

US 401 (Raeford Road)
From West of Hampton Oaks Drive to
East of Fairway Drive, in Fayetteville,
Cumberland County, North Carolina
Federal Aid Project # STPDA-0401(230)
WBS # 39049.1.1
TIP # U-4405

CATEGORICAL EXCLUSION

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
N. C. DEPARTMENT OF TRANSPORTATION

Submitted pursuant to 42 U.S.C. 4332(2) (c)



APPROVED:

3/31/10
Date for Rodger Rochelle, P.E.
Technical Services Division Administrator, NCDOT

3/31/10
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Federal Highway Administration

CD623.1
Cumberland County
US 401 (Raeford Road) from West of Hampton Oaks Drive
to East of Fairway Drive, Fayetteville, Cumberland County
ER 13-1644

**US 401 (Raeford Road)
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North Carolina Department of Transportation

March 2016

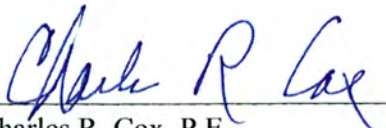
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PROJECT COMMITMENTS

**US 401 (Raeford Road)
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Local Programs Management Unit

At the request of the City of Fayetteville, NCDOT will enter into a municipal agreement with the city to fund construction of five-foot sidewalks on both sides of the US 401 (Raeford Road) Road corridor. Under this municipal cost share agreement, the City of Fayetteville will be responsible for fifty percent of the additional cost and will be responsible for maintenance of the pedestrian facilities upon completion of the project.

PDEA – Human Environment Section, Traffic Noise and Air Quality Group

One noise barrier at the All American Expressway proposed off-ramp meets preliminary feasible and reasonable criteria found in the NCDOT Traffic Noise Abatement Policy. A more detailed analysis of this potential noise wall will be completed during project final design.

PDEA – Human Environment Section, Historic Architecture Group

NCDOT has shifted the alignment away from the Lindy's (Former A&W) historic property, and only one driveway will be provided to the property from US 401 (Raeford Road). The property sign will be moved towards the side street.

Roadway Design/ Right of Way/ Division 6 Construction

NCDOT has shifted the alignment away from Lafayette Lanes Bowling Alley property. New sidewalk will be outside the historic boundary. A small permanent utility easement (PUE) for an anchoring guywire allowed; temporary construction easement will be acceptable. Removal of parking or impact to the structure is not allowed.

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Appendix A	Comments from Federal, State, and Local Agencies
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Appendix C	NCDOT Relocation Policy and Relocation Report

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SUMMARY

A. Type of Action

This Categorical Exclusion has been prepared to evaluate the potential impacts of this proposed transportation improvement project. Based on this evaluation, the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) do not anticipate that significant impacts to the environment will occur due to this proposed project; therefore, the proposed project is classified as a Federal “Categorical Exclusion”.

B. Project Description

The NCDOT, in consultation with the FHWA, proposes to make improvements to U.S. Highway 401 (Raeford Road) in a length of about six (6) miles from west of Hampton Oaks Drive to east of Fairway Drive in Cumberland County, North Carolina (see Figure 1). Currently the westernmost mile of the project area has a four travel lanes with grass median. The remaining project from Bunce Road to US 401 Business/Robeson Street currently varies between six and seven lanes with center and outer turn lanes. The majority of the proposed project will have six-lane cross-section, three lanes each direction, a center concrete median and sidewalks on both side.

The proposed facility will have a concrete median for most of the project with variable width lanes and curb and gutter cross-section to reduce the impacts to the human and natural resources. From start of the project on the western end (west of Hampton Oak Drive) to 71st School Road the project will consist of two 12-foot wide lanes on each direction with grass median. From 71st School to Owen Drive/McPherson Church Road the project will have three 11-foot wide lanes each direction with a concrete median in variable width. To reduce the impacts further on the very eastern end of the project from Owen Drive/ McPherson Church Drive to east of Fairway Drive, the project will have three 10-foot wide lanes each direction with concrete median. The project will also include the five-foot sidewalks on both sides of Raeford Road throughout the project area (see Figure 2).

This project is included in the approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). The total cost in the STIP is \$52,593,000, which includes \$4,440,000 for right of way acquisition, \$9,903,000 for utilities and \$36,300,000 for construction. The current estimated total cost is \$76,655,000. Right of way acquisition is currently scheduled for Fiscal Year 2016, while construction is slated to begin in Fiscal Year 2018.

C. Summary of Purpose and Need

The purpose of the project is to improve operations and safety by limiting vehicular conflicts and improving pedestrian access along US 401(Raeford Road).

D. Alternatives Considered

The alternatives considered for this project consists of the No Build alternative and the Best Fit Widening Alternative.

E. NCDOT Recommended Alternative

NCDOT recommends the Best Fit Widening Alternative as the preferred alternative. This alternative best meets the purpose of the project and minimizes impacts to both the human and natural environments. The recommended alternative is shown in Figure 2.

F. Summary of Environmental Effects

Adverse impacts to the human and natural environment were minimized where possible during the planning and design phases. No adverse effect on the air quality of the surrounding area is anticipated as a result of the project. The proposed project will have minor a have a “no adverse effect” for the two properties eligible for the National Register of Historic Places (NRHP) located in the project study corridor. Both properties are identified as resources protected by Section 4 (f) o the USDOT act of 1966. FHWA has made determination of a “de minimis” for both properties and therefore exempt from any father section 4 (f) evaluation. (See Historic Architecture and Landscapes Assessment of Effects form in Appendix B)

The proposed project will not encroach upon any known archaeological site eligible for listing on the National Register. The project will not require lands from any public recreational areas. Seven federally protected species are listed for Cumberland County; the biological conclusion for all species was “No Effect”, with the exception of the American alligator, which did not require a biological conclusion since it is considered “Threatened due to Similarity of Appearance.”

No residential, fifteen business and up to eight graves relocations are anticipated as a result of the proposed improvements. Fifty six hazardous material site were identified within the project limits; low monetary and scheduling impacts are anticipated to result from these sites. While minority and low income populations are present, no notably adverse community impacts are anticipated with this project; thus, impacts to minority and low income populations do not appear to be disproportionately high and adverse and no denial of benefit is expected. These impacts are likely to reduce during the final design phase.

Table S-1 gives a summary of the resources and impacts due to the recommended alternative. Figure 2 shows the recommended alternative.

Table S-1: Summary of Resources and Impacts

Resource		Best Fit Widening Alternative
Project Length (miles)		6
Schools		6 ¹
Churches		6 ²
Cemeteries		3
Relocations	Residential	0
	Businesses	15
Traffic Noise Impacts	Existing	91
	No-Build	131
	Build	132
Historic Properties (Listed on or Eligible for the National Register)		2
Section 4(f) Properties (determined as a , de minimus impacts)		2 ³
Graves		4-8
Wetland Impacts (acres)		0.08
Stream Impacts (linear feet)		450
Floodplain (acres)		0
Water Supply Watershed Protected Areas		0
Federally Protected Species within Corridor		7
Hazardous Material Sites		56 / Low Impact
Adverse/Disproportionate Impacts to Minority/Low Income Populations		No Impact
Right of Way Cost		\$28,475,000
Utility Relocation		\$9,880,000
Construction Cost		\$38,300,000
Total Cost		\$76,655,000

¹ No impact to schools Buildings

³ No Adverse Effect

² No Impact to Church Building

G. Permit Required

The following is a list of permits that may be required for this project. Final determination of permit applicability lies with the regulatory agencies. Throughout project development process NCDOT will coordinate with regulatory agencies to obtain the necessary permits.

- Section 404 Permit(Impacts to Waters of the United States-Clean Water Act)
- Section 401 General Water Quality Certification (Clean Water Act)
- State Stormwater Permit

H. Coordination

Federal, state, and local agencies were consulted during the preparation of this Categorical Exclusion. Written comments were received and considered from agencies noted with an asterisk (*) during the preparation of this assessment, although no significant issues were raised.

- * U.S. Army Corps of Engineers
- * U.S. Environmental Protection Agency
- * U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- N.C. Department of Natural and Cultural Resources (Historic)
- N.C. Department of Health and Human Services
- N.C. Department of Agriculture and Consumer Services (Forest Resources)
- N.C. Department of Natural and Cultural Resources (Parks)
- N.C. Department of Agriculture and Consumer Services (Water Conservation)
- * N.C. Department of Environmental Quality-Division of Water Resources
- N.C. Department of Natural and Cultural Resources (Natural Heritage)
- N.C. Department of Public Instruction
- * N.C. Wildlife Resources Commission
- Mid-Carolina Council of Governments
- Fayetteville Area Metropolitan Planning Organization
- Cumberland County Commissioners
- City of Fayetteville
- * Cumberland County Schools

I. Contact Information

Additional information concerning the proposal and assessment can be obtained by contacting the following:

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I. DESCRIPTION OF PROPOSED ACTION

A. General Description

The NCDOT, in consultation with the FHWA, proposes to make improvements to U.S. Highway 401 (Raeford Road) in a length of about six (6) miles from west of Hampton Oaks Drive to east of Fairway Drive in Cumberland County, North Carolina (see Figure 1). Currently the westernmost mile of the project area has a four travel lanes with a grass median. The remaining project from Bunce Road to US 401 Business/Robeson Street currently varies between six and seven lanes with center and outer turn lanes. The majority of the proposed project will have six-lane cross-section, three lanes each direction, a center concrete median and sidewalks on both sides.

The proposed facility will have a concrete median for most of the project with variable width lanes and curb and gutter cross-section to reduce the impacts to the human and natural resources. From start of the project on the western end (west of Hampton Oak Drive) to 71st School Road the project will consist of two 12-foot wide lanes on each direction with a grass median. From 71st School to Owen Drive/McPherson Church Road the project will have three 11-foot wide lanes each direction with a concrete median in variable width. To reduce the impacts further on the very eastern end of the project from Owen Drive/ McPherson Church Drive to east of Fairway Drive, the project will have three 10-foot wide lanes each direction with a concrete median. The project will also include the five-foot sidewalks on both sides of Raeford Road throughout the project area (see Figure 6).

B. Cost Estimates

This project is included in the approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). The total cost in the STIP is \$52,593,000, which includes \$4,440,000 for right of way acquisition, \$9,903,000 for utilities and \$36,800,000 for construction. The current estimated total cost is \$76,655,000. Right of way acquisition is currently scheduled for Fiscal Year 2016, while construction is slated to begin in Fiscal Year 2018.

II. PURPOSE AND NEED FOR PROJECT

A. Purpose of Project

The purpose of the project is to improve operations and safety by limiting vehicular conflicts and improving pedestrian access along US 401 (Raeford Road).

B. Need for Project

The need for the proposed project results from the elevated crashes on the US 401 (Raeford Road) within the project corridor which are extremely high. The results of Crash Analysis Report indicate that a total of 2,524 crashes were reported along this section of Raeford Road between January 1, 2011 and December 31, 2015.

C. Description of Existing Conditions

1. Functional Classification

US 401 (Raeford Road) is designated as a principal arterial on the North Carolina Statewide Functional Classification System.

