funded projects (B-4676 and R-3405), and five unfunded projects.

Ms. Kavasckitz then described notable features in the project study area, as shown on Figures 2A through 2C of the meeting packet. The western end of the project area is comprised of predominantly commercial development. Land use eventually transitions to mostly low density residential development near the eastern end of the project. From west to east along the project, existing NC 268 consists of three different cross sections: four-lane, five-lane, and two-lane. The topography along portions of the NC 268 corridor is steep, particularly in the eastern portion of the study area. Twenty-one underground storage tanks (USTs) have been identified throughout the project area, and low UST impacts are anticipated. Utilities are also located throughout the project area, including aerial and underground fiber optic cables, aerial power lines, and sewer.

There are eight existing stream crossings along NC 268 in the project area, one of which is ephemeral. Six jurisdictional wetlands have been identified within the project area. An unnamed tributary (UT) to Mulberry Creek runs close and parallel to NC 268 near the eastern end of the project. There is no suitable habitat for federally protected species in the project area. The N.C. Wildlife Resources Commission (NCWRC) has requested an in-water work moratorium for Mulberry Creek and its UTs between May 1 and July 15 due to the presence of smallmouth bass. Largemouth bass and spotted bass may also be present. Marla Chambers later noted that the last paragraph under Best Usage Classification on Page 41 of the meeting packet should be corrected to state that the moratorium is for smallmouth bass.

Ms. Kavasckitz described the public and local official involvement that has occurred, including a meeting with local officials in March 2007, a newsletter mailed in March 2008, and a local officials meeting and Citizens Informational Workshop held April 14, 2008. The Town of North Wilkesboro has requested to participate in the cost share program for pedestrian facilities.

Ms. Kavasckitz then presented the purpose for the proposed project:

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and
- Provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

The target, or measurable goal, for level of service (LOS) on NC 268 where widening is proposed is LOS D or better in 2035 build conditions. Proposed infrastructure upgrades for the existing multi-lane section of NC 268 will meet current drainage structure standards.

Much of the need for the project is based on traffic, which is anticipated to increase along NC 268 in the future. Improvements to NC 268 are needed to provide adequate capacity for existing and future traffic. Ms. Kovasckitz presented existing (2007) and 2035 levels of service for the mainline and intersections within the proposed widening portion of the study area. Traffic modeling projects the NC 268 mainline and signalized intersections will operate at an acceptable LOS in 2035 where widening is proposed. In general, most of the unsignalized intersections in the project area are low volume and are projected to operate below LOS D in 2035 No Build conditions, as well as for left turns in 2035 Build conditions, due to conflicts between through traffic and left turns. However, signalization of these intersections is not currently recommended because of the low volumes and queues on the minor streets. Ms. Kovasckitz stated that while the crash rate is not abnormally high overall, the highest percentage of vehicle collisions in the project area over a recent three-year period were rear-end collisions, which is often indicative of congested traffic conditions. Ms. Kovasckitz noted that in addition to improving traffic flow, widening NC 268 could also reduce the risk of rear-end collisions as a secondary benefit.

Ms. Kovasckitz noted that NCDOT estimates the existing multi-lane section on NC 268 was constructed approximately 40 years ago. A majority of the existing curb and gutter shows substantial distress, with the eastbound roadway edge being in the worst overall condition. A majority of the catch basins inspected have loose brick and non-standard grates.

Ms. Kovasckitz continued the presentation with a discussion of design criteria. Factors considered during the development of design criteria include minimizing impacts to resources, providing a roadway that is constructible, accommodating cross roads, streams, and utility easements at reasonable angles, and consideration of local officials' desires for pedestrian and bicycle facilities. NC 268 is a major collector along rolling terrain. The proposed right of way width is variable. Other design criteria vary according to the typical section option.

NC 268 is proposed for best-fit widening. There are five proposed typical sections for the project:

- Typical Section 1: Upgrades to existing multi-lane section (NC 18 to Shaver Street)
- Typical Section 2: Five-lane curb and gutter (Shaver Street to Fairplains Road)
- Typical Section 3: Four-lane divided with curb and gutter (Fairplains Road to Aaron Call Road)
- Typical Section 4: Four-lane divided with shoulder (Aaron Call Road to Airport Road)
- Typical Section 4A: Bridge over Mulberry Creek

The details associated with each typical section were included in the meeting packet and the presentation.

Ms. Kovasckitz then stated that there are five major stream crossings along NC 268. Three of the five existing hydraulic structures are recommended for replacement.

Discussion

The meeting was opened for discussion among the Merger Team. Marla Chambers asked if an extra lane in each direction reduces conflicts between through and local traffic. Ms. Kovasckitz responded that conflicts would be reduced because thru-traffic would not need to stop for turning vehicles.

Ms. Chambers noted that in Table 2-6 of the meeting packet, several unsignalized intersection movements show a worse LOS under the Build scenario. Ms. Kovasckitz responded that delays appear to increase because the existing configurations are shared thru-lefts (and the 2035 No Build delay is an average for the thru-left movement), while delays shown in the 2035 Build scenario are for exclusive left turns. Because of the relatively low volumes on the side streets, signalization does not appear to be warranted at any of the

unsignalized intersections in 2035. Ms. Chambers expressed concern that the Build scenario results in worsening delay for some movements. Donnie Brew indicated that driving habits often change as a result of widening from a two-lane roadway to a four-lane divided roadway, but those changes cannot be accurately reflected in the traffic analysis software. Erin Hendee added that left-turning traffic would be crossing an additional twelve feet of pavement, which increases the clearance distance and often results in greater delays for those left turns. Ms. Hendee noted that although some left turns experience greater delays, the Build scenario improves traffic flow overall. Ms. Chambers asked if a “superstreet” design was analyzed for the project. Ms. Hendee responded that a superstreet is not considered feasible for the NC 268 widening because of environmental constraints.

Chris Militscher asked why NCDOT is proposing a five-lane typical section when the Department usually does not support five-lane roadways. Ms. Kovaschitz stated that NCDOT is using the five-lane typical section with a variable median width to transition between the existing five-lane section and the proposed four-lane divided section. Mr. Al-Sharawneh added that the proposed five-lane section is a very short portion of the project. Stacy Oberhausen added that the project limits extend to the west to include infrastructure upgrades to the existing multi-lane section, but the intent is to retain the existing typical section between NC 18 and Shaver Street. Mr. Militscher expressed concern that travel speeds would increase on the four-lane section, leading to more driver conflicts on the slower five-lane section. Johnny Banks responded that the design criteria propose to reduce the speed limit to 45 miles per hour (mph) between Mulberry Creek and Airport Road. Ms. Oberhausen indicated that speeding is not anticipated to be a problem in this area, but that speed limit enforcement could ensure that it is not an issue. Based on the discussion, Mr. Militscher indicated that he would accept consideration of the proposed five-lane transition section (Typical Section 2).

Ms. Chambers asked for clarification of the alternatives being considered. Mr. Al-Sharawneh stated that the project alternatives include Best-Fit Widening, No Build, and proposed Typical Sections 1-4A. Ms. Oberhausen added that the Best-Fit Widening scenario allows NCDOT to avoid environmental areas of concern. Mr. Militscher expressed concern that with Best-Fit Widening, NCDOT must choose between the human and natural environments, particularly where the UT to Mulberry Creek closely parallels NC 268 to the south and a residential area is located along Vista Lane to the north. Ms. Oberhausen responded that alignment review is a part of Merger Concurrence Point 2a.

Mr. Militscher stated that EPA will require stormwater management where existing infrastructure will be upgraded in order to avoid further degradation of Long Creek. NCDOT acknowledged that appropriate stormwater management would be implemented throughout the project.

The Merger Team concurred on the Purpose and Need and Study Area Defined (Concurrence Point 1) as follows:

Purpose and Need

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and
- Provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

Study Area

The NC 268 project study corridor begins at the signalized intersection of NC 268 and NC 18 and ends just beyond Airport Road. The study area is a 600-foot wide corridor along NC 268 and extends 1,000 feet down the intersecting streets. The study area includes the 2nd Street ramp connection between NC 18 and NC 268. At the eastern end of the proposed project, the study area extends 2,000 feet in each direction along Airport

Road and 2,000 feet east on NC 268 from its intersection with Airport Road (see attached study area map).

The Merger Team concurred on the Design Options for Detailed Study (Concurrence Point 2) as follows:

Design Options for Detailed Study

1. Best-fit widening
2. Typical Section 1: Upgrades to existing multi-lane section
3. Typical Section 2: Five-lane curb and gutter
4. Typical Section 3: Four-lane divided with curb and gutter
5. Typical Section 4: Four-lane divided with shoulder
6. Typical Section 4a: Bridge over Mulberry Creek
7. No Build

A copy of the signed Concurrence Point 1 and Concurrence Point 2 forms are attached.

The meeting was then adjourned.

CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Stacy Oberhausen at soberhausen@ncdot.gov or the writer in writing within seven (7) days.

LK/cf

cc: Renee Gledhill-Earley
attachments

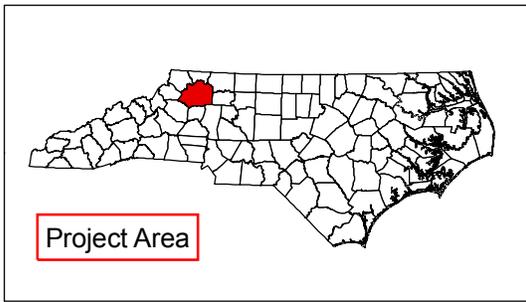
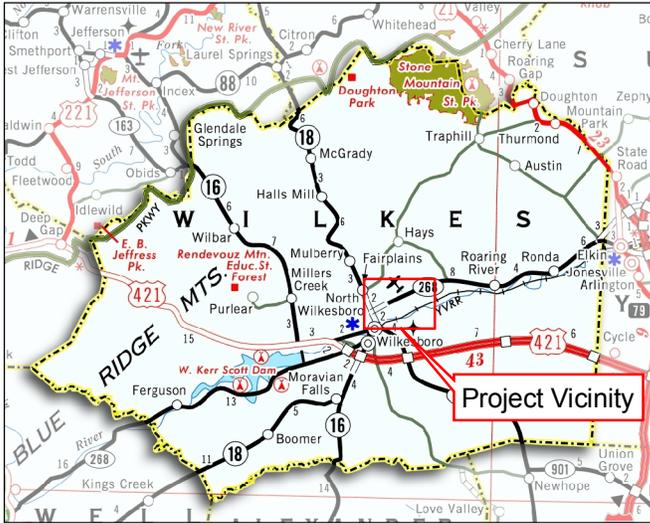


Figure 1

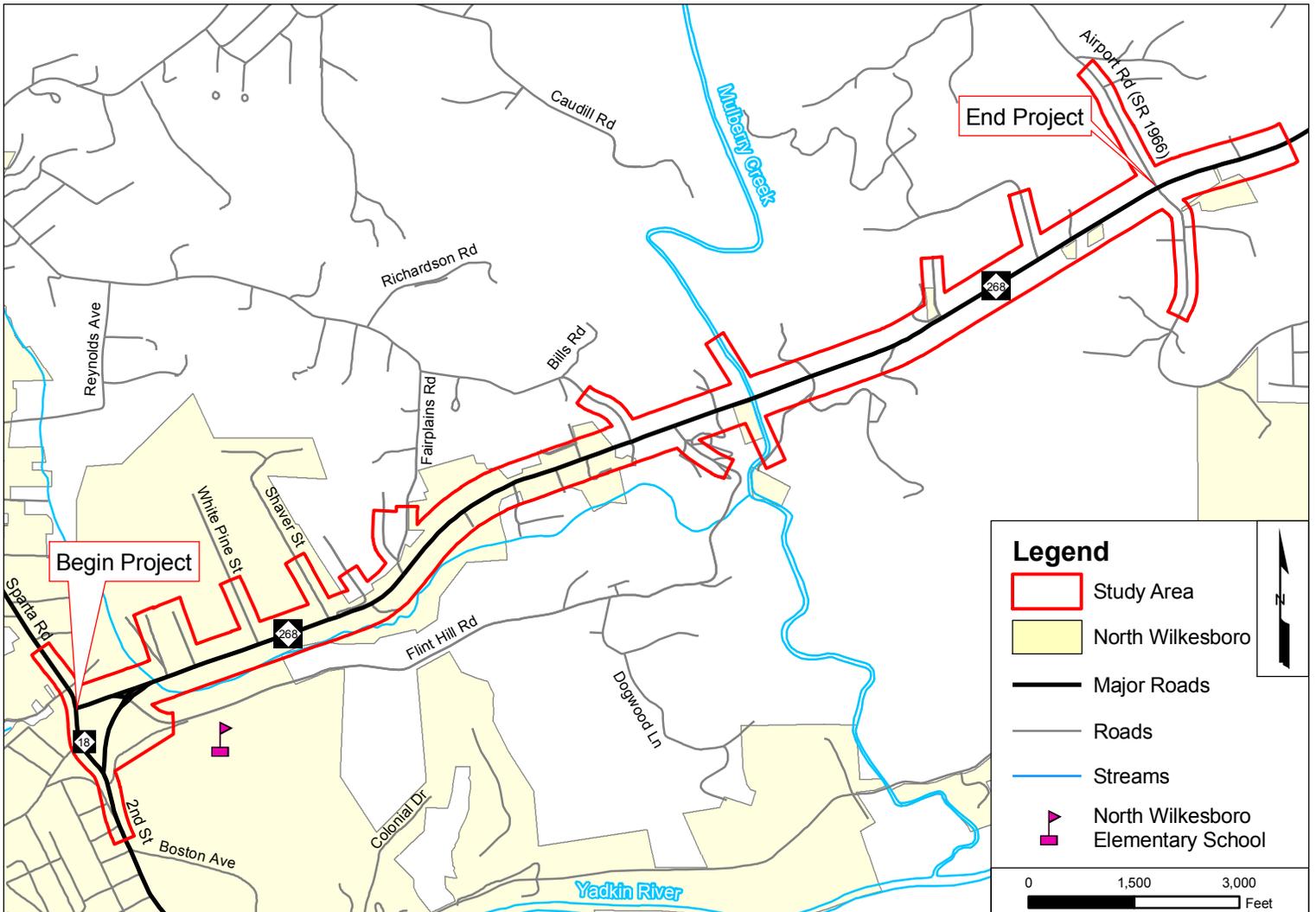
Project Vicinity

R-2603

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to SR 1966 (Airport Road)
Wilkes County, North Carolina



North Carolina
Department of Transportation



Section 404/NEPA Interagency Agreement

Concurrence Point No. 1 Purpose and Need and Study Area Defined

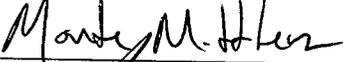
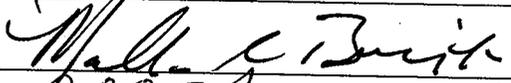
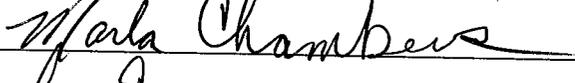
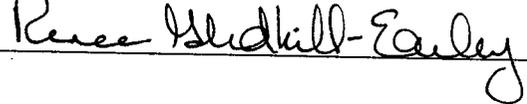
Project Title: NC 268 (Elkin Highway) Widening and Improvements from NC 18 to SR 1966 (Airport Road), Wilkes County, TIP No. R-2603, WBS No. 36001.1.1

Purpose and Need of Proposed Project: The purpose of the proposed project is to:

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and
- Provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

Study Area: The NC 268 project study corridor begins at the signalized intersection of NC 268 and NC 18 and ends just beyond Airport Road. The study area is a 600-foot wide corridor along NC 268 and extends 1,000 feet down the intersecting streets. The study area includes the 2nd Street ramp connection between NC 18 and NC 268. At the eastern end of the proposed project, the study area extends 2,000 feet in each direction along Airport Road and 2,000 feet east on NC 268 from its intersection with Airport Road (see attached study area map).