2. Physical Description of Existing Facility

a) US 401 (Raeford Road) Cross Section

US 401 (Raeford Road) is currently consists of four to six-lane facility with a center turn lane.

b) Right of Way and Access Control

The existing right of way in western part of the project varies between 145 -157 feet from west of Grandview Drive to Bingham Drive. The right of way reduces in eastern portion of the project between 91-115 feet from Bingham Drive to Robeson Street (End of Project). There is no access control on most of the corridor, the exception is the area at the existing interchange of US 401 (Raeford Road) with All American Expressway which has full access control.

c) Speed Limit

The posted speed limit along Raeford Road through the project study area is 35-55 miles per hour (mph).

d) Intersections/Interchanges

1. There are forty four intersections along the project length and details are provided in Table

Table 1: Summary of Intersections along Project length

S.NO	Location of Intersection	Type on Intersection
1	Raeford Road and Hampton Oaks Dr./Festival Drive	<i>stop sign controlled</i>
2	Raeford Road and Skateway Drive	<i>stop sign controlled</i>
3	Raeford Road and 71 st School Road/Graham Road	<i>signalized</i>
4	Raeford Road and Strickland Bridge Road	<i>signalized</i>
5	Raeford Road and Oak Forest Drive	<i>stop sign controlled</i>
6	Raeford Road and Arran Circle	<i>stop sign controlled</i>
7	Raeford Road and Bunce Road	<i>signalized</i>
8	Raeford Road and Little Drive	<i>stop sign controlled</i>
9	Raeford Road and Bingham	<i>signalized</i>
10	Raeford Road and Revere Street	<i>signalized</i>
11	Raeford Road and Wildwood Drive	<i>stop sign controlled</i>
12	Raeford Road and Skibo Road	<i>signalized</i>
13	Raeford Road and Duke Street	<i>stop sign controlled</i>
14	Raeford Road and Greenleaf Drive	<i>stop sign controlled</i>
15	Raeford Road and Cindy Drive	<i>stop sign controlled</i>
16	Raeford Road and Pompton Drive	<i>stop sign controlled</i>
17	Raeford Road and Durant Drive	<i>stop sign controlled</i>
18	Raeford Road and Sandlewood	<i>signalized</i>
19	Raeford Road and Eucalyptus Road	<i>stop sign controlled</i>
20	Raeford Road and Karr Drive	<i>stop sign controlled</i>
21	Raeford Road and Glensford Drive/Hope Mills Road	<i>signalized</i>
22	Raeford Road and S Kenleigh Drive	<i>stop sign controlled</i>
23	Raeford Road and Brighton Road	<i>Signalized</i>
24	Raeford Road and Scotland Drive	<i>stop sign controlled</i>
25	Raeford Road and Montclair Road	<i>signalized</i>
26	Raeford Road and Ireland Drive	<i>signalized</i>
27	Raeford Road and Faison Avenue	<i>stop sign controlled</i>
28	Raeford Road and Ferncreek Drive/Roxie Avenue	<i>signalized</i>
29	Raeford Road and All American Expressway	<i>Interchange(signalized)</i>
30	Raeford Road and Putte Williams Road	<i>stop sign controlled</i>
31	Raeford Road and McPherson Church Road Owen Drive	<i>signalized</i>
32	Raeford Road and Twin Acres	<i>stop sign controlled</i>

S.NO	Location of Intersection	Type on Intersection
33	Raeford Road and Ancestry Drive	<i>stop sign controlled</i>
34	Raeford Road and Cambridge Street	<i>stop sign controlled</i>
35	Raeford Road and Fairfield Road	<i>signalized</i>
36	Raeford Road and Emeline Street	<i>stop sign controlled</i>
37	Raeford Road and Marlborough Road	<i>stop sign controlled</i>
38	Raeford Road and Star Hill Avenue	<i>stop sign controlled</i>
39	Raeford Road and Willborough Avenue	<i>stop sign controlled</i>
40	Raeford Road and Raven Hill Drive	<i>stop sign controlled</i>
41	Raeford Road and Purdue Drive	<i>signalized</i>
42	Raeford Road and Executive Drive	<i>stop sign controlled</i>
43	Raeford Road and Forsythe Drive	<i>stop sign controlled</i>
44	Raeford Road and Mcphee Drive/ Robeson Street	<i>signalized</i>

e) Railroad Crossings

An at-grade Aberdeen-Rockfish Railroad rail crossing is located near the Raeford Road and South McPherson Church Road intersection. Also under this project, there is one railroad bridge crossing on the All American Expressway south bound exit ramps to Raeford Road.

f) Hydraulic Structures

There are four major hydraulic structures within the project study area.

g) Bicycle and Pedestrian Facilities

The FAMPO Bicycle and Pedestrian Connectivity Study identified Raeford Road as one of the five most dangerous roads for bicyclists and pedestrians in the Fayetteville area. Although sidewalks exist, most appear to have been developed in the newer commercial areas and are discontinuous in nature. Most of the sidewalks exist in the central and eastern parts of the project area. Worn paths along the road are in the project area, but are also discontinuous in nature. There are no lanes marked for bicycles along the roadway in the project area. The only crosswalks that exist in the project area are located in front of Loyd E. Auman Elementary School and at the intersections of Raeford Road and 71st School Road and Robeson Street. There are no greenway facilities in the study area. US 401 (Raeford Road) is not a designated bicycle route.

h) Utilities

The following utilities are located within the project corridor: overhead power transmission and distribution lines, water and sewer, overhead cable/telephone communication lines, and gas.

i) School Bus Usage

School buses serving Loyd C. Auman Elementary School, 71st Classical Middle School, 71st High School, Chesnutt Middle School, Lewis Chapel Middle School and W.H. Owen Elementary School use Raeford Road for part of their routes to and from school. Every school day total of 109 buses, 71 regular and 38 special needs buses transport the children to the school.

3. Traffic Carrying Capacity

a) Existing Traffic Volumes

A traffic forecast for this project was completed on September 21, 2012 for the years 2011 and 2035. According to the 2011 traffic counts, the existing Average Annual Daily Traffic (AADT) ranged between 13,800 and 57,800 vehicles per day (vpd) on Raeford Road, within the project limits (see Figure 5). According to the traffic counts maps for 2014 the traffic numbers has not be changed since 2011 traffic counts.

b) Existing Levels of Service

The highway capacity analysis was conducted in accordance with the latest NCDOT Congestion Management Unit's *Capacity Analysis Guidelines for TIP Projects*, dated January 2012. They also were performed based on methodologies from the *Highway Capacity Manual (HCM 2000)*, *Special Report 209*. Traffic modeling software used in the capacity analysis included *Synchro 7.0* and *SimTraffic 7.0, Version 7 (Build 773, Rev 8)*.

Simulations were completed for both the Build and No-Build scenarios using the base year (2011) and the Design Year (2035) traffic forecasts. A mainline analysis of Raeford Road projected that under the existing geometry and with No-Build conditions, the mainline operates at Level of Service (LOS) D for the base year (2011). There were seventeen signalized intersections that were evaluated for proposed improvements and Table 2 details the results from the analysis.

Table 2: Intersection Level of Service Summary (2011)

Mainline	Y-Line	Existing LOS
Raeford Rd	71 st School Road/ Graham Road	E
Raeford Rd	Strickland Bridge Road	D
Raeford Rd	Bunce Road	D
Raeford Rd	Bingham Drive	E
Raeford Rd	Revere Street	C
Raeford Rd	US 401 Bypass (Skibo Road)	F
Raeford Rd	NC 59 (Hope Mills Road)	E
Raeford Rd	Brighton Road	D
Raeford Rd	Montclair Road	B
Raeford Rd	Ireland Drive	B
Raeford Rd	Ferncreek Drive/Roxie Avenue	C
Raeford Rd	All American Expressway SB Ramp	B
Raeford Rd	All American Expressway NB Ramp	B
Raeford Rd	McPherson Church Rd/Owen Drive	F
Raeford Rd	Fairfield Road	B
Raeford Rd	Purdue Drive	E
Raeford Rd	McPhee Drive/Robeson Street	E

c) Future Traffic Volumes

According to the 2035 traffic forecast, the design year AADT is projected to range between 16,500 and 69,800 vpd on Raeford Road, within the project limits (see Figure 5).

d) Future Levels of Service

Traffic simulations were performed for the design year (2035) during the AM and PM peak periods for the mainline and seventeen signalized intersections. A mainline analysis of Raeford Road indicates that without the proposed improvements the existing facility will operate at LOS F in the design year (2035). The installation of a median through this Raeford Road corridor will provide increased safety at the cost of little or no increased delays. Several intersections do not see any significant impact to delays, and there are a few that actually see slight improvements. However these improvements will significantly improve the safety of the corridor.

Table 3 details the results of the intersection analysis for the design year no build and build conditions.

Table 3: Intersection Level of Service Summary (2035)

Mainline	Y-Line	2035 No Build LOS	2035 Build LOS
Raeford Rd	71 st School Road/ Graham Road	F	F
Raeford Rd	Strickland Bridge Road	F	F
Raeford Rd	Bunce Road	F	F
Raeford Rd	Bingham Drive	F	F
Raeford Rd	Revere Street	F	F
Raeford Rd	US 401 Bypass (Skibo Road)	F	F
Raeford Rd	NC 59 (Hope Mills Road)	F	F
Raeford Rd	Brighton Road	F	F
Raeford Rd	Montclair Road	D	D
Raeford Rd	Ireland Drive	F	E
Raeford Rd	Ferncreek Drive/Roxie Avenue	E	E
Raeford Rd	All American Expressway SB Ramp	C	B
Raeford Rd	All American Expressway NB Ramp	C	D
Raeford Rd	McPherson Church Rd/Owen Drive	F	F
Raeford Rd	Fairfield Road	D	B
Raeford Rd	Purdue Drive	F	F
Raeford Rd	McPhee Drive/Robeson Street	F	F

4. Crash Data

The need for the proposed project results from the elevated number crashes on the US 401 (Raeford Road) within the project corridor. The results of Crash Analysis Report indicate that a total of 2,524 crashes were reported along this section of Raeford Road between January 1, 2011 and December 31, 2015.

Due to two different types of the road configuration within the study limits, two different crash rate comparisons were analyzed. The first section from 150 feet west of Hampton Oaks Drive to Bingham Drive had total 479 crashes and the current crash rates exceed the statewide crash rates in all categories. The current crash rate exceeds the critical crash rates in all categories except the fatal category. The second section from Hampton Oaks Drive to 150 feet east of Fairway Drive, had total 2045 crashes almost seven times higher than critical crash rate. The current crash rates exceed the critical crash rate in all categories except the fatal crashes category.

Table 4A: Crash Rate Comparison
(US 401/401 Bus (Raeford Rd) from 150 feet west of Hampton Oaks to Bingham Drive)

Category	Crashes	Crash Rate	Statewide Crash Rate ¹	Critical Crash Rate ²
Total	479	465.3	283.91	311.73
Fatal	2	1.94	0.92	2.96
Non-Fatal Injury	150	145.75	85.62	101.11
Night	118	114.66	63.28	76.67
Wet	72	69.96	48.33	60.09

¹ 2012-2014 Statewide Average Crash Rate for Urban United States Routes, 4 or more lanes divided with no control access

² Based on the statewide crash rate (95% level of confidence). The **critical crash rate** (is a statistically derived value against which a calculated rate can be compared to see if the rate is above an average for enough so that something besides chance must be the cause) is used to denote statistical significance.

Table 4B: Crash Rate Comparison
(US 401/401 Bus (Raeford Rd) from Bingham Drive to 150 feet east of Fairway Drive)

Category	Crashes	Crash Rate	Statewide Crash Rate ¹	Critical Crash Rate ²
Total	2045	709.39	279.51	295.89
Fatal	6	2.08	1.32	2.61
Non-Fatal Injury	606	210.21	90.26	99.64
Night	389	134.94	51.76	58.91
Wet	368	127.65	46.54	53.32

¹ 2012-2014 Statewide Average Crash Rate for Urban United States Routes, 4 or more lanes divided with no control access

² Based on the statewide crash rate (95% level of confidence). The **critical crash rate** (is a statistically derived value against which a calculated rate can be compared to see if the rate is above an average for enough so that something besides chance must be the cause) is used to denote statistical significance.

Table 4C: Crash Rate Comparison

Crash Type	Number of Crashes	Percent of Total Crashes
ANGLE	475	18.86
ANIMAL	6	0.24
BACKING UP	5	0.20
FIXED OBJECT	26	1.03
HEAD ON	25	0.99
LEFT TURN, DIFFERENT ROADWAYS	54	2.14
LEFT TURN, SAME ROADWAY	104	4.12
MOVABLE OBJECT	15	0.59
OTHER COLLISION WITH VEHICLE	16	0.63
OTHER NON -COLLISION	19	0.75
OVERTURN/ROLLOVER	3	0.12
PARK MOTOR VEHICLE	3	0.12
PEDALCYCLIST	4	0.16
PEDESTRIAN	21	0.86
RAN OFF ROAD- LEFT	25	0.99
RAN OFF ROAD- RIGHT	64	2.54
RAN OFF ROAD- STRAIGHT	14	0.55
REAR END, SLOW OR STOP	1054	41.76
REAR END, TURN	19	0.75
RIGHT TURN, DIFFERENT ROAD	43	1.70
RIGHT TURN, SAME ROAD	36	1.43
SIDESWIPE, OPPOSITE DIRECTION	37	1.47
SIDESWIPE, SAME DIRECTION	448	17.75
UNKNOWN	7	0.28

5. Airports

There are no public airports within 5 miles of the project corridor.