The project team has concurred with the purpose and need for the proposed project as described above.

<u>Name</u>	<u>Agency</u>	<u>Date</u>
	FHWA	11-18-08
	USEPA	11/18/08
	USACE	11-18-08
	USFWS	11/18/2008
	NCDOT	11/18/2008
	NCWRC	11/18/2008
	NCDWQ	11/18/2008
	NCSHPO	11-18-08

Section 404/NEPA Interagency Agreement

**Concurrence Point No. 2
Detailed Study Alternatives Carried Forward**

Project Title: NC 268 (Elkin Highway) Widening and Improvements from NC 18 to SR 1966 (Airport Road), Wilkes County, TIP No. R-2603, WBS No. 36001.1.1

Purpose and Need of the Proposed Action: The purpose of the proposed project is to:

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and
- Provide needed infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street.

Alternatives to Study in Detail:

- | | | |
|---|---|-----------------------------|
| 1. Best-fit widening | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Typical Section 1: Upgrades to existing multi-lane section | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Typical Section 2: Five-lane curb and gutter | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Typical Section 3: Four-lane divided with curb and gutter | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Typical Section 4: Four-lane divided with shoulder | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Typical Section 4a: Bridge over Mulberry Creek | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. No Build | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

The project team has concurred with the alternatives to be carried forward for the proposed project as indicated above.

<u>Name</u>	<u>Agency</u>	<u>Date</u>
<i>Dahl & Per</i>	FHWA	11-18-08
<i>Cheryl A. Z...</i>	USEPA	11/18/2008
<i>Mark M. H...</i>	USACE	11-18-2008
<i>Mark C. B...</i>	USFWS	11/18/2008
<i>Cheryl A. Z...</i>	NCDOT	11/18/2008
<i>Marla Chambers</i>	NCWRC	11/18/2008
<i>Ann E...</i>	NCDWQ	11/18/2008
<i>Rene Hedrick-Early</i>	NCSHPO	11-18-08

MEETING NOTES

TO: Meeting Participants
FROM: Liz Kovasckitz, Mulkey Engineers and Consultants
DATE: August 2, 2010
SUBJECT: Merger Concurrence Point 2a Meeting, NC 268 Improvements, Wilkes County, NCDOT TIP Project R-2603

A NEPA/Section 404 Merger Team meeting was held for the subject project on July 22, 2010 at the Division 11 Equipment Maintenance/Resident Engineer Facility in North Wilkesboro. The purpose of the meeting was to reach concurrence on Bridging and Alignment Review (Concurrence Point 2a). Meeting attendees are listed below. A summary of the meeting follows.

MEETING PARTICIPANTS

Mack Bailey	NCDOT – Structure Design
Johnny Banks	Mulkey
Eddie Barnes	Wilkes County Planning
Trent Beaver	NCDOT – Division 11
David Bocker	Mulkey
Donnie Brew	FHWA
Marella Buncick	USFWS
Steve Champion	NCDOT – Structure Design
Erin Cheely	NCDOT – PDEA/NEU
Adam Cole	NCDOT – Structure Design
Carla Dagnino	NCDOT – PDEA/NEU
Seth Eckard	Town of North Wilkesboro
Marshall Edwards	NCDOT – PDEA
Josh Harrold	Town of North Wilkesboro
Teresa Hart	NCDOT – PDEA
Tony Houser	NCDOT – Roadway Design
Craig Hughes	High Country RPO
Liz Kovasckitz	Mulkey
Erica Martin	NCDOT – Roadway Design
Monte Matthews	USACE
Chris Militscher	USEPA
Han Nguyen	NCDOT – Structure Design
Stacy Oberhausen	NCDOT – PDEA
Bruce Payne	NCDOT – Roadway Design
Hank Perkins	Town of North Wilkesboro
Heath Slaughter	NCDOT – Division 11
Jerry Snead	NCDOT – Hydraulics
David Wainwright	NCDWQ

Monte Matthews opened the meeting, stating the purpose of the meeting was to reach concurrence on Bridging and Alignment Review (Concurrence Point 2a) for NCDOT Project R-2603. Mr. Matthews welcomed meeting attendees and asked them to introduce themselves for the record. Extra copies of the project informational packets that were provided to Merger Team members in advance of the meeting were

made available. Maps showing the proposed project and notable project features were displayed. Mr. Matthews asked the Merger Team to take the opportunity during the meeting to present any comments or concerns regarding Concurrence Point 3, noting it would facilitate reaching concurrence on the Least Environmentally Damaging Practicable Alternative quickly after the public hearing was held. Mr. Matthews asked Liz Kavasckitz to proceed with the presentation.

Ms. Kavasckitz began the presentation with an overview of the meeting agenda and packet. She noted that in addition to presenting information related to Bridging and Alignment Review (Concurrence Point 2a) she would also provide information relative to Concurrence Point 3. Ms. Kavasckitz then provided general project information and a study area description.

NCDOT State Transportation Improvement Program Project R-2603 is the widening and improvement of NC 268 from NC 18 to SR 1966 (Airport Road) in Wilkes County. A portion of the project is located in the Town of North Wilkesboro. The NC 268 project study corridor begins at the signalized intersection of NC 268 and NC 18 and ends 2,000 feet east of the intersection of NC 268 and Airport Road. The study area is a 600-foot wide corridor along NC 268 and extends 1,000 feet down the intersecting streets. At the eastern end of the proposed project, the study area extends 2,000 feet in each direction along Airport Road and 2,000 feet east on NC 268 from its intersection with Airport Road. As part of the preliminary design, Aaron Call Road was realigned to form an intersection with Flint Hill Road. This resulted in approximately 350 feet of the realigned roadway falling outside of the study area. Ties to Ridge Top Road off of Liberty Grove Church Road and a private drive off of Airport Road at the eastern end of the project resulted in minimal sections of cut and fill falling outside of the study area. These locations were reviewed for environmental impacts and the results are incorporated into the findings presented for the project.

Ms. Kavasckitz noted the NCDOT *2009-2015 State Transportation Improvement Program (STIP)* specifies that R-2603 is 2.6 miles long. This length does not include the proposed infrastructure upgrades for the existing multi-lane section of NC 268 west of Shaver Street or the approximately 0.3 mile transition back to the existing roadway east of Airport Road. The NCDOT *2010-2016 STIP* will be updated to show that R-2603 is 3.6 miles long.

The Merger Team concurred on the Purpose and Need and Study Area Defined (Concurrence Point 1) and Design Options for Detailed Study (Concurrence Point 2) at their November 18, 2008 meeting. Ms. Kavasckitz briefly reviewed the purpose of and need for the proposed project and referred meeting attendees to minutes from the November 18th meeting included in Appendix B of the packet for additional information.

Ms. Kavasckitz stated that an Environmental Assessment will be completed for the project. The current schedule shows right of way acquisition beginning in 2013 and construction in 2015.

Ms. Kavasckitz then described notable features in the project study area, as shown on Figures 2A through 2C of the meeting packet. From west to east along the project, existing NC 268 consists of three different cross sections: four-lane, five-lane, and two-lane. The topography along portions of the NC 268 corridor is steep, particularly in the eastern portion of the study area. Twenty-one underground storage tanks (USTs) have been identified throughout the project area; low UST impacts are anticipated. Utilities are also located throughout the project area, including aerial and underground fiber optic cables, aerial power lines, and sewer. Ms. Kavasckitz pointed out other notable features on the figures including stream crossings, wetlands, noise receptors, neighborhoods, and the Reddies River water supply watershed.

Ms. Kavasckitz reviewed the Best-Fit Widening Alternative, which was approved for detailed study at the November 18, 2008 Merger meeting. There are five proposed typical sections for the project:

- Typical Section 1: Upgrades to existing multi-lane section (NC 18 to Shaver Street)

- Typical Section 2: Five-lane curb and gutter (Shaver Street to Fairplains Road)
- Typical Section 3: Four-lane divided with curb and gutter (Fairplains Road to Aaron Call Road)
- Typical Section 4: Four-lane divided with shoulder (Aaron Call Road to Airport Road)
- Typical Section 4A: Bridge over Mulberry Creek

Details associated with each typical section were included in the meeting packet and the presentation. Ms. Kovasckitz noted the Town of North Wilkesboro has asked to participate in the NCDOT cost share program for pedestrian facilities. She indicated where sidewalks and bicycle accommodations were included along the project during her review of typical sections.

Ms. Kovasckitz then reviewed impacts associated with the Best-fit Widening Alternative, referring meeting participants to Table 6-1 in their packets. Potential impacts include: seven residential relocations, including two minority relocations; four business relocations; 0.41 acre of wetland impacts; 1,676 linear feet of stream impacts; and, approximately 13 acres of forest impacts. There are four residences and one business that may be impacted by noise. Impacts from petroleum contaminated soils may be encountered at three sites presently or formerly containing possible petroleum USTs. Ms. Kovasckitz noted that the State Historic Preservation Office has concurred that the project would not impact historic architecture or archaeological resources. No protected species would be impacted by the proposed project.

Ms. Kovasckitz described water resources within the project area, which include Long Creek, Mulberry Creek and their tributaries. Long Creek is on the 303(d) list due to “impaired biological integrity.” An unnamed tributary (UT) to Mulberry Creek runs close and parallel to NC 268 near the eastern end of the project. Detailed stream, wetland and pond information was provided in Tables 4-1 through 4-3 of the packet.

The NC Wildlife Resources Commission (WRC) has indicated that Mulberry Creek supports smallmouth bass, a popular game fish, in the project vicinity and possibly largemouth bass and spotted bass as well. The WRC has requested an in-water work moratorium for Mulberry Creek and its unnamed tributary for smallmouth bass from May 1 to July 15 to prevent off site sedimentation impacting fish eggs and fry downstream. Ms. Kovasckitz noted NCDOT is coordinating with WRC on their recent request to provide access to a planned facility near the bridge over Mulberry Creek. The WRC facility would include parking for four or five vehicles, stairs, and canoe and wading access.

Ms. Kovasckitz described the major drainage structure recommendations for the project. The preliminary hydraulics analysis for R-2603 determined there are five major stream crossings in the project area. Details related to these crossings were shown in Table 5-1 of the packet. Sites 1 and 2 are outside of the proposed widening limits and it is recommended the existing structures be retained at these locations.

The recommendation for Site 3, an existing crossing of a UT to Long Creek, is to replace the existing 84-inch corrugated metal pipe (CMP) with an eight-foot by eight-foot box culvert buried one foot for fish passage. Ms. Kovasckitz noted the full extent of the pipe shown on Figure 6A is not recommended for replacement as a portion of it, as shown by the dashed line, is a presumed illicit connection. When sizing the recommended structure at Site 3, only what is required as a result of the proposed project was considered. Ms. Kovasckitz noted there is a steep slope on the south side of NC 268 at Site 3. It is expected that during final design, impacts at this location would likely be reduced.

Site 4 is an existing crossing of a UT to Long Creek. Ms. Kovasckitz referred meeting participants to Figure 6B in the packet. The existing structure consists of a four-foot by four-foot reinforced concrete box culvert. It is recommended that the structure at Site 4 be replaced with a 72-inch reinforced concrete pipe buried one foot to allow fish passage. Site 5 is a crossing of Mulberry Creek. The construction of a new bridge over Mulberry Creek to service eastbound traffic downstream of the existing NC 268 bridge is recommended.

Ms. Kivasckitz concluded her presentation with a request for questions or comments, and asked the Merger Team what sites they would like to visit in the field. The meeting was opened for discussion.

Discussion

Ms. Buncick asked for clarification on how the existing pipe and the proposed RCBC would function at Site 3. David Bocker explained that only the section of pipe associated with roadway widening hydraulics would be replaced with a RCBC. The section of pipe currently handling drainage on the adjacent property was an unconventional drop-inlet and not proposed for replacement. Ms. Buncick asked if there would be a gap between the existing pipe and proposed RCBC. Mr. Bocker replied that could be the case. Ms. Buncick indicated she would like to look at Site 3 where the potential gap may occur, as well as the slope and outlet. She noted she was not questioning whether a bridge should be used in place of the proposed culvert. Ms. Buncick asked what the slope was. Mr. Bocker replied that it was approximately 2.7 percent. Ms. Buncick noted it would be important to minimize the drop and make sure the proposed culvert is not perched.

Ms. Buncick asked if there were any changes to where the different typical sections were used along the proposed project from what was presented at the Concurrence Point 2 meeting, in particular the use of curb and gutter versus shoulder. Ms. Kivasckitz responded there were no changes in the location of the typical sections. Where the project included sidewalks and wide outside lanes to accommodate bicycles, a curb and gutter typical section was used. Beyond the Town of North Wilkesboro limits, the typical section changes to include outside shoulders. The shoulder section continues through to the project terminus, with the exception of the bridge over Mulberry Creek. Ms. Kivasckitz noted the Best-Fit Widening Alternative starts out as a generally symmetrical widening but transitions quickly to widen to the south to avoid impacts to businesses. Widening shifts and stays to the north near the bridge over Mulberry Creek to avoid impacts to the unnamed tributary to Mulberry Creek on the south side of NC 268.

Chris Militscher asked when the Environmental Assessment would be completed. Ms. Oberhausen replied the Environmental Assessment is expected in December per the current project schedule. Mr. Matthews stated Concurrence Point 3 could be addressed once there was an approved Environmental Assessment and the public notice period had been completed. It was noted that Concurrence Point 3 could also be addressed at the Concurrence Point 4a meeting.

Meeting attendees agreed that given the presence of the 303(d) stream, stormwater management will be important component of final design. It was noted the use of pre-formed scour holes and grass swales for stormwater treatment would be anticipated during design. Ms. Buncick indicated slopes at Site 3 should be minimized during design as well and suggested possibly adding sills in the RCBC.

Ms. Oberhausen asked Mr. Perkins if the Town was still interested in constructing sidewalks per NCDOT's cost-share program along a portion of the project. Hank Perkins confirmed the Town of North Wilkesboro is interested in participating in the cost share program for pedestrian facilities. Mr. Perkins noted he would be presenting information regarding the project to Town officials that evening.

A representative from the Town of North Wilkesboro asked if bicycle accommodations would be carried through the project. Ms. Kivasckitz responded that 14-foot outside lanes would be provided from where the widening begins at Shaver Street to the Town of North Wilkesboro limits near Aaron Call Road. From the Town of North Wilkesboro limits to the project terminus, four feet of the eight-foot shoulder section would be paved.

Mr. Perkins asked how the relocation of utilities would be handled. Ms. Oberhausen responded that utilities would be relocated as part of the project.

Several Merger Team members indicated they would like to visit Site 3. Those choosing to not proceed to

the field review portion of the meeting signed the Concurrence Point 2a form.