6. Other Highway Projects in the Area

There are three STIP projects located near the project study area. STIP Project U-2519, Fayetteville Outer Loop, is a four-lane, controlled access freeway on new location that will complete the I-295 Outer Loop to the west of Fayetteville and tie into existing I-95, south of Fayetteville. The U-2519 project is divided into seven segments; two sections (U-2519 DA and U 2519 CB) are currently under construction and will be followed by U-2519 CA (Design Build Project), which is scheduled to begin in FY 2016. Sections BA and BB are scheduled for Right way for FY 2016 and Section AA and AB Right of way will start in FY 2018. STIP Project U-3422, is a widening of SR 1003 (Camden Road) to Multi-lanes from Fayetteville Outer Loop to NC 59 (Hope Mills Road) in Fayetteville. This project is 3.7 mile long. Right of way and construction is scheduled for FY 2021 and FY 2023, respectively. STIP U-2810 is a widening of SR 1003 (Camden Road) to Multi-lanes from NC 59 (Hope Mills Road) to SR 1007 (Owen Drive), a length of 4.2 Miles. Section A is complete and Sections B and C are under construction. U 4422 (extension of Glens ford Drive) is currently under construction.

7. Transportation and Land Use Plans

a) North Carolina Transportation Improvement Program

This project is included in the approved 2016-2025 STIP. Right of way acquisition is currently scheduled for Fiscal Year 2016, while construction is slated to begin in Fiscal Year 2018.

b) Local Transportation Plans

This project is included in Fayetteville Area Metropolitan Transportation Planning Organization Metropolitan Transportation Improvement Program (FAMPO MTIP) for FY 2016-2025.

c) Land Use Plans

The Cumberland County Land Use Plan was updated in 2015. The project lies within the City of Fayetteville influence area.

D. Benefits of Proposed Project

The proposed improvements to US 401 (Raeford Road) will improve the traffic operations and safety in the project area by limiting left-turn movements into and out of existing driveways and any future development along the corridor. The addition of sidewalks along each side of US 401 (Raeford Road) will also provide a safer, user friendly, facility for pedestrian traffic.

III. ALTERNATIVES

A. Preliminary Study Alternatives

1 No Build Alternative

The No Build Alternative offers no improvements to the project area. This alternative assumes that all other projects currently planned or programmed in the STIP will be constructed in the area as proposed.

This alternative will not provide improved safety conditions along US 401 (Raeford Road). Number of crashes along the project area will continue to worsen unless improvements are made.

Since the No Build Alternative does not address the purpose and need of the proposed action, it is not recommended. However, it is used as a basis for comparison to other alternatives.

2 Alternative Modes of Transportation

Transit options are currently available in this section of Fayetteville. While improvements to transit options and pedestrian accommodations, could aid in reducing congestion in the project area, these options alone do not meet the purpose and need of this project since they do not improve the improve safety along the US 401 (Raeford Road) corridor.

3 Transportation Systems Management

The Transportation Systems Management (TSM) alternative includes those types of limited construction activities designed to maximize the utilization and energy efficiency of an existing roadway. TSM improvement options considered under this alternative include traffic signal optimization or improvements to existing roadways in the vicinity of the proposed project. However improvement of this type alone will not adequately address safety concerns along the US 401 (Raeford Road) corridor.

4 Best Fit Widening Alternative

This alternative begins from West of Hampton Oaks Drive on US 401 (Raeford Road) and continues east along the existing alignment of US 401 (Raeford Road) and ends at East of Fairway Drive. The improvements will eliminate the center turn lane and convert it to four-lane to six-lane median-divided facility. A “best fit” alignment allows the NCDOT to determine the best location for the proposed widening, based on anticipated impacts. This alternative best minimizes overall impacts to the human and natural environment in the project area.

In addition, for safety of the pedestrians, a five-foot sidewalk will be provided on both sides of US 401 (Raeford Road) for the entire length of project (see Figure 2).

B. Detailed Study Alternative

The Best Fit Widening Alternative was the only alternative carried forward for detailed environmental studies. The impacts associated with this alternative are noted in Table 5 below.

Table 5: Summary of Resources and Impacts

Resource		Best Fit Widening Alternative
Project Length (miles)		6
Schools		6 ¹
Churches		6 ²
Cemeteries		3 ³
Relocations	Residential	0
	Businesses	15
Traffic Noise Impacts	Existing	91
	No-Build	131
	Build	132
Historic Properties (Listed on or Eligible for the National Register)		2
Section 4(f) Properties (determined as a , de minimus impacts)		2 ³
Wetland Impacts (acres)		.08
Stream Impacts (linear feet)		450
Floodplain (acres)		0
Water Supply Watershed Protected Areas		0
Federally Protected Species within Corridor		7
Hazardous Material Sites		56 / Low Impact
Impacts to Minority/Low Income Populations		No Impact
Right of Way Cost		\$28,475,000
Utility Relocation		\$9,880,000
Construction Cost		\$38,300,000
Total Cost		\$48,188,000

¹ No impact to schools Buildings

³No Adverse Effect

²No Impact to Church Building

C. NCDOT Recommended Alternative

NCDOT recommends the Best Fit Widening Alternative as the preferred alternative. This alternative best meets the purpose of the project and minimizes impacts to both the human and natural environments. The recommended alternative is shown in Figure 2.

IV. PROPOSED IMPROVEMENTS

A. Roadway Cross Section and Alignment

The proposed facility will have a concrete median for most of the project with variable width lanes and curb and gutter cross-section to reduce the impacts to the human and natural resources. From the start of the project on the western end (west of Hampton Oak Drive) to 71st School Road the project will consist of two 12-foot wide lanes on each direction with a grass median. From 71st School to Owen Drive/McPherson Church Road the project will have three 11-foot wide lanes each direction with a concrete median in variable width. To reduce the impacts further on the very eastern end of the project from Owen Drive/ McPherson Church Drive to east of Fairway Drive, the project will have three 10-foot wide lanes each direction with concrete median. The project will also include five-foot sidewalks on both sides of Raeford Road throughout the project area. (Figure 6).

B. Right of Way and Access Control

The proposed right of way along the US 401 (Raeford Road) corridor is between 95-160 feet. Additional right of way may also be needed at each median U-turn bulb-out to provide the addition space for U-turn movements to accommodate additional turning lanes and sidewalks. Currently there is no access control on most of the corridor, the exception is the area at the existing interchange of US 401 (Raeford Road) with All American Expressway where there full access control. There is no plans to add any control of access.

C. Speed Limit and Design Speed

There will be no change to the posted speed in the proposed design. The current design speed for US 401 (Raeford Road) from west of Hampton Oaks Drive to All American Expressway is 50 mph with posted speed of 45 mph. From All American Expressway to East of Fairway Drive (end of the project) the design speed is 40 mph to allow a posted speed limit of 35 mph.

D. Anticipated Design Exceptions

Design exceptions are required for the reduced lane width on this project.

E. Intersections/Interchanges

There will be no new signalized intersection in the proposed design. However the existing signalized intersections will be upgraded. Also, to improve access from south bound All American Expressway to US 401 (Raeford Road) a south bound off-ramp will be added which includes bridge over the Aberdeen- Rockfish Railroads.

F. Service Roads

There are no service roads needed on this project.

G. Railroad Crossings

The existing Aberdeen-Rockfish Railroad rail crossing area near the Raeford Road and South McPherson Church Road Intersection will be upgraded. The new southbound off-ramp from the All American Expressway will include a bridge over the Aberdeen-Rockfish Railroad.

H. Hydraulic Structures

This project four major stream crossings. Structure recommendations are detailed in Table 6.

Table 6: List of Major Hydraulic Structures in the study area

Location	Stream Name	Existing Structure	Proposed Structure
L-82+48	Beaver Creek Tributary	1 @ 60" RCP ¹ 1 @ 66" RCP	Extend 1@ 60" RCP Extend 1@ 66" RCP Adding 1@72" welded steel pipe
L-138+00	Beaver Creek	4 @ 10'x12' RCBC ²	Extend 4@10'x12' RCBC
L-143+37	UT to Beaver Creek	2 @ 84" CMP ³ 1 @ 72" RCP	Extend 2 @ 84" CMP Extend 1 @ 72" RCP Adding 1 @ 72" welded steel pipe
L-221+22	Buckhead Creek	3 @ 60" RCP	Extend 3 @ 60" RCP Adding 1 @ 72" Welded Steel Pipe

¹ Reinforced Concrete Pipe

² Reinforced Concrete Box Culvert

³ Corrugated Metal Pipe

I. Bicycle and Pedestrian Facilities

As part of this project, NCDOT will replace all sidewalks impacted by widening. At the request of the City of Fayetteville, NCDOT will enter into a municipal agreement with the city to fund construction of five-foot sidewalks on both sides of the US 401 (Raeford Road) corridor. Currently, US 401(Raeford Road) is not a designated bicycle route and due to limited right of way and the impact to the business bicycle lanes will not be provided.

J. Utilities

Utilities will be relocated as needed for construction. Coordination during the project design and construction will be necessary to prevent major disruption to utility service. In most locations, electric and telephone service are the major utility concern. Before construction, a preconstruction conference will be held involving the contractor, potential local officials, and the NCDOT Division of Highway to discuss various construction procedure, including precautionary steps to be taken during construction that will minimize the interruption of public utility and traffic services. Public utility officials may also be involved in the preconstruction conference.

K. Noise Barriers

One noise barrier meets preliminary feasible and reasonable criteria found in the NCDOT Traffic Noise Abatement Policy. The proposed Noise barrier will be located along proposed Southbound All American Freeway Off-ramp. A more detailed analysis will be completed during project final design.

L. Work Zone Traffic Control and Construction Phasing

Construction phasing will be utilized to maintain traffic along US 401 (Raeford Road) during construction. All traffic control devices used during the construction of this project will conform to the most current FHWA Manual of Uniform Traffic Control Devices (MUTCD).

V. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

A. Natural Resources

1. Biotic Resources

a) Terrestrial Communities

Five (5) terrestrial communities were identified in the study area: maintained/disturbed land, dry oak – hickory forest, coastal plain small stream swamp (blackwater subtype), pine woodland, and pine/mixed hardwood forest. More information regarding these resources is available from NCODT in the September 2012 Natural Resources Technical Report (NRTR). A brief description of each community type follows.

(1) Maintained/Disturbed

The maintained/disturbed land within the study area includes places where vegetation is frequently mowed, such as roadside shoulders, power line rights-of-way, and residential lawns. These areas occupy a large percentage of land adjacent to the existing US 401, secondary roads, and residential and commercial developments within the study area. Dominant species within this community include a range of early successional, fast-growing species that readily colonize disturbed soils and cleared areas and tolerate management practices associated with power line rights-of-way. Native and non-native species favored in landscaping dominate areas surrounding residential and commercial areas that experience frequent management. Scattered trees occur throughout this community including winged elm, loblolly pine, eastern red cedar, sweetgum, black cherry, and mimosa. Shrubs observed in this community include blackberry, wax myrtle, Chinese privet, and winged sumac. The vine and herbaceous layers include species such as Chinese lespedeza, Japanese honeysuckle, Japanese knotweed, greenbriers, poison ivy, dogfennel, broomsedge, and wild grape.

(2) Dry Oak-Hickory Forest

This community is characterized by dominance of oaks and hickories in the canopy. Oaks, such as black oak, red oak, and white oak typically are present along with a mix of mockernut hickory and pignut hickory. Understory/shrub species include a combination of flowering dogwood, highbush blueberry, and saplings of canopy species. The vine and herbaceous layers include species such as Japanese honeysuckle, greenbriers, poison ivy, and wild grape.

(3) Coastal Plain Small Stream Swamp (Blackwater Subtype)

This community is occurs on small streams within the project study area. The canopy is characterized by dominance of bald cypress, black gum, sweetgum, red maple, green ash, and tulip poplar. Understory/shrub species includes a combination of titi, tag alder, black willow, possumhaw, and saplings of canopy species. Herbaceous species include giant cane, netted chain-fern, and laurel-leaf greenbrier.

(4) Pine Woodland

This community is characterized by a predominance (greater than 80 percent cover) of pines including loblolly pine and longleaf pine in the canopy. Pine woodlands represent a combination of small remnant pockets of the pine/scrub oak sandhill natural community, silvicultural stands, and successional pine forests occurring under various conditions from dry to mesic. Species composition within pine woodland communities varies with age and landscape position of the stand. Common species, in addition to pines, typical of the canopy and understory include sweetgum, water oak, red maple, and turkey oak. The vine and herbaceous layers include species such as Japanese honeysuckle, greenbriers, poison ivy, blackberry, and bracken fern.