Field Review

At the request of Mr. Marshall Edwards, field review participants met at Site 3 at 12:15 p.m. to examine the existing pipe and outfalls. There was discussion regarding the potential gap between the RCBC and the existing pipe. A gap would be beneficial should there be an overflow of water. Whether or not the existing pipe on the private property was removed in the future, the proposed RCBC structure would be appropriately sized. Meeting participants noted it was unlikely that pipe would be removed. It was determined that the pipe coming from the private property was joined with a second pipe at a drop inlet on the vacant lot adjacent to NC 268. The pipes were approximately 20 feet underground. If the stream was day-lighted it would require significant cut slopes and excavation creating steep slopes. Trent Beaver indicated the property owners may have an encroachment for the pipe that feeds into the pipe under the roadway. He stated he would investigate if an encroachment exists. Mr. Beaver asked about the condition of the pipe under the road. Mr. Bocker noted it was in fair condition but undersized. Mr. Matthews noted the Merger Team would likely have additional discussion regarding Site 3 at Concurrence Point 4a.

Post Meeting Note: Mr. Beaver determined the District Office has an encroachment agreement for the pipe extension at Site 3. However, the encroachment agreement indicates the pipe is a 108-inch CMP. The second pipe that ties into the drop inlet is a 24-inch CMP carrying drainage from a ditch line. Mr. Beaver and the Division 11 Bridge Manager plan to inspect NCDOT's pipe under the road to determine if it can be retained.

The Merger Team concurred on the revised study area as shown in the July 22, 2010 Concurrence Meeting Package and the major hydraulic structures and sizes for the proposed project as follows:

<u>Site No.</u>	<u>Stream Name (No.)</u>	<u>Hydraulic Structure</u>
1	Long Creek (S1)	Retain existing 7'x7' RCBC
2	UT to Long Creek (S2)	Retain existing 5'x5' RCBC
3	UT to Long Creek (S4)	8'x8' RCBC
4	UT to Long Creek (S10)	72" RCP
5	Mulberry Creek	150' long bridge

The meeting was adjourned.

CORRECTIONS & OMISSIONS: This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections, please inform Marshall Edwards at medwards@ncdot.gov or the writer in writing within seven (7) days.

cc: Marla Chambers, NCWRC
Renee Gledhill-Early, SHPO

Attachment: Signed Concurrence Point 2a form
(Note: NCDOT is working to obtain WRC's signature)

SECTION 404/NEPA INTERAGENCY AGREEMENT

CONCURRENCE POINT NO. 2A
BRIDGING AND ALIGNMENT REVIEW

PROJECT TITLE AND PROJECT NUMBERS:

NC 268 (Elkin Highway) Widening and Improvements from NC 18 to SR 1966 (Airport Road),
Wilkes County

Federal Aid Project No. STP-0268(15), WBS No. 36001.1.2, TIP Project No. R-2603

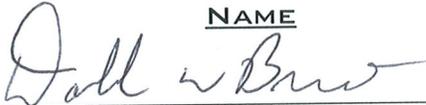
PURPOSE AND NEED OF THE PROPOSED ACTION:

- Improve traffic flow and level of service, and reduce conflicts between through and local traffic on NC 268 in the project area; and,
- Provide infrastructure upgrades to the existing multi-lane section of NC 268 between NC 18 and Shaver Street

HYDRAULIC RECOMMENDATIONS:

<u>Site No.</u>	<u>Stream Name (No.)</u>	<u>Hydraulic Structure</u>
1	Long Creek (S1)	Retain existing 7'x7' RCBC
2	UT to Long Creek (S2)	Retain existing 5'x5' RCBC
3	UT to Long Creek (S4)	8'x8' RCBC
4	UT to Long Creek (S10)	72" RCP
5	Mulberry Creek	150' long bridge

The project team has concurred on the revised study area as shown in the July 22, 2010 Concurrence Meeting Package and the major hydraulic structures and sizes for the proposed project as listed above.

<u>NAME</u>	<u>AGENCY</u>	<u>DATE</u>
	FHWA	7-22-10
	USEPA	7-22-10
	USACE	7-22-10
	USFWS	7/22/10
	NCDOT	7/22/10
	NCWRC	8/18/2010
	NCDWQ	7/22/10
	NCSHPO	7/26/10

APPENDIX D – PUBLIC INVOLVEMENT



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966) Wilkes County

Project Description

The North Carolina Department of Transportation (NCDOT) is proposing to widen NC 268 from its existing multi-lane section east of NC 18 to SR 1966 (Airport Road). The project length is approximately 2.6 miles.

The NCDOT is conducting an environmental study of the proposed project, which is included in the *Draft 2008-2015 State Transportation Improvement Program (TIP)* as project number R-2603.

The NCDOT plans to evaluate the existing multi-lane section, from NC 18 to the vicinity of Shaver Street, for needed upgrades.

These upgrades may include improvements to the existing roadway, such as resurfacing, replacement of drainage structures, and replacement of curb and gutter.



*NC 268 Crossing over
Mulberry Creek*

Citizens Informational Workshop Scheduled

The NCDOT is conducting a Citizens Informational Workshop for this project on Monday, **April 14, 2008**. Representatives of the NCDOT will be available to answer questions and hear your comments and concerns. You may drop in any time between **4:30 and 6:30 pm**. The workshop will be held in the **cafeteria** at:

North Wilkesboro Elementary School
200 Flint Hill Road
North Wilkesboro

In addition to speaking with someone at the workshop, a comment form will be available. You may complete the form and submit your comments at the meeting or mail it to the contact listed on the form.

Auxiliary aids and services will be provided for disabled persons who wish to attend the meeting. Contact Mr. Ahmad Al-Sharawneh as soon as possible so that arrangements can be made.

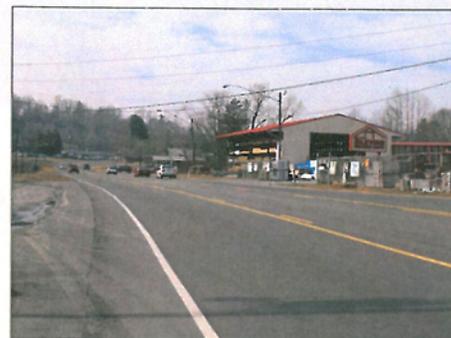
Citizens Informational Workshop

Date: April 14, 2008

Time: 4:30 - 6:30 pm

Location: North Wilkesboro
Elementary School Cafeteria

Please stop by and speak to
a project
representative.



*Looking west on NC 268 near
Blevins Building Supply*

Current Project Schedule

Currently, the *Draft 2008-2015 State Transportation Improvement Program* shows that right-of-way acquisition for the proposed project would begin in 2013 and that construction would begin in 2015. Additional information on the project schedule is included inside this newsletter.



Draft Purpose and Need



NC 268 Near Legion Road

The proposed transportation improvements are generally needed to provide adequate capacity for existing and future traffic volumes, improve access into North Wilkesboro from the northeast, and improve access to development along NC 268 in the project area.

- Due to the land uses in the project area, which include manufacturing, retail and residential, NC 268 is currently heavily traveled by both passenger vehicles and large trucks. Wilkes County plans to expand the industrial park near the eastern end of the project area, which is expected to result in an increase in traffic along the roadway.
- Traffic volumes on NC 268 in the project area are expected to increase substantially by the year 2035. The

2007 annual average daily traffic (AADT) on NC 268 between NC 18 and Airport Road varies between 7,700 vehicles per day (vpd) and 18,200 vpd. By the year 2035, traffic along this section of NC 268 is expected to increase to between 11,100 vpd and 26,400 vpd.

- Level of service (LOS) analyses for signalized and unsignalized intersections show that the majority of intersections are expected to operate below Level of Service D in either the AM peak, PM peak, or both AM and PM peak conditions in 2035. LOS for existing (2007) AM and PM peak conditions at both signalized and unsignalized intersections show that ten out of 28 intersections studied operate below LOS D. In 2035, the number of intersections operating below a LOS D in either the AM peak, PM peak, or both AM and PM peak conditions increases to 23, with 20 of those intersections operating at LOS F.

Project Termini

NC 268 and NC 18 (2nd Street / Sparta Road)



NC 268 and Airport Road (SR 1966)

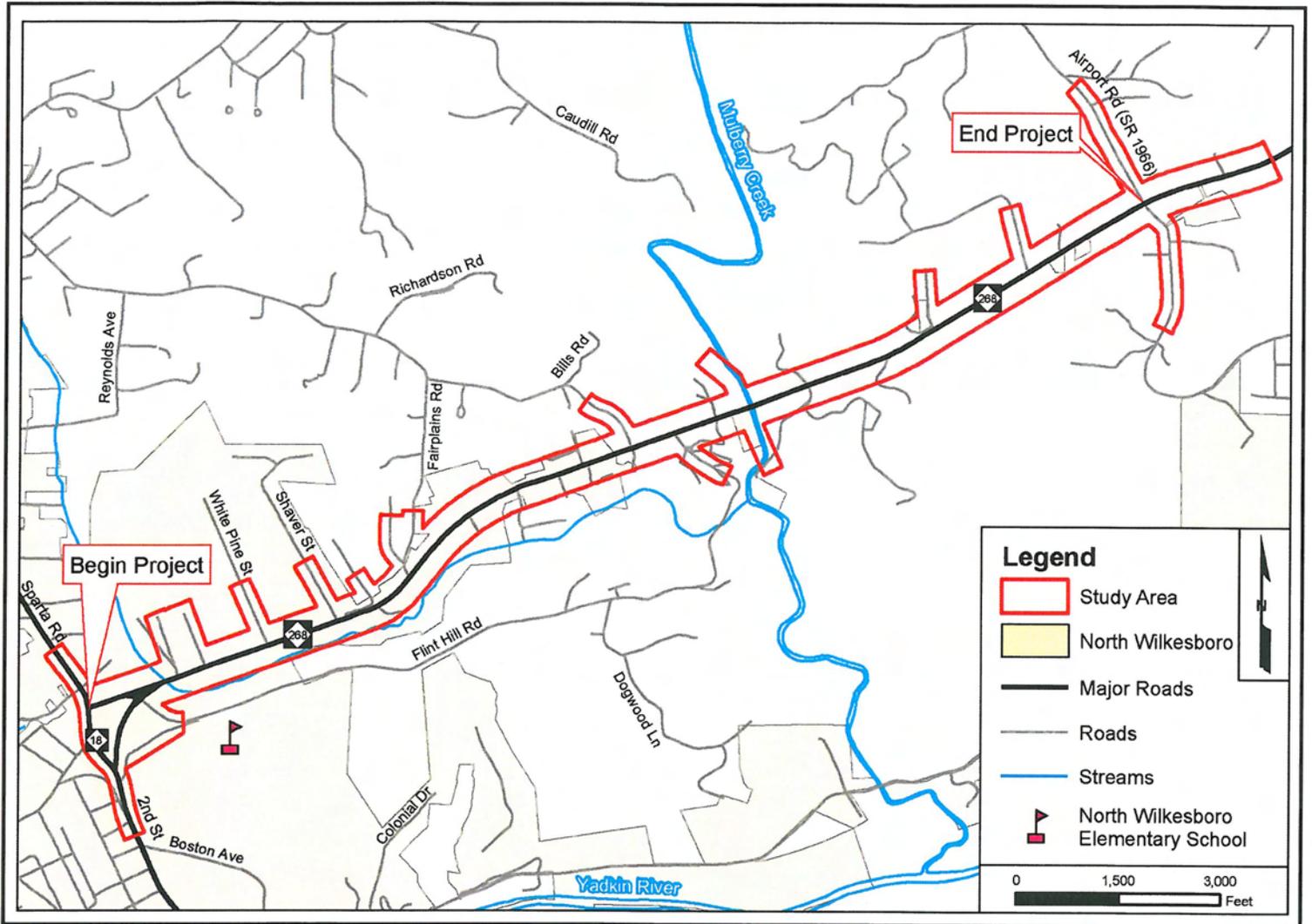


What is “Level of Service”?

Level of Service (LOS) is a way to measure traffic conditions. This measure also takes into account the perception of traffic conditions by drivers and their passengers. The Transportation Research Board's *Highway Capacity Manual* generally describes these conditions in terms of such factors as speed and travel times,

freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels are used, ranging from A to F. For roadways, LOS A indicates no congestion, while LOS F represents more traffic demand than road capacity and extreme delays. The engineering profession generally accepts LOS D as a minimally acceptable operating condition for signalized intersections.

Project Vicinity Map



Project Development Study Process

The proposed project will involve state and federal funds. Any agency that proposes a project involving federal funds must comply with the National Environmental Policy Act (NEPA). Under NEPA, an agency must study the adverse and beneficial environmental impacts of alternatives that meet a project's purpose and need and identify the least environmentally damaging practicable alternative (LEDPA). This planning process can be divided into the steps described to the right. This project is currently in Step 1 of the process.

WE ARE HERE

- STEP 1:** Initiate project and collect data
- STEP 2:** Identify Alternatives
- STEP 3:** Conduct a Detailed Study of Alternatives
- STEP 4:** Environmental Assessment Document **2009**
- STEP 5:** Public Hearing **2010**
- STEP 6:** Selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) **2010**
- STEP 7:** Finding of No Significant Impact Document **2011**

Project Contacts

If you have questions about this project, you may write, call, or email one of the following people:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
(919) 733-7844, ext. 258
aalsharawneh@dot.state.nc.us

Mrs. Elizabeth Kovasckitz
Mulkey Engineers & Consultants
6750 Tryon Road
Cary, NC 27518
(919) 858-1808
lkovasckitz@mulkeyinc.com

NCDOT is on the Web!

www.ncdot.org

Public involvement is an important part of the planning process. The NCDOT encourages citizen involvement on transportation projects, and will consider your suggestions and address your concerns. If you have transportation questions on other projects, call our Customer Service Center toll-free at **1-877-DOT-4YOU**, or visit the NCDOT website at www.ncdot.org.



Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966) Wilkes County NCDOT TIP Project R-2603

Workshop Handout NCDOT Citizens Informational Workshop April 14, 2008

Welcome!

Welcome to the Citizens Informational Workshop for the proposed NC 268 (Elkin Highway) Widening and Improvements project in Wilkes County. The North Carolina Department of Transportation appreciates your attendance here this evening!

Workshop Format

- ◆ The Workshop this evening is an “open-house” style format between the hours of 4:30 p.m. and 6:30 p.m. Project representatives are located around the room to discuss the project with you and answer your questions.
- ◆ Several displays showing project related information are stationed around the room.
- ◆ Please sign in at the registration table. Comment forms are available and can be filled out tonight or returned by mail or email to the address shown on the form.

Purpose of the Workshop

The purpose of the workshop is to:

- ◆ Present information related to the proposed transportation improvements.
- ◆ Discuss concerns, address issues, and answer questions on the proposed project.
- ◆ Receive your feedback on the proposed project and Draft Purpose and Need.

Project Description

The North Carolina Department of Transportation (NCDOT) is preparing an environmental study for improvements to NC 268 (Elkin Highway) between NC 18 and Airport Road. The NCDOT is proposing to widen NC 268 (Elkin Highway) from its existing multi-lane section east of NC 18 to Airport Road. The study will evaluate the existing multi-lane section from NC 18 to the vicinity of Shaver Street for needed upgrades. These upgrades may include improvements to the existing roadway such as resurfacing, replacement of drainage structures, and replacement of curb and gutter.

Contact Information

If you need additional information or would like to discuss the project further, please contact either of the project representatives listed below.