(5) Pine-Mixed Hardwood Forest

This community is characterized by co-dominance of pines and hardwoods in the canopy. Pines, such as loblolly pine and longleaf pine, typically are present along with a mix of hardwood species including turkey oak, post oak, red maple, sweetgum, tulip poplar, eastern red cedar, and pignut hickory. Understory/shrub species includes a combination of American holly, wax myrtle, flowering dogwood, and saplings of canopy species. Common greenbrier, Japanese honeysuckle, blackberry, goldenrod, and dogfennel occur sporadically throughout this community dependent in part upon the degree of disturbance and shading.

b) Terrestrial Wildlife

Terrestrial communities in the study area are comprised of mostly disturbed habitat in an urban area that does not support a large diversity of wildlife species (those species actually observed are indicated with *). Mammal species that have wide habitat tolerances in the area include gray squirrel*, eastern cottontail*, white-tailed deer, raccoon, and Virginia opossum. Birds that commonly use fragmented and disturbed habitats include European starling, blue jay, northern cardinal*, American crow*, Carolina chickadee, tufted titmouse, Carolina wren, northern mockingbird*, American robin, mourning dove*, eastern phoebe*, and eastern towhee. Reptile and amphibian species that may use terrestrial communities located in the study area include the eastern box turtle*, five-lined skink, eastern garter snake, black racer, Fowler's toad, southern cricket frog, and spring peeper.

c) Aquatic Communities

Aquatic habitats within the study area consist of perennial streams including Buckhead Creek, Beaver Creek, and unnamed tributaries to Beaver Creek. No fish species were observed but perennial streams in the study area could support: bluegill, warmouth, largemouth bass, redbreast sunfish, and tessellated darter, as well as common reptiles and amphibians including bullfrog, pickerel frog, red-bellied water snake, and common snapping turtle.

d) Invasive Species

Five species from the NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified were Chinese privet (Threat), Chinese lespedeza

(Moderate Threat), Japanese knotweed (Threat), mimosa (Moderate Threat), and Japanese honeysuckle (Moderate Threat). Invasive species are categorized into one of three threat levels, Level 1 (Severe Threat), Level 2 (Threat), and Level 3 (Watch List). Threat levels for the observed invasive species are shown in Table 7.

Table 7: Invasive Species within Project Area

Common Name	Scientific Name	Threat Level
Chinese Privet	<i>Ligustrum Sinense</i>	2
Chinese Lespedeza	<i>Lespedeza Cuneata</i>	3
Japanese Knotweed	<i>Fallopia Japonica</i>	2
Mimosa	<i>Albizia Julibrissin</i>	3
Japanese Honeysuckle	<i>Lonicera japonica</i>	3

NCDOT will follow the Department’s Best Management Practices (BMPs) for the management of invasive plant species.

e) Summary of Anticipated Effects

Terrestrial communities in the study area may be impacted by project construction as a result of grading and paving of portions of the study area. Table 8 describes the acreage of terrestrial communities within the project study area. Because most of the project will remain within the existing right of way, there will be very limited impact to Terrestrial Community.

Table 8: Terrestrial Community Impacts

Community	Coverage (Acres)	Impacts (Acres)
Maintained/Disturbed	29.1	1.20
Dry Oak – Hickory Forest	0.2	0
Coastal Plain Small Stream Swamp	0.4	0
Pine Woodland	1.2	0
Pine/Mixed Hardwood Forest	5.7	0
Total	36.6	1.20

2. Waters of the United States

a) Water Resources

Water resources found in the vicinity are part of the Cape Fear River basin [U.S. Geological Survey (USGS) Hydrologic Unit 030300004]. Four streams were identified within the study area.

The location of each water source is shown in Figures 3a-3e in the September 2012 Natural Resources Technical Report (NRTR) and Table 9 displays the streams identification information.

Table 9: Water Resources in the Study Area

No table of figures entries found.	Map ID	Figure No. (NRTR Report)	NCDWQ Index No.	Best Usage Classification
UT to Beaver Creek	SA	3b	18-31-24-6	C
Beaver Creek	SB	3b	18-31-24-6	C
UT to Beaver Creek	SC	3b	18-31-24-6	C
Buckhead Creek	SD	3d	18-31-24-5	C

There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. There are no designated High Quality Waters (HQW), Outstanding Resource Waters (ORW), or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The North Carolina 2010 Final 303(d) list of impaired waters identifies no streams within the study area as impaired waters. No benthic or fish monitoring data are available for Beaver Creek or Buckhead Creek.

b) Jurisdictional Issues

Four jurisdictional streams were identified in the study area as shown in Table 10. USACE and NCDWQ stream delineation forms are included in Appendix C. The physical characteristics and water quality designations of each jurisdictional stream are detailed in Table 10.

Table 10: Physical Characteristics of Water Resources

Map ID	Figure No.	Bank Height (ft)	Bankfull Width (ft)	Water Depth (in)	Channel Substrate	Velocity ¹	Clarity ¹
SA	3b	3	20	3	Mud, Muck	Slow	Slightly Turbid
SB	3b	1-4	45	4-6	Mud	Slow	Moderately Turbid
SC	3b	1-4	20	1-6	Sand, Mud, Cobble	Slow	Moderately Turbid
SD	3d	4-6	11-45	2-4	Sand, Mud, Gravel	Slow	Moderately Turbid

¹ Observed results were within 24 hours of a large rain event in an urbanized watershed

All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation.

(1) **Clean Water Act Permits**

The proposed project has been designated as a Categorical Exclusions (CE) for the purposes of National Environmental Policy (NEPA) documentation. As result, a Nationwide Permit (NWP) 23 will likely be applicable. A NWP No. 33 may be required for temporary construction activities such as stream dewatering, work bridges, or temporary causeways. The USACE holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required then a Section 401 Water Quality Certification (WQC) from the NCDWQ will be needed.

(2) **CAMA Areas of Environmental Concern**

The project county is not under the jurisdiction of the Coastal Area Management Act (CAMA). No Area of Environmental Concern (AEC) is present in the study area.

(3) **Construction Moratoria**

There are no trout waters within the study area and Cumberland County is not a designated trout county. The study area does not contain habitat identified as Primary Nursery Area or Anadromous Fish Spawning Areas. At this time, no moratoria are anticipated for this project.

(4) **N.C. River Basin Buffer Rules**

The proposed project is located entirely within the Cape Fear River Basin, which is not subject to N.C. River Basin Buffer Rules. No state riparian buffer rules apply to any streams in the study area.

(5) **Rivers & Harbors Act Section 10**

There are no waters within the study area that have been designated by the USACE as a Navigable Water under Section 10 of the Rivers and Harbors Act.

(6) **Wetland and Stream Mitigation**

Avoidance and Minimization of Impacts

The NCDOT has attempted to avoid and minimize impacts to streams and wetlands to the greatest extent practicable in choosing a best fit preferred alternative.

Compensatory Mitigation of Impacts

Due to the minimal impacts of the project, no mitigation needs are anticipated. If further design results in a need for mitigation, NCDOT will investigate potential on-site stream and wetland mitigation opportunities once a final design has been completed. If on-site mitigation is

not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP).

3. Protected Species

a) Federally Protected Species

As of December 26, 2012, the United States Fish and Wildlife Service (USFWS) lists seven federally protected species for Cumberland County (Table 11). A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area. Habitat requirements for each species are based on the current best available information from referenced literature and/or USFWS.

Table 11: Federally Protected Species Listed for Cumberland County

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	No	N/A
American chaffseed	<i>Schwalbea americana</i>	E	No	No Effect
Michaux's sumac	<i>Rhus michauxii</i>	E	No	No Effect
Pondberry	<i>Lindera melissifolia</i>	E	No	No Effect
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No	No Effect
Rough-leaved loosestrife	<i>Lysimachia asperulaefolia</i>	E	No	No Effect
Saint Francis' satyr butterfly	<i>Neonympha mitchellii francisci</i>	E	No	No Effect

E-Endangered

T (S/A) – Threatened due to similarity of appearance

American alligator

USFWS Optimal Survey Window: Year round (only on warm days in winter)

Habitat Description: In North Carolina, alligators have been recorded in nearly every coastal county, and many inland counties to the fall line. The alligator is found in rivers, streams, canals, lakes, swamps, and coastal marshes. Adult animals are highly tolerant of salt water, but the young are apparently more sensitive, with salinities greater than five parts per thousand considered harmful. The American alligator remains on the protected species list due to its similarity in appearance to the Endangered American crocodile.

Biological Conclusion: No Survey Required

Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. However, this project is not expected to affect the American alligator because no suitable habitat is present within the study area. The study area lacks large perennial streams of sufficient depth or open water habitats associated within this species. A review of NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area

Red-cockaded woodpecker

USFWS Optimal Survey Window: Year-round; November-early March

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine, for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 mile.

Biological Conclusion: No Effect

Suitable nesting habitat for the RCW does not exist within the study area. No RCW cavity trees were identified within the study area. The study area contains pine dominated habitat with pines greater than 30 years old that is associated with foraging habitat for this species. However, these pine-dominated areas are less than 10 acres in size, including portions extending outside the study area, and appear to be isolated from other potential foraging/nesting habitat by more than 200 ft. of unsuitable habitat due to the urban/disturbed nature of the study area and project vicinity. A review of NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area.

Saint Francis' satyr butterfly

USFWS Optimal Survey Window: May 5-June 6 and July 26-August 21

Habitat Description: The Saint Francis' satyr butterfly is only known from the Sandhills of North Carolina, although its historic range may have been much larger. This butterfly is known to inhabit wide, wet meadows dominated by sedges and other wetland graminoids. These wetlands are often relicts of beaver activity and are boggy areas that are acidic and ephemeral. These sites must be continually maintained to persist as open areas. The larval host of the Saint Francis' satyr is thought to be grasses, sedges, and rushes.

Biological Conclusion: No Effect

Suitable habitat for the Saint Francis' satyr butterfly does not exist within the study area. The study area lacks the wide, wet meadows associated with this species. A review of NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area.

American chaffseed

USFWS Optimal Survey Window: May-August (1-2 months after a fire)

Habitat Description: American chaffseed generally occurs in habitats described as open, moist to dryish Mesic Pine Flatwoods and longleaf pine flatlands, Pine Savannas, Pine/Scrub Oak Sandhills, Sandhill Seeps, and other open grass/sedge-dominated communities. This herb also occurs in the ecotonal areas between peaty wetlands and xeric sandy soils and on the upper ecotones of, or sites close, to Streamhead Pocosins. The species prefers sandy peat or sandy loam, acidic, seasonally moist to dry soils in sunny or partly sunny areas subject to frequent fires in the growing season. The plant is dependent on factors such as fire, mowing, or fluctuating water tables to maintain its required open to partly-open habitat. Most extant populations, and all of the most vigorous populations, are in areas subject to frequent fire. This species is also known to occur on road cuts and power line rights-of-way that experience frequent mowing or clearing. Soil series that it is found on include Blaney, Candor, Gilead, Fuquay, Lakeland, and Vacluse.

Biological Conclusion: No Effect

Suitable habitat for the American chaffseed does not exist within the study area. The study area lacks the open, seasonally moist to dry pine habitats subject to frequent fires that are associated with this species. Areas containing soil series associated with this species have been modified by development. A review of NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area.

Michaux's sumac

USFWS Optimal Survey Window: May-October

Habitat Description: Michaux's sumac, endemic to the inner Coastal Plain and lower Piedmont, grows in sandy or rocky, open, upland woods on acidic or circumneutral, well-drained sands or sandy loam soils with low cation exchange capacities. The species is also found on sandy or submesic loamy swales and depressions in the fall line Sandhills region as well as in openings along the rim of Carolina bays; maintained railroad, roadside, power line, and utility rights-of-way; areas where forest canopies have been opened up by blowdowns and/or storm damage; small wildlife food plots; abandoned building sites; under sparse to moderately dense pine or pine/hardwood canopies; and in and along edges of other artificially maintained clearings undergoing natural succession. In the central

Piedmont, it occurs on clayey soils derived from mafic rocks. The plant is shade intolerant and, therefore, grows best where disturbance (e.g., mowing, clearing, grazing, and periodic fire) maintains its open habitat.

Biological Conclusion: No Effect

Suitable habitat for Michaux's sumac is present in the study area along roadside shoulders and utility easements. ESI biologists surveyed the roadsides and existing rights-of-way on June 11, 2012 and no individuals of Michaux's sumac were observed. A review of NCNHP data, updated April 2012, indicated no known occurrences within 1.0 mile of the study area.