Mr. Ahmad Al-Sharawneh
NCDOT Project Development &
Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
(919) 733-7844, ext. 258
aalsharawneh@dot.state.nc.us

Mrs. Elizabeth Kovasckitz
Mulkey Engineers & Consultants
6750 Tryon Road
Cary, NC 27518
(919) 858-1808
lkovasckitz@mulkeyinc.com

[See Exhibits](#)

[Ask Questions](#)

[Provide Comments](#)

Draft Purpose and Need

The proposed transportation improvements are needed to provide adequate capacity for existing and future traffic volumes. Traffic volumes on NC 268 (Elkin Highway) in the project area are expected to increase by approximately 45 percent by the year 2035. In 2007, annual average daily traffic (AADT) on NC 268 (Elkin Highway) between NC 18 and Airport Road varied between 7,700 vehicles per day (vpd) and 18,200 vpd. By the year 2035, traffic along this section of NC 268 (Elkin Highway) is expected to increase to between 11,100 vpd and 26,400 vpd.

Due to the land uses in the project area, which include manufacturing, retail and residential, NC 268 (Elkin Highway) is currently heavily traveled by both passenger vehicles and large trucks. Wilkes County plans to expand the industrial park near the eastern end of the project area, which is expected to result in an increase in traffic along the roadway.

Three of the five signalized intersections in the project area are predicted to operate at LOS F in either AM peak, PM peak, or both conditions in 2035. The majority of unsignalized intersections will operate below LOS D.

Level of Service (LOS) is a qualitative measure that characterizes the operational conditions within a traffic stream and the perception of traffic service by motorists. These conditions are generally described in terms of speed and travel times, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels are used and range from LOS A, which indicates no congestion, to LOS F, which represents more traffic demand than road capacity and extreme delays.

Project Termini

NC 268 and
NC 18 (2nd
St./Sparta Rd.)



NC 268 and
Airport Road
(SR 1966)



Project Schedule and Environmental Study Process

Currently, the *Draft 2008-2015 State Transportation Improvement Program* shows that right-of-way acquisition for the proposed project would begin in 2013 and that construction would begin in 2015.

The proposed project will involve state and federal funds. Any agency that proposes a project involving federal funds must comply with the National Environmental Policy Act (NEPA). Under NEPA, an agency must study the adverse and beneficial environmental impacts of alternatives that meet a project's purpose and need and identify the least environmentally damaging practicable alternative (LEDPA). This planning process can be divided into the steps shown below. This project is currently in Step 1 of the process.

STEP 1: Initiate project and collect data

STEP 2: Identify Alternatives

STEP 3: Conduct a Detailed Study of Alternatives

STEP 4: Environmental Assessment Document **2009**

STEP 5: Public Hearing **2010**

STEP 6: Selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) **2010**

STEP 7: Finding of No Significant Impact Document **2011**

Workshops and Newsletters will be utilized throughout the process to keep you informed.

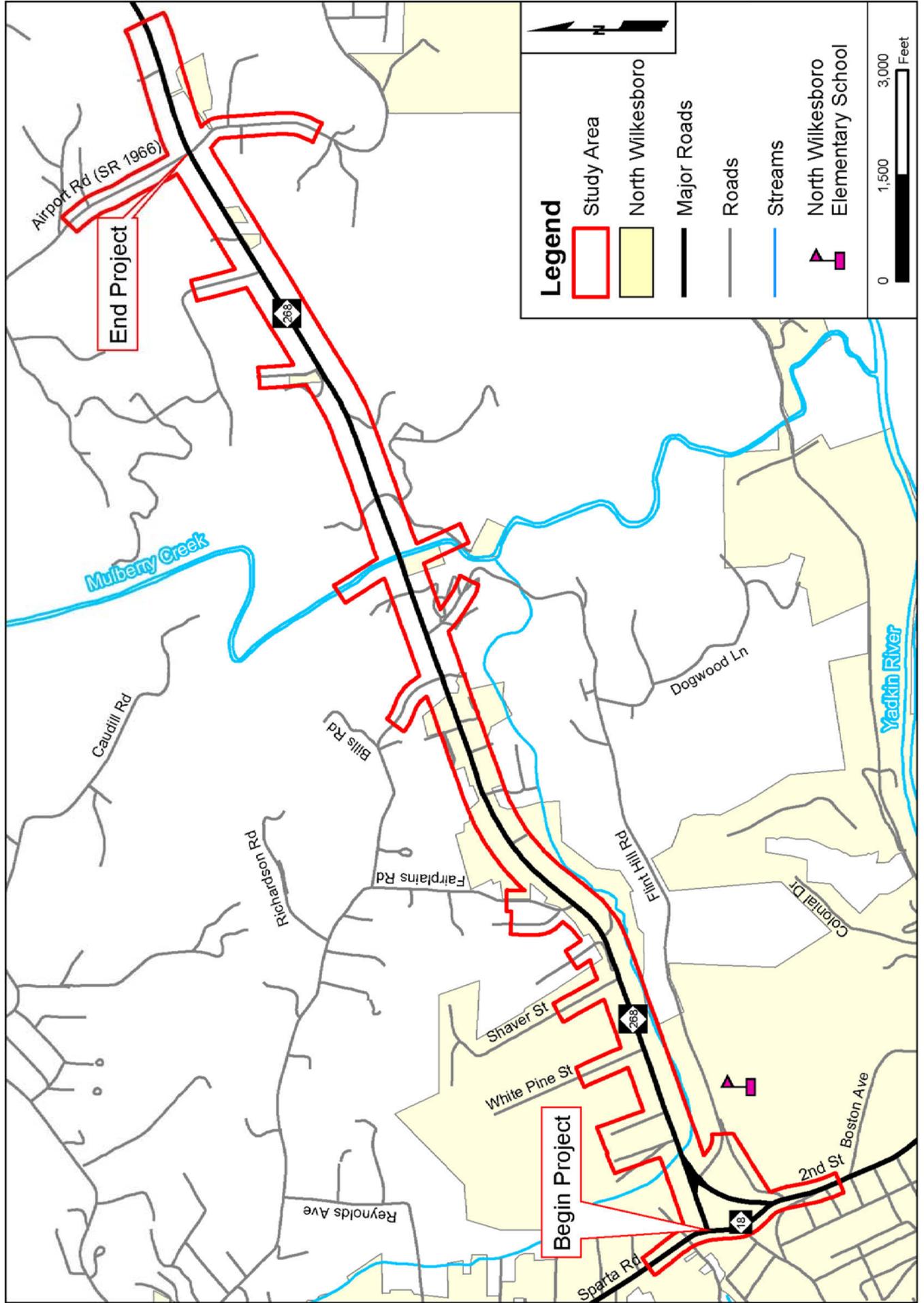
NCDOT is on the Web!

Public involvement is an important part of the planning process. The NCDOT encourages citizen involvement on transportation projects, and will consider your suggestions and address your concerns. If you have transportation questions on other projects, call our Customer Service Center toll-free at **1-877-DOT-4YOU**, or visit the NCDOT website at www.ncdot.org.

The North Carolina Department of Transportation thanks you for your attendance tonight.

Your comments are important to us!

Project Vicinity Map





NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2603

Comment Sheet NCDOT Citizens Informational Workshop

The North Carolina Department of Transportation (NCDOT) invites your comments on the proposed project and Draft Purpose and Need. Please provide your comments below and include your contact information. Your written comments may be left in one of the comment boxes at the meeting or mailed to NCDOT by May 14, 2008.

Mail Comments To:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
aalsharawneh@dot.state.nc.us

Name:

JAMES N. BROWN
(Please Print)

Address:

915 MAIN ST. NORTH WILKESBORO, NC

Comments:

Concerned about intersection of 268 - Second Street Ramp - Flint Hill Rd.

We can not turn on to our property left when going east on 2nd St Ramp

**NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)
Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603**

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No Further comments: _____

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

How might we better present proposed projects and address citizens' concerns in future informational workshops? _____

How did you hear about this meeting today? _____

Based on the information available, were all substantial questions answered?

Yes No Further comments: _____

What was the most helpful aspect about the workshop today? What was the least helpful?

**THANK YOU FOR ATTENDING THE WORKSHOP.
YOUR COMMENTS ARE VERY IMPORTANT IN THE PLANNING PROCESS.**



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2603

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Mail Comments To:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
aalsharawneh@dot.state.nc.us

Name:

R Tom Frazier

(Please Print)

Address:

PO Box 25 N. Wilkesboro NC 28659

336-262-7436

Comments:

This has been needed tremendously for a long time. Its to hate to keep Lowes Hardware, but because of it being on ~~the~~ a part of the Northern bypass and the access to the airport and the industrial park, it is extremely important to the future of Northwestern North Carolina. Please expedite the process as quickly as possible

**NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)
Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603**

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No Further comments: _____

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

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NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2603

Comment Sheet NCDOT Citizens Informational Workshop

The North Carolina Department of Transportation (NCDOT) invites your comments on the proposed project and Draft Purpose and Need. Please provide your comments below and include your contact information. Your written comments may be left in one of the comment boxes at the meeting or mailed to NCDOT by May 14, 2008.

Mail Comments To:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
aalsharawneh@dot.state.nc.us

Name: Curley James + Sarah Pierce
(Please Print)

Address: 102 W.F. Gaddy Rd, N. Wilkesboro, NC 28659

Comments: The road should be widened to 5 lanes, using one as turning lane. Emergency vehicles have a hard time getting to Airport Rd. On a 2-lane road, you can't get by the mopeds. Personally, I think it's a great idea.

**NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)
Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603**

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No Further comments: _____

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

How might we better present proposed projects and address citizens' concerns in future informational workshops? _____

How did you hear about this meeting today? through mail

Based on the information available, were all substantial questions answered?

Yes No Further comments: _____

What was the most helpful aspect about the workshop today? What was the least helpful?

**THANK YOU FOR ATTENDING THE WORKSHOP.
YOUR COMMENTS ARE VERY IMPORTANT IN THE PLANNING PROCESS.**



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2603

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aalsharawneh@dot.state.nc.us

Name: FRED REEVES
(Please Print)
Address: 820 ELKIN RD North Wilkesboro NC 28659

Comments: Hazmat — ~~what~~ Send an Known
Information on Ellis Automotive
Source for testing ?

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)
Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No Further comments: _____

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

How might we better present proposed projects and address citizens' concerns in future informational workshops? _____

How did you hear about this meeting today? Letter / newspaper

Based on the information available, were all substantial questions answered?

Yes No Further comments: _____

What was the most helpful aspect about the workshop today? What was the least helpful?

THANK YOU FOR ATTENDING THE WORKSHOP.
YOUR COMMENTS ARE VERY IMPORTANT IN THE PLANNING PROCESS.



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2603

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Mail Comments To:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
aalsharawneh@dot.state.nc.us

Name: Darryl & Veatrice Johnson
(Please Print)

Address: 713 Elkin Rd North Wilkesboro NC 28659

Comments: All we ask is that we are given sufficient notice if our property is one that will be taken, and that you keep in consideration that we have small children who catch the bus at this address and play here. We do not wish to be left living on the edge of a four lane highway.

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)
Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No

Further comments: Need more info
on which properties will be affected

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

How might we better present proposed projects and address citizens' concerns in future informational workshops? _____

How did you hear about this meeting today? By letter

Based on the information available, were all substantial questions answered?

Yes No Further comments: _____

What was the most helpful aspect about the workshop today? What was the least helpful?

THANK YOU FOR ATTENDING THE WORKSHOP.
YOUR COMMENTS ARE VERY IMPORTANT IN THE PLANNING PROCESS.



NC 268 (Elkin Highway) Widening and Improvements from NC 18 to Airport Road (SR 1966)

Wilkes County
NCDOT TIP Project R-2605

Comment Sheet NCDOT Citizens Informational Workshop

The North Carolina Department of Transportation (NCDOT) invites your comments on the proposed project and Draft Purpose and Need. Please provide your comments below and include your contact information. Your written comments may be left in one of the comment boxes at the meeting or mailed to NCDOT by May 14, 2008.

Mail Comments To:

Mr. Ahmad Al-Sharawneh
NCDOT Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548
aalsharawneh@dot.state.nc.us

Name: CAROLYN H. HANSEN
(Please Print)

Address: 627 COLONY DRIVE, N. WILKESBORO, NC 28659

Comments: Our concern is for our property at 1515 Elkin Hwy (268), N. Wilkesboro, partially which was sold to the NCDOT for a right-away.

We are hoping that no more property will be taken on the same side of 268 as was taken last time, but rather on the other side, since there are far fewer developed properties on that side.

As an aside, we are hoping the trees we lost last time, which served as both a sound barrier and as a screen will be restored someday along the front of our property (now yours) on Hwy 268.

NC 268 (Elkin Highway) Widening and Improvements
from NC 18 to Airport Road (SR 1966)

Comment Sheet (Continued)
NCDOT Citizens Informational Workshop
NCDOT TIP Project R-2603

Was the project adequately explained to you? Yes No

Were NCDOT representatives understandable and clear in their explanations?

Yes No

Further comments: Though they could not give details because they said "nothing had been finalized."

Were NCDOT representatives courteous and helpful? Yes No

Further comments: _____

Were display maps and handouts easy to read and understand? Yes No

How might we better present proposed projects and address citizens' concerns in future informational workshops? Give a short presentation about the purpose of the workshop.

How did you hear about this meeting today? Newspaper

Based on the information available, were all substantial questions answered?

Yes No

Further comments: Most questions could not be answered because, as said above, "nothing was finalized."

What was the most helpful aspect about the workshop today? What was the least helpful?

Most - Those wonderful, clearly drawn maps.
Least - Paucity of answers to questions.

THANK YOU FOR ATTENDING THE WORKSHOP.
YOUR COMMENTS ARE VERY IMPORTANT IN THE PLANNING PROCESS.

APPENDIX E – RELOCATION REPORT

EIS RELOCATION REPORT

**North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM**

E.I.S. CORRIDOR DESIGN

WBS ELEMENT:	36001.1.1	COUNTY	Wilkes	Alternate	1	of	1	Alternate
T.I.P. No.:	R-2603							
DESCRIPTION OF PROJECT:	NC-268 (Elkin Highway) widening and improvements from NC-18 to SR-1966 (Airport Road)							

ESTIMATED DISPLACEDS					INCOME LEVEL					
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP	
Residential	5	2	7	2	0	0	1	3	1	
Businesses	3	1	4	0	VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms	0	0	0	0	Owners		Tenants		For Sale	
Non-Profit	0	0	0	0	0-20M	0	\$ 0-150	0	0-20M	0
					20-40M	0	150-250	0	20-40M	0
					40-70M	1	250-400	2	40-70M	0
					70-100M	3	400-600	0	70-100M	10+
					100 UP	1	600 UP	0	100 UP	10+
					TOTAL	5		2	20+	8+

ANSWER ALL QUESTIONS		
Yes	No	Explain all "YES" answers.
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affected by displacement?
X		3. Will business services still be available after project?
X		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
X		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? 18 months

REMARKS (Respond by number)	
3. Will not be disrupted due to project.	
4. a. Modern Auto Sales, 1,200 sf, 2 employees, 1 minority b. Insurance office, 1,050 sf, 3 employees, 0 minority c. Repair Shop (portion of bldg.), 1,000 sf, 1 employee, 0 minority d. US Hair Force, 1,200 sf, 1 employee, 0 minority	
6. MLS Services, local realtors, newspapers, etc.	
8. As necessary in accordance with State Law	
11. Housing Authority, City of North Wilkesboro.	
12. Given the last resort housing programs and proper lead time. It is felt that DSS housing could be made available to those persons being displaced.	
14. Suitable business sites will be available during relocation period. Source same as for available housing (No. 6).	

 Daneil S. Miles Right of Way Agent	4/22/10		 Relocation Coordinator	4/27/10
Date			Date	