Pondberry

USFWS Optimal Survey Window: February-October

Habitat Description: Pondberry occurs in seasonally flooded wetlands, sandy sinks, pond margins, and swampy depressions. This deciduous, aromatic shrub occurs in bottomland hardwood forests with perched water tables along inland areas of the southeastern United States. In the Coastal Plain of the Carolinas, the species occurs at the margins of limestone sinks and ponds and in undrained, shallow depressions of longleaf pine and pond pine forests. Known occurrences in North Carolina occur in the Small Depression Pocosin natural community, grow in soils with sandy sediments and high water table, contain high peat content in the subsurface, and include a prevalence of shrubs due to historically frequent or intense fires. It generally grows in somewhat shaded areas, but can tolerate full sun.

Biological Conclusion: No Effect

Suitable habitat for the pondberry does not exist within the study area. The study area lacks limestone sinks and ponds or undrained, shallow depressions associated with this species. A review of NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area.

Rough-leaved loosestrife

USFWS Optimal Survey Window: mid- May-June

Habitat Description: Rough-leaved loosestrife, endemic to the Coastal Plain and Sandhills of North and South Carolina, generally occurs in the ecotones or edges between longleaf pine uplands and pond pine pocosins in dense shrub and vine growth on moist to seasonally saturated sands and on shallow organic soils overlaying sand (spodosolic soils). Occurrences are found in such disturbed habitats as roadside depressions, maintained

power and utility line rights-of-way, firebreaks, and trails. The species prefers full sunlight, is shade intolerant, and requires areas of disturbance (e.g., clearing, mowing, periodic burning) where the overstory is minimal. It can, however, persist vegetatively for many years in overgrown, fire-suppressed areas. Blaney, Gilead, Johnston, Kalmia, Leon, Mandarin, Murville, Torhunta, and Vaocluse are some of the soil series that the plant occurs on.

Biological Conclusion: No Effect

Suitable habitat for rough-leaved loosestrife is present within the study area along the wet edges of wetlands within utility ROW. ESI conducted species-specific surveys for this species within the study area on June 11, 2012. No individuals were observed within the study area. A review of NCNHP data, updated April 2012, indicates no known occurrences within 1.0 mile of the study area.

b) Bald and Golden Eagle Protection Act

Habitat for the bald eagle consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

Bald eagle is not listed as having a range that extends into Cumberland County. No water bodies large enough or sufficiently open to be considered potential feeding sources were identified within the study area. Since there was no foraging habitat within the review area, a survey of the study area and the area within 660 feet of the project limits was not conducted. A review of the NCNHP records, updated April 2012, indicates no known occurrences within 1.0 mile of the study area. Due to the lack of habitat and no known occurrences it has been determined that this project will not affect this species.

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with federal nexus in Divisions 1-8, which includes Cumberland County, where TIP U-4405 is located.

c) Endangered Species Act Candidate Species

As of December 26, 2012, USFWS list, there are no Candidate Species listed for Cumberland County. A review of NCNHP records, updated April 2012, indicates no known occurrences of Candidate Species within 1.0 miles of the study area.

d) Essential Fish Habitat

The National Marine Fisheries Service (NMFS) has not identified any study area streams as Essential Fish Habitat.

4. Soils

The Cumberland County Soil Survey identifies 15 soil types within the study area (see Table 12).

Table 12: Soils within Project Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Blaney loamy sand	BaD	Well-drained	Non-hydric
Blaney- Urban land complex	BdD	n/a	Non-hydric
Bragg sandy loam	BrB	Well-drained	Non-hydric
Candor sand	CaB	Somewhat excessively drained	Non-hydric
Candor sand	CaD	Moderately well drained	Non-hydric
Faceville loamy sand	FaB	Well-drained	Non-hydric
Faceville-Urban land complex	FcB	n/a	Non-hydric
Goldsboro loamy sand	GoA	Moderately well-drained	Non-hydric
Johnston loam	JT	Very poorly drained	Hydric
Lakeland-Urban land complex	LbB	n/a	Non-hydric
McColl loam	Mc	Poorly drained	Hydric
Norfolk loamy sand	NoA	Well-drained	Non-hydric
Pactolus loamy sand	Pa	Moderately well drained to somewhat poorly drained	Non-hydric
Urban land	Ur	n/a	Non-hydric
Vaucluse loamy sand	VaD	Well-drained	Non-hydric
Wagram loamy sand	WaB	Well-drained	Non-hydric
Wagram-Urban land complex	WgB	n/a	Non-hydric

B. Cultural Resources

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 as 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 of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

Under a Programmatic Agreement, effective November 5, 2007, the authority for cultural resource reviews for minor transportation projects has been transferred from the North Carolina State Historic Preservation Office (HPO) to the North Carolina Department of Transportation's (NCDOT) cultural resource groups: Archaeology and Historic Architecture and Landscapes in the Human Environment Section (HES).

1. Historic Architectural Resources

The Historic Architectural Evaluation Report was completed on July 2013. The finding of the report recommended that three evaluated properties are eligible for listing in the NRHP.

- Lindy's (former A & W) Drive In 3001 Raeford Road ✓
- Owen's Florist and Owen House 3306 and 3310 Raeford Road ✓
- Lafayette Lanes Bowling Alley 3313 Raeford Road ✓

In September 2013 NCDOT and HPO agreed that the Lindy's (former A & W) Drive In and Lafayette Lanes Bowling Alley are eligible, while the Owen's Florist store and house are not eligible. A July 2014 consultation with HPO and FHWA revealed that the project as designed at the time imposed an adverse effect for both of the properties in question. NCDOT refined the design and in November 2015 obtained concurrence with HPO and FHWA on "no adverse effect" findings for both properties. The Historic Architecture and Landscapes Assessment of Effects Form is included in Appendix C.

2. Archaeological Resources

As required in the Programmatic Agreement, an archaeological resources review was completed on May 15, 2011. The finding of the review was no surveys would be required for archaeological resources. A copy of the completed "No Survey Required" form is included in Appendix C.

C. Section 4(f)/6(f) Resources

Section 4(f) of the USDOT Act of 1966 protects the use of publicly owned parks, recreation areas, wildlife/waterfowl refuges, and historic properties. Both the Lindy's Drive-In and Lafayette Lanes are considered Section 4(f) resources. By incorporating design revisions (widening away from the historic properties), the FHWA on November 17, 2015 has determined that the impact is considered a "de minimis" for both properties. (See the Historic Architecture and Landscapes Assessment of Effects form in Appendix B)

Section 6(f) of the Land and Water Conservation Act applies to the conversion of certain recreation lands to non-recreational purposes. The act applies to recreation lands that have received Land and Water Conservation Fund (LWCF) money. Any land conversions on property that has received LWCF money must be approved by the National Park Service. Section 6(f) also requires that any applicable land converted to non-recreational uses must be replaced with land of equal or greater value, location, and usefulness. There are no 6(f) protected properties along this project.

D. Farmland

The Direct Community Impact Area (DCIA) defined for this project is located within an urbanized area as defined by US Census Bureau maps, therefore requirements for the identification of potential impacts to prime farmland soils outlined within the Farmland Protection Policy Act do not apply.

E. Social Effects

1. Demographics

The Demographic Study Area (DSA) is the smallest statistical area of the 2010 Census, at block group level, that includes and is derived from the DCIA. The DSA is used to provide approximate demographic characteristics for the community inside the DCIA. The DSA for this project consists of Census Tract 33.02, Block Group 1, and Census Tract 33.07, Block Group 1. These study area boundaries are shown in the Community Impact Assessment (February 2014).

a) Population

While Cumberland County grew by 0.5% between the 2000 and 2010 Decennial Censuses, the DSA declined at an annualized rate of 0.02%. One caveat to keep in mind is that, due to changing US Census geographies between the 2000 and 2010 Decennial Censuses, the DSA built with the 2010 block groups is actually smaller in area than the most equivalent DSA that could be built with the 2000 block groups. The 2010 DSA is 5.4% smaller in area than the 2000 DSA.

Table 13: Population Growth Rates

Area	Population			
	2000	2010	Difference	% Change
Demographic Study Area	35,711	35,625	-86	-0.2%*
Cumberland County	302,963	319,431	16,468	5.4%
North Carolina	8,049,313	9,535,483	1,486,170	18.5%

Source: US Census Bureau, Census 2010 and Census 2000, Summary File 1 100% Data, Table P1 and P001 "Total Population"

b) Ethnicity

Census data indicates a notable presence of minority populations within the DSA, as was observed within the DCIA during the site visit. Table 14 provides a breakdown of the populations by race within the DSA, as compared to Cumberland County. The Census data indicate that DSA has 70.1% minorities as compare to 52.2% in Cumberland County (see Table 15).

Table 14: Population by Race

Race and Ethnicity	Demographic Study Area		Cumberland County	
	Pop.	%	Pop.	%
White	6,137	32.9%	164,825	52.1%
Black or African American	10,159	54.5%	112,692	35.6%
American Indian and Alaska Native	113	0.6%	3,007	1.0%
Asian	606	3.2%	7,278	2.3%
Native Hawaiian and Other Pacific Islander	59	0.3%	1,089	0.3%
Some other race	684	3.7%	10,046	3.2%
Two or more races	891	4.8%	17,541	5.5%
Total Population	18,649	100%	316,478	100%

Source: US Census Bureau, American Community Survey 5-year Estimates (2007-2011), Table B02001, "Race."

Table 15: Minority Population

Area	Total Population	White, Non-Hispanic		Minority Population*	
		Pop.	%	Pop.	%
Demographic Study Area	18,649	5,576	29.9	13,073	70.1
Cumberland County	316,478	151,340	47.8%	165,138	52.2

*Minority population includes all races that are non-white and Hispanic populations that are also White.
Source: US Census Bureau, American Community Survey 5-year Estimates (2007-2011), Table B02201

c) Income

The census data indicates a notable presence of low income populations within the DSA, as was observed within the DSA during the site visit. The poverty rate of the DSA is higher than that of Cumberland County, 17.3% and 16.6%, respectively (see Table 16).

Table 16: Poverty Rates

Area	Below Poverty Level		Below 50% of Poverty Level		Between 100% and 149% of Poverty Level	
	Pop.	%	Pop.	%	Pop.	%
Demographic Study	3,206	17.3%	1,308	7.1%	2,275	12.2%
Cumberland County	50,175	16.6%	22,522	7.5%	33,100	11.0%

Source: US Census Bureau, American Community Survey 5-year Estimates (2007-2011), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."

2. Communities

The proposed project is located in the central portion of the City of Fayetteville, in Cumberland County. US 401 (Raeford Road) is primarily an urban commercial roadway with many business, schools and churches.

3. Community Impacts

Business Impacts Business impacts will include: access changes from reductions in the number of access points per parcel; changes in the location of access points to roadways that may run along the sides or to the backs of parcels cut off from Raeford Road; customer route changes as the result of U-turns in order to access businesses on the left side of the road; changes in lot circulation within the parcels; reductions in the number of parking spaces; some minor property loss due to right-of-way acquisition; and some business relocations due to right-of-way acquisition that requires the loss of a building.

Church Impacts No major impacts are anticipated due this project.

School Bus Mobility and Access Minor impacts are anticipated to occur on bus travel times due to the proposed median, however the proposed project will enhance the safety for all school buses. Most of the concerns raised by Mr. Al Miler Executive Director of Transportation - Cumberland County Bus Service, have been addressed

4. Relocation of Residences and Businesses

No residential, fifteen business and up to eight graves relocations will result from the proposed project. Please see Appendix C for a copy of the Relocation Report and the NCDOT's Policies regarding relocations.

5. Bicycle & Pedestrian Facilities

Although sidewalks exist, most appear to have been developed in the newer commercial areas and are discontinuous in nature. Most of the sidewalks exist in the central and eastern parts of the project area. Worn paths along the road were observed, but are also discontinuous in nature. There are no lanes marked for bicycles along the roadway in the project area. The only crosswalks that exist in the project area are located in front of Loyd E. Auman Elementary School and at the intersections of Raeford Road and 71st School Road and Robeson Street. No greenway facilities were observed.

The addition of continuous sidewalks along the entirety of Raeford Road and crosswalks on the project with median refuges will have positive impacts for pedestrians because of the elimination of uneven dirt paths and safe places to wait as traffic passes by.

6. Transit Activity

Approximately 6.0% of the households in the DSA are zero-car households, slightly less than the 6.3% of zero-car households in Cumberland County as a whole. Fayetteville Area System of Transit (FAST) bus routes 7, 15, and 18 serve the DCIA.

- Route 7 serves the east side of the project corridor along Raeford Road and provides connectivity eastward toward downtown Fayetteville.
- Route 15 provides connectivity to schools, grocery stores, stores along Skibo Road, along with the Cross Creek Mall to the north and the Cape Fear Valley Hospital to the south.
- Route 18 provides connectivity to schools, grocery stores, stores along Skibo Road and the Cross Creek Mall.

This project will not impact any existing bus routes.

7. Environmental Justice

Title VI of the Civil Rights Act of 1964, protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations. Special populations may include the elderly, children, the disabled, low-income areas, American Indians and other minority groups.

Executive Order 12898 requires that Environmental Justice principles be incorporated into all transportation studies, programs, policies, and activities. Three public meetings were held to get the public input and two of these meeting were held on March 6 and March 13 at St. Matthews United Methodist Church in Fayetteville. Also formal public meeting was held on March 25, 2014 at the John D. Fuller recreation Center in Fayetteville and approximately 200 citizens signed in for the meeting.

On December 1, 2015 an additional public meeting was held to present the new designs to the public and get their feedback. The public meeting was advertised through local newspaper and radio media announcements and a postcard mailed to approximately 600 property owners or residents. 75 people signed in for the meeting. Most attendees seem to be satisfied with the new proposed design and NCDOT received only two written comments

The three environmental principals are: 1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process, 2) to avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low income populations, and 3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities upon low-income and minority populations.

The Census block groups indicates a notable presence of minority and low income populations meeting the criteria for Environmental Justice within the DSA and minority and low income communities were observed within the DCIA during the site visit.

While minority and low income populations are present in the DCIA, no notable adverse community impacts are anticipated with this project; thus, impacts to minority and low income populations do not appear to be disproportionately high and adverse and no denial of benefit is expected. Public involvement efforts have not indicated any concerns related to Environmental Justice Communities. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community.

F. Land Use

1. Existing Land Use

The proposed project is located within the City of Fayetteville city limits. The US 401 (Raeford Road) corridor is mostly commercial with residential and institutional uses intertwined.

a) FAMPO Bicycle and Pedestrian Plan

The *FAMPO Bicycle and Pedestrian Plan* (2009) provides guidelines for Cumberland County to provide a safe and attractive environment needed to promote bicycling and walking as a transportation mode. Under this plan, Raeford Road is designated an “experienced rider’s route” with bicycle facilities throughout. The plan provides examples of bicycle facilities, both shared and exclusive, that can be combined to form bike routes.

As part of this project, NCDOT will replace all sidewalks impacted by widening. At the request of the City of Fayetteville, NCDOT will enter into a municipal agreement with the city to fund construction of five-foot sidewalks on both sides of the US 401 (Raeford Road) corridor. There are no bicycle lanes proposed due to limited right of way and the impact to the business along the proposed project.

b) FAMPO Bicycle and Pedestrian Connectivity Study

The *FAMPO Bicycle and Pedestrian Connectivity Study* (2011) is a comprehensive analysis of opportunities, barriers, and deficiencies in the bicycle and pedestrian transportation network within Cumberland County and the FAMPO Study Area. The goal of the Connectivity Study is to identify and prioritize existing and proposed routes, facilities, improvements, and issues which will establish a safe and effective bicycle and pedestrian network. This plan identified Raeford Road as one of the five most dangerous roads for bicyclists and pedestrians in the Fayetteville area. It also recognized the marked crosswalk at Raeford Road and 71st School Road, but noted that there are no sidewalks in this area. Because of this the study identified the need for sidewalks on the north side of Raeford Road between 71st School Road and Hampton Oaks Drive.

c) The Raeford Road Corridor Study (2010)

The Raeford Road Corridor Study (2010) stated its intent to “enhance the safety, mobility, and appearance of the Raeford Road corridor in a manner that promotes quality development and economic vitality.” This study identified an average daily traffic (ADT) of up to 43,000 vehicles per day, nearly 2,500 crashes in three years and a crash rate of 727.72 crashes per million vehicle miles traveled, which is double the state average. This study included a preferred access plan, bike/ped plan and transit recommendations, aesthetic design and project phasing recommendations. Recommendations made included a wide median and four twelve foot travel lanes in the western portion of the corridor. In the eastern portion of the corridor, a narrower median is recommended to allow for six 10-foot travel lanes, requiring less widening where businesses are located along the roadway. Recommendations of this plan also focus on improving

and adding pedestrian crosswalks and sidewalks, improving bicycle accommodations, and making transit route improvements

2. Future Land Use

The project is consistent with local area plans. The proposed typical section includes most of the recommendation presented in *The Raeford Road Corridor Study (2010)* and sidewalk will be provided on both side of the project. However due to adverse impacts to adjacent business, churches, and cemeteries bike lane accommodation could not be included in this project.

3. Project Compatibility with Local Plans

The proposed project is consistent with local and regional development goals and plans.

G. Indirect and Cumulative Effects

The potential for indirect and cumulative effects with this project is low because US 401 (Raeford Road) already exists in the project area and much of the ongoing development has been incorporated into local plans for the area. No substantial changes to travel times and patterns, nor the creation of a transportation or land use node are anticipated. While the implementation of a median will alter entrance and exit patterns, this reduction in access will not result in indirect or cumulative effects. The project will not influence nearby land use nor stimulate growth. Therefore, a detailed indirect and cumulative effects study will not be necessary for this project.

H. Flood Hazard Evaluation

Cumberland County is currently participating in the National Flood Insurance Regular Program. The proposed project will not involve construction activities on or adjacent to Federal Emergency Management Agency (FEMA) regulated streams. NCDOT's Hydraulics Unit will coordinate with the FEMA and local authorities to ensure compliance with applicable floodplain ordinances. The project does not involve any construction within a designated 100-year floodplain.

I. Highway Traffic Noise

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) and the North Carolina Department of Transportation Traffic Noise Abatement Policy, each Type I highway project must be analyzed for predicted traffic noise impacts. In general, Type I projects are proposed State or Federal highway projects for construction of a highway or interchange on new location, improvements of an existing highway which substantially changes the horizontal or vertical alignment or increases the vehicle capacity, or projects that involve new construction or substantial alteration of transportation facilities such as weigh stations, rest stops, ride-share lots or toll plazas.

Traffic noise impacts are determined through implementing the current Traffic Noise Model (TNM) approved by the Federal Highway Administration (FHWA) and following procedures detailed in Title 23 CFR 772, the NCDOT Traffic Noise Abatement Policy and the NCDOT Traffic Noise Analysis and Abatement Manual. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Temporary and localized noise impacts will likely occur as a result of project construction activities. Construction noise control measures will be incorporated into the project plans and specifications.

A copy of the unabridged version of the full technical report entitled *US 401 (Raeford Road) Improvements from West of Hampton Oaks Drive to East of Fairway Drive in Cumberland County Traffic Noise Analysis and Design Noise Report* can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh, NC.

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 17. 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.

The maximum extent of the 71- and 66- dB(A) noise level contours measured from the center of the proposed roadway along US 401 is approximately 162 feet and 233 feet, respectively. In addition, the maximum extent of the 71- and 66- dB(A) noise level contours measured from the center of the proposed roadway along All American Expressway is approximately 230 feet and 345 feet, respectively.

Table 17: Predicted Traffic Noise Impact by Alternative*

Alternative	Traffic Noise Impacts			Total
	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	
Existing	46	33	12	91
No-Build	65	39	27	131
Build	62	39	31	132

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

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, 131 receptors are predicted to experience traffic noise impacts and the future traffic noise levels will increase by approximately 1 dBA. Based

upon research, humans barely detect noise level changes of 2-3 dBA. A 5-dBA change is more readily noticeable. Therefore, most people working and living near the roadway will not notice this predicted increase. The Build Alternative will have only one additional noise receptor as compare to No-Build Alternative.

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, establishment of buffer zones, noise barriers and noise insulation (NAC D only). For each of these measures, benefits versus costs (reasonableness), engineering feasibility, effectiveness and practicability 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 base dollar value of \$37,500 plus an incremental increase of \$525 (as defined in the NCDOT Policy) per benefited receptor, causing this abatement measure to be unreasonable.

5. Noise Barriers

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. 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 maximum allowable base quantity of 7,000 cubic yards, plus an incremental increase of 100 cubic yards per benefited receptor, as defined in the NCDOT Policy.

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. Table 18 summarizes the results of the evaluation. The potential barrier location evaluated with TNM is located along proposed southbound off-ramp from All American Expressway to US 401 (Raeford Road) in Noise Study Area (NSA) 1. Based upon criteria defined in the NCDOT Traffic Noise Abatement Policy, this barrier is preliminarily justified and recommended for construction, contingent upon completion of the project design and the public involvement process.

Table 18: Preliminary Noise Barrier Evaluation Results

Alternative (Noise Barrier Location)	Length / Height (feet)	Square Footage	Number of Benefited Receptors	Square Feet per Benefited Receptor / Allowable Square Feet per Benefited Receptor	Preliminarily Recommended for Construction ¹
Noise Study Area 1 – located along proposed Southbound All American Freeway Off-ramp	1,830/14	26,415	10	2,201/2,605	Yes

¹The recommendation for barrier construction is preliminary and subject to change, pending completion of final design and the public involvement process.

6. Summary

A preliminary noise evaluation was performed that identified one (1) noise barrier meets preliminary feasible and reasonable criteria found in the NCDOT Traffic Noise Abatement Policy. A more detailed analysis will be completed during project final design. Noise barriers found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that were not considered feasible and reasonable may meet the established criteria and be recommended for construction. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772.

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 Categorical Exclusion (CE). For development occurring after this date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.

J. Air Quality Analysis

1. Introduction

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).

The Federal Clean Air Act of 1970 established the NAAQS. These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The most recent amendments to the NAAQS contain criteria for sulfur dioxide (SO₂), particulate matter (PM₁₀, 10 microns and smaller, PM_{2.5}, 2.5 microns and smaller), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb).

The primary pollutants from motor vehicles are unburned hydrocarbons, NO_x, CO, and particulates. Hydrocarbons (HC) and Nitrogen oxides (NO_x) can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as ozone and NO₂. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems.

A project-level qualitative air quality analysis was prepared for this project. A copy of the unabridged version of the full technical report entitled Air Quality Analysis, Improvements to US 401 (Raeford Road) dated May 16, 2014 can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1010 Birch Ridge Drive, Raleigh.

2. Attainment Status

The project is located in Cumberland 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 anticipated to create any adverse effects on the air quality of this attainment area.

3. Mobile Source Air Toxics (MSAT)

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOVES2010b model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 102 percent as assumed, from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined "study area" will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme, analyzing a metropolitan area's entire roadway network will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

4. Incomplete or Unavailable Information for Project Specific MSAT Health Impact Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects,

exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (www.epa.gov/risk/basicinformation.htm#g) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision

framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

5. Conclusion

Based on the qualitative analysis completed, under the Build alternative in the design year it is expected there would not be higher MSAT emissions in the project study area relative to the No Build alternative. In considering the project study area, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause area-wide MSAT levels to be significantly lower than today

6. 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 project is located in Cumberland County, which has been determined to comply with the National Ambient Air Quality Standards. The proposed project is located in an attainment area for CO; 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.

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.

K. Hazardous Material

A total of fifty-six sites of concern have been identified within the project area, including thirty-three UST facilities, four dry cleaners, and nineteen other sites of concern. It is anticipated that low monetary and scheduling impacts resulting from these sites. No Hazardous Waste and landfill site was identified within the project limits. (Please see June 9, 2014 GeoEnvironmental Report).

Soil and groundwater assessment will be performed on any potentially contaminated properties from which right-of-way will be required. This assessment will be performed before the right-of-way acquisition. In accordance with NCDOT Policy on hazardous materials, if any additional contaminated sites or underground storage tanks are discovered on the project, they will be assessed and recommendations for right -of -way and construction will be provided.

VI. COMMENTS AND COORDINATION

A. Public Involvement

Three public meetings were held in March 2014 to discuss proposed plans with business owners along the corridor. The first two meetings were held on March 6, and March 13, 2014 at St. Matthews United Methodist Church in Fayetteville. The purpose of these two public meetings was to provide information on the proposed design of the project to the community, present preliminary designs, inform stakeholders of the planning process, gather public feedback, and answer questions. The business owner meeting was announced via a postcard sent to approximately 300 business owners and business property owners along the corridor. The public meeting was advertised through local media announcements and a postcard mailed to approximately 600 property owners or residents. There were approximately 60 attendees and 5 written comments were received.

A Formal Public Hearing was held on March 25, 2014 at the John. D. Fuller Recreation Center in Fayetteville. The Public Hearing was announced through local newspaper media and on the postcard announcing the public meeting which was mailed to nearly 600 property owners or residents. Approximately 200 citizens signed in for the meeting. Sixteen citizens spoke, raised their concerns and provided their comments and 32 written comments were received. Form letters were received from approximately 830 parishioners of Lewis Chapel Baptist Church. The comment period was open until April 29, 2014, although any comment sheets received after that date were collected and included in the meeting and hearing summary. Comments included concerns regarding impacts to Lewis Chapel Missionary Baptist Church access, U-Turns, a need for traffic calming, sidewalks and pedestrian facilities (especially for small children), bicycle accommodations, median width, emergency response, the effect of project improvements to adjacent property values, the cost and funding of project improvements, and the general effectiveness of proposed improvements.

After reviewing the comments NCDOT, modified the designs in order to further reduce the impacts to business and residential properties, churches, schools, a cemetery and historic properties. The new design included slender medians and more narrow lanes on east end of the project.

On December 1, 2015 an additional public meeting was held to present the new designs to the public and get their feedback. The public meeting was advertised through local newspaper and radio media announcements and a postcard mailed to approximately 600 property owners or residents. 75 people signed in for the meeting. Most attendees seem to be satisfied with the new proposed design and NCDOT received only two written comments.

B. NEPA/404 Merger Process

The Merger Process is a process to streamline the project development and permitting processes, agreed to by the USACE, NCDENR (DWR, DCM), FHWA and NCDOT and supported by other stakeholder agencies and local units of government. To this effect, the Merger Process provides a forum for appropriate agency representatives to discuss and reach consensus on ways to facilitate meeting the regulatory requirements of Section 404 of the Clean Water Act during the NEPA/SEPA decision-making phase of transportation projects. Agency representatives meet to discuss and build consensus on purpose and need, alternatives for study, selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) and minimization of impacts.

Due to its limited scope and lack of substantial environmental consequences the merger team agreed that this project did not meet the criteria for the NEPA/404 Merger Process.

C. Other Agency Coordination

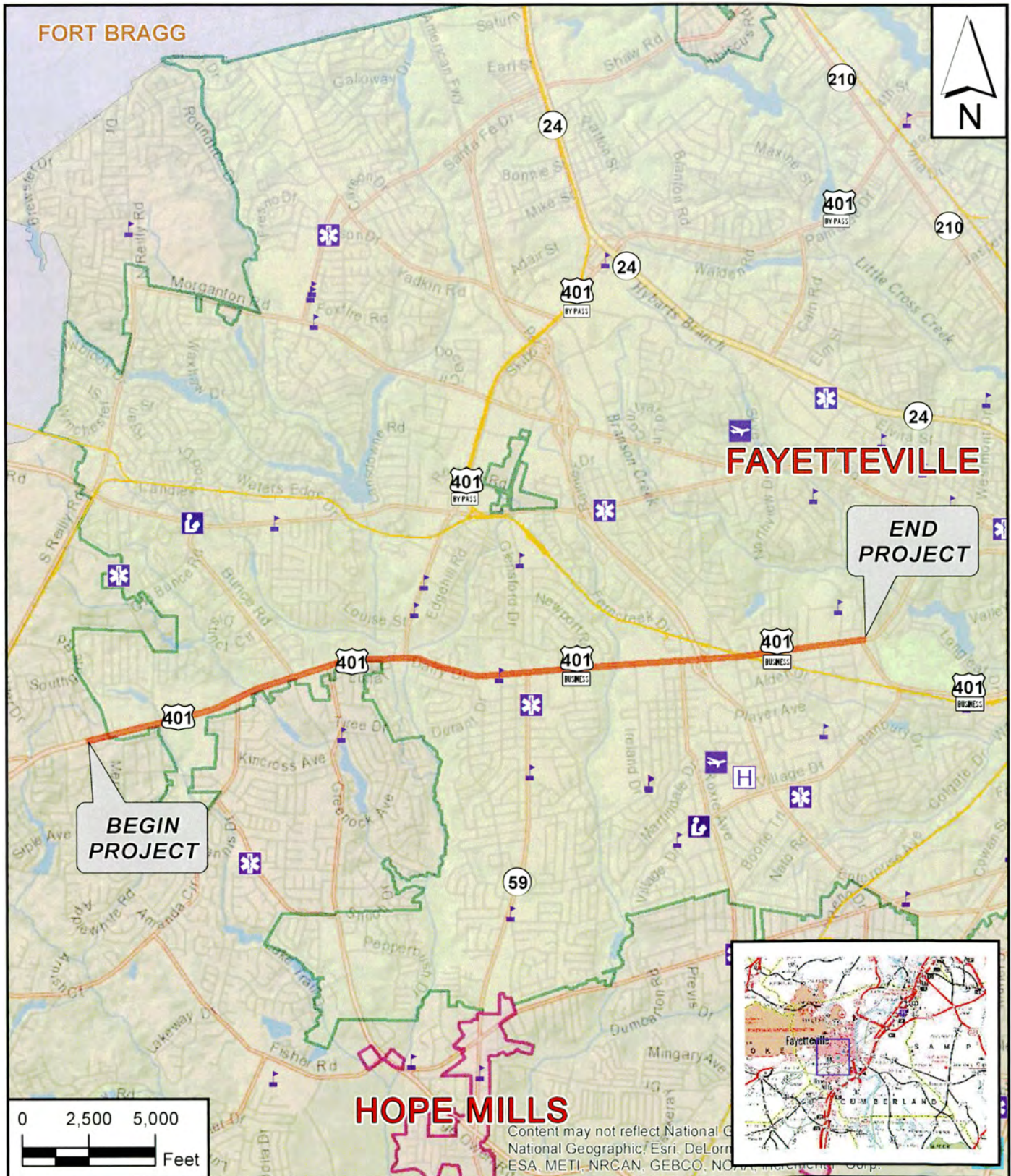
Federal, state, and local agencies were consulted during the preparation of this Categorical Exclusion. Written comments were received and considered from agencies noted with an asterisk (*) during the preparation of this assessment, although no significant issues were raised.

- * U.S. Army Corps of Engineers
- * U.S. Environmental Protection Agency
- * U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- N.C. Department of Natural and Cultural Resources (Historic)
- N.C. Department of Health and Human Services
- N.C. Department of Agriculture and Consumer Services (Forest Resources)
- N.C. Department of Natural and Cultural Resources (Parks)
- N.C. Department of Agriculture and Consumer Services (Water Conservation)
- * N.C. Department of Environmental Quality-Division of Water Resources
- N.C. Department of Natural and Cultural Resources (Natural Heritage)
- N.C. Department of Public Instruction
- * N.C. Wildlife Resources Commission
- Mid-Carolina Council of Governments
- Fayetteville Area Metropolitan Planning Organization
- Cumberland County Commissioners
- City of Fayetteville
- * Cumberland County Schools

These comments and related issues, included in **Appendix A**, have been addressed in this document.

VII. CONCLUSION

Based on the studies performed for the proposed project, it is concluded that the project will not result in significant social, economic, or environmental impacts. Therefore, the project is considered to be a Federal Categorical Exclusion, as defined in 40 CFR 1508.4 and 23 CFR 771.117, due to its limited scope and lack of substantial environmental consequences.

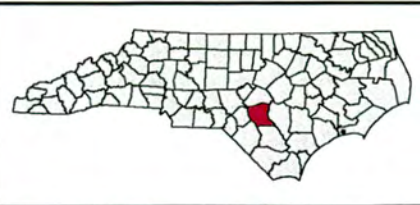


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

VICINITY MAP
 US 401/US 401 BUSINESS
 (RAEFORD ROAD)
 FAYETTEVILLE
 CUMBERLAND COUNTY
 TIP PROJECT U-4405

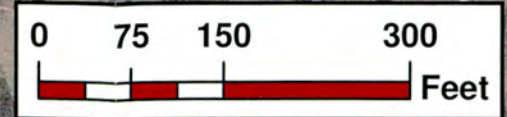
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Div: 6	TIP# U-4405
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Date: February 2016	

Figure 1



Legend

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Construction Easement
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- Delineated Stream and Wetland
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DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



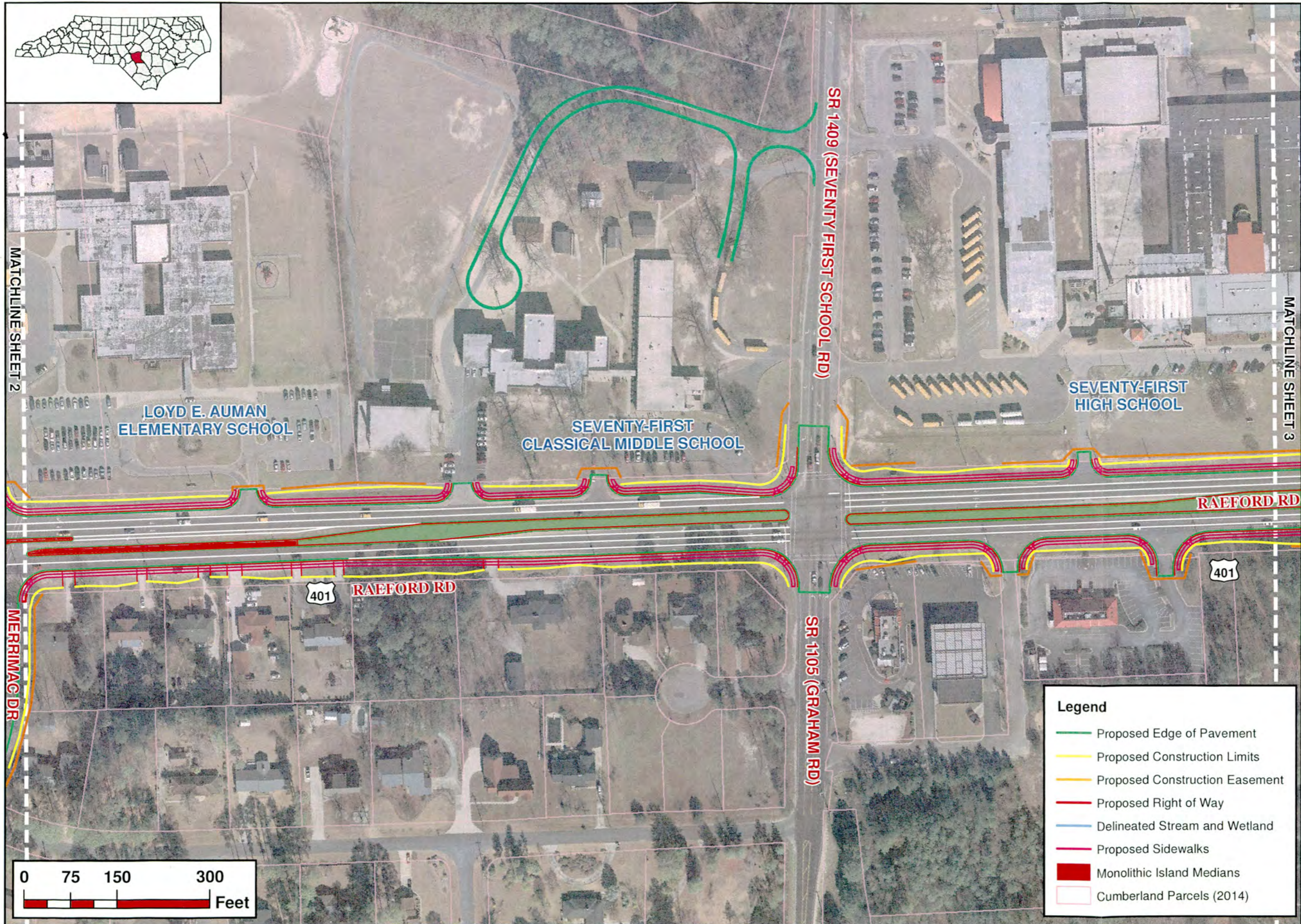
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Sheet 1



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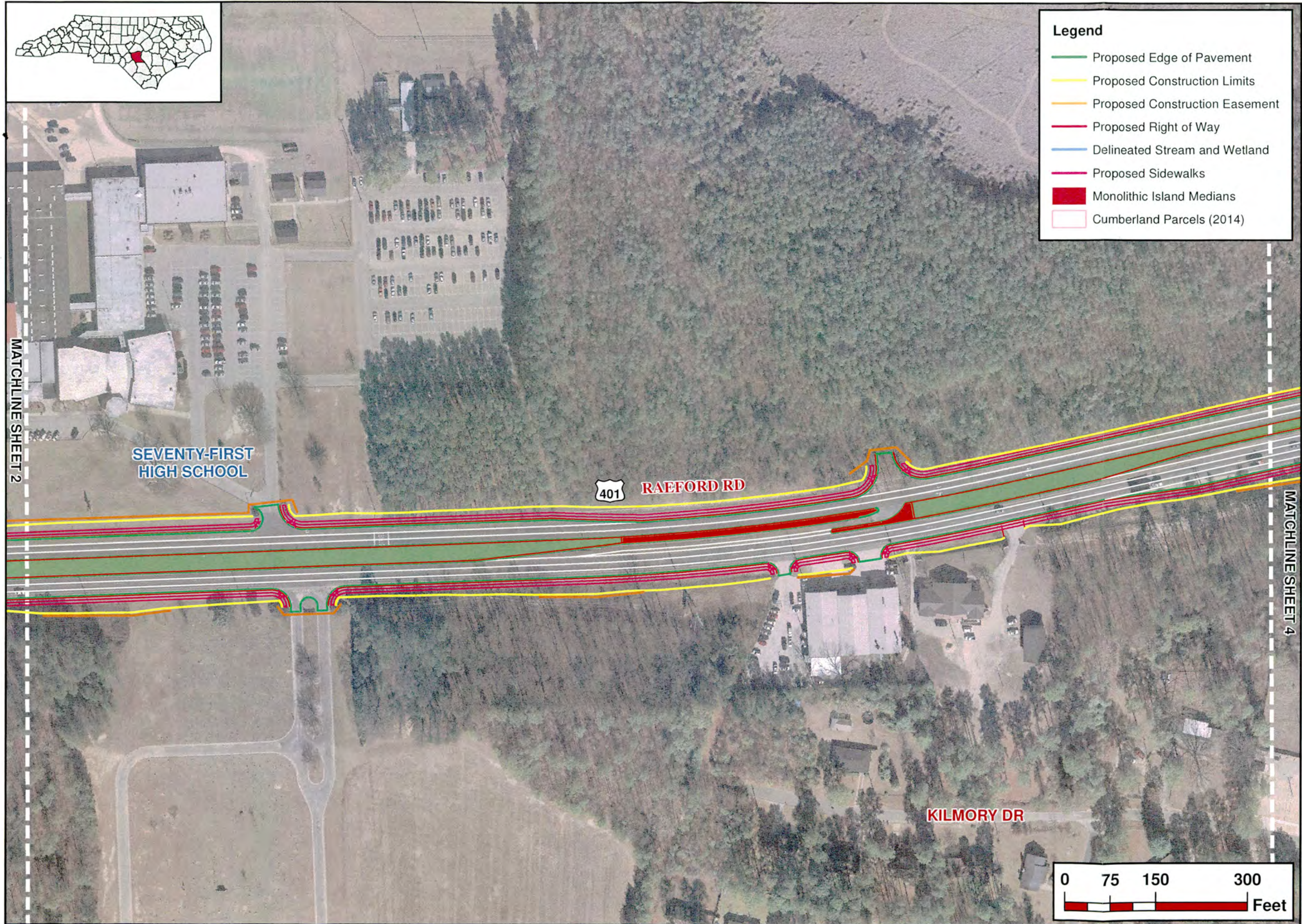
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February 2016

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Sheet 2

- Legend**
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By: J. TORTORELLA



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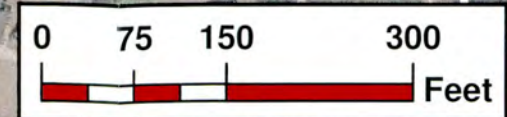
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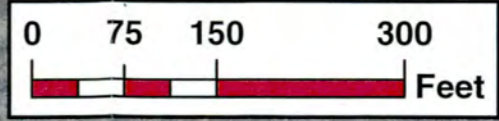
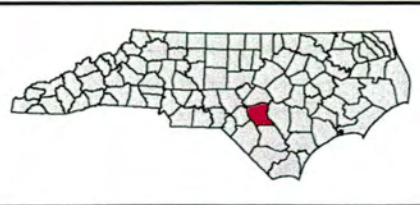
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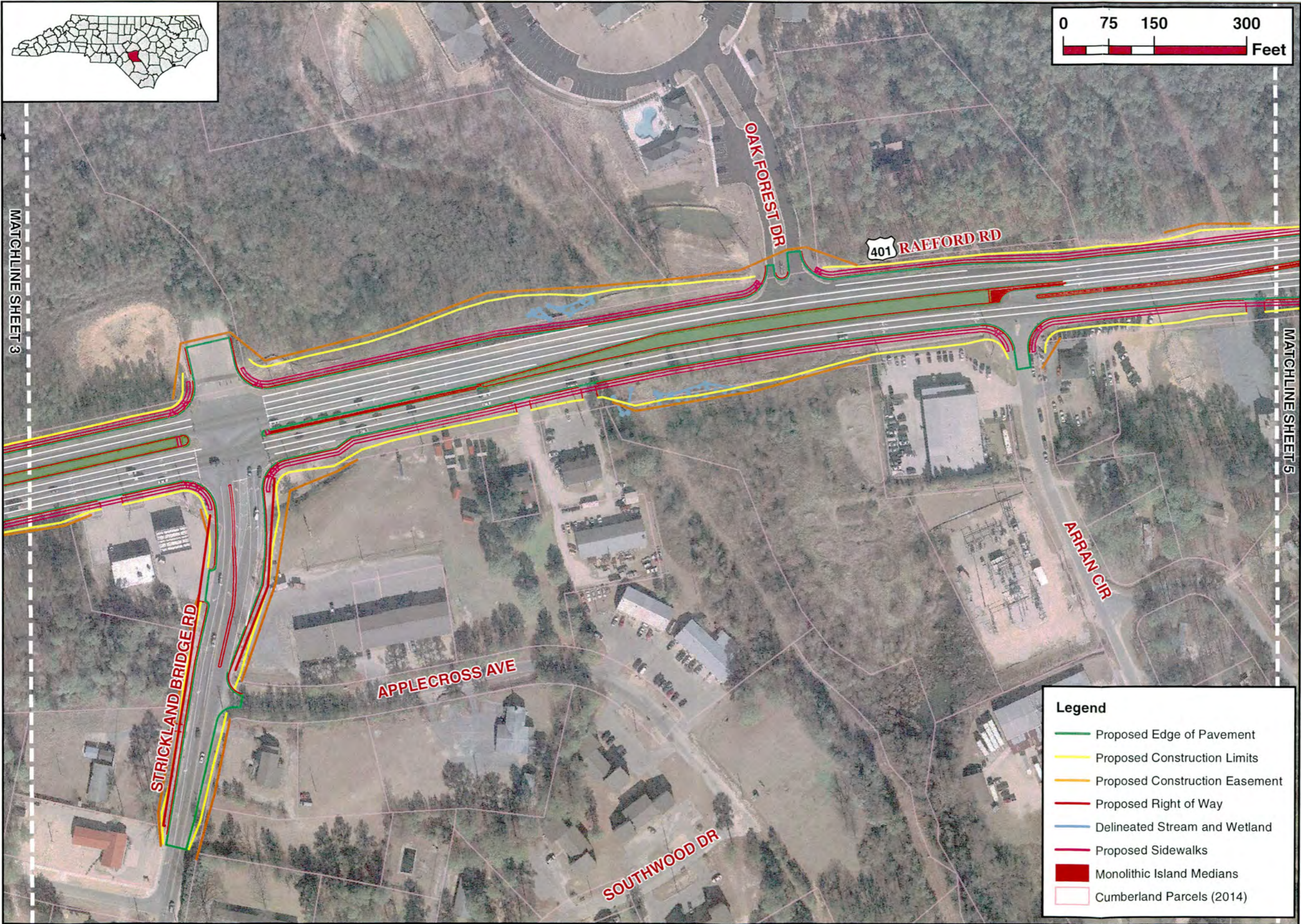
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Sheet 3



By: J.TORTORELLA



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DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT



MATCHLINE SHEET 3

MATCHLINE SHEETS

DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
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Legend	
	Proposed Edge of Pavement
	Proposed Construction Limits
	Proposed Construction Easement
	Proposed Right of Way
	Delineated Stream and Wetland
	Proposed Sidewalks
	Monolithic Island Medians
	Cumberland Parcels (2014)

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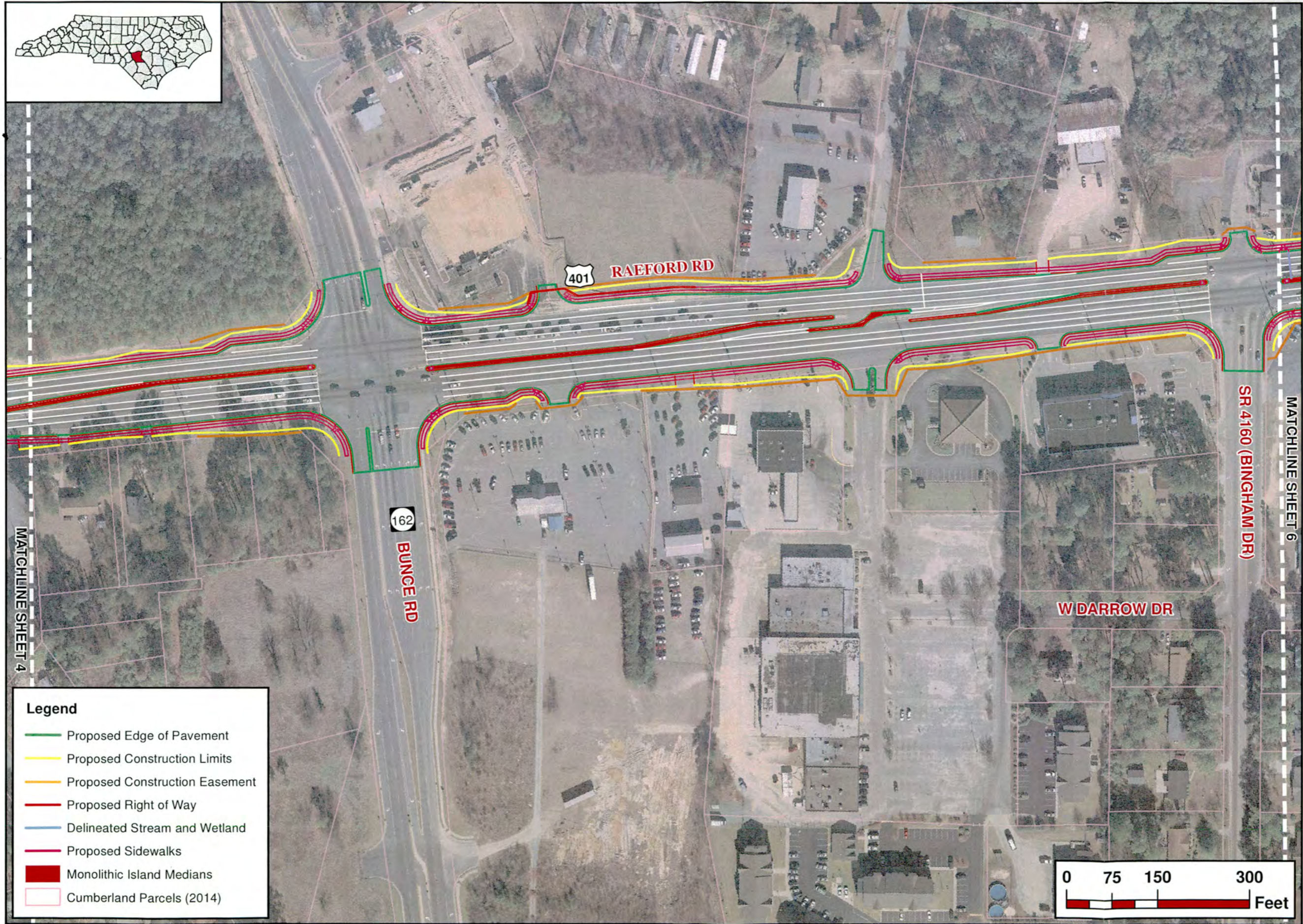
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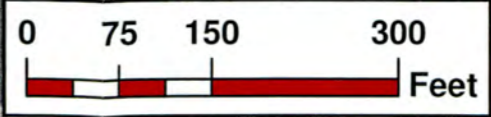
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Sheet 4

By: J.TORTORELLA



Legend

- Proposed Edge of Pavement
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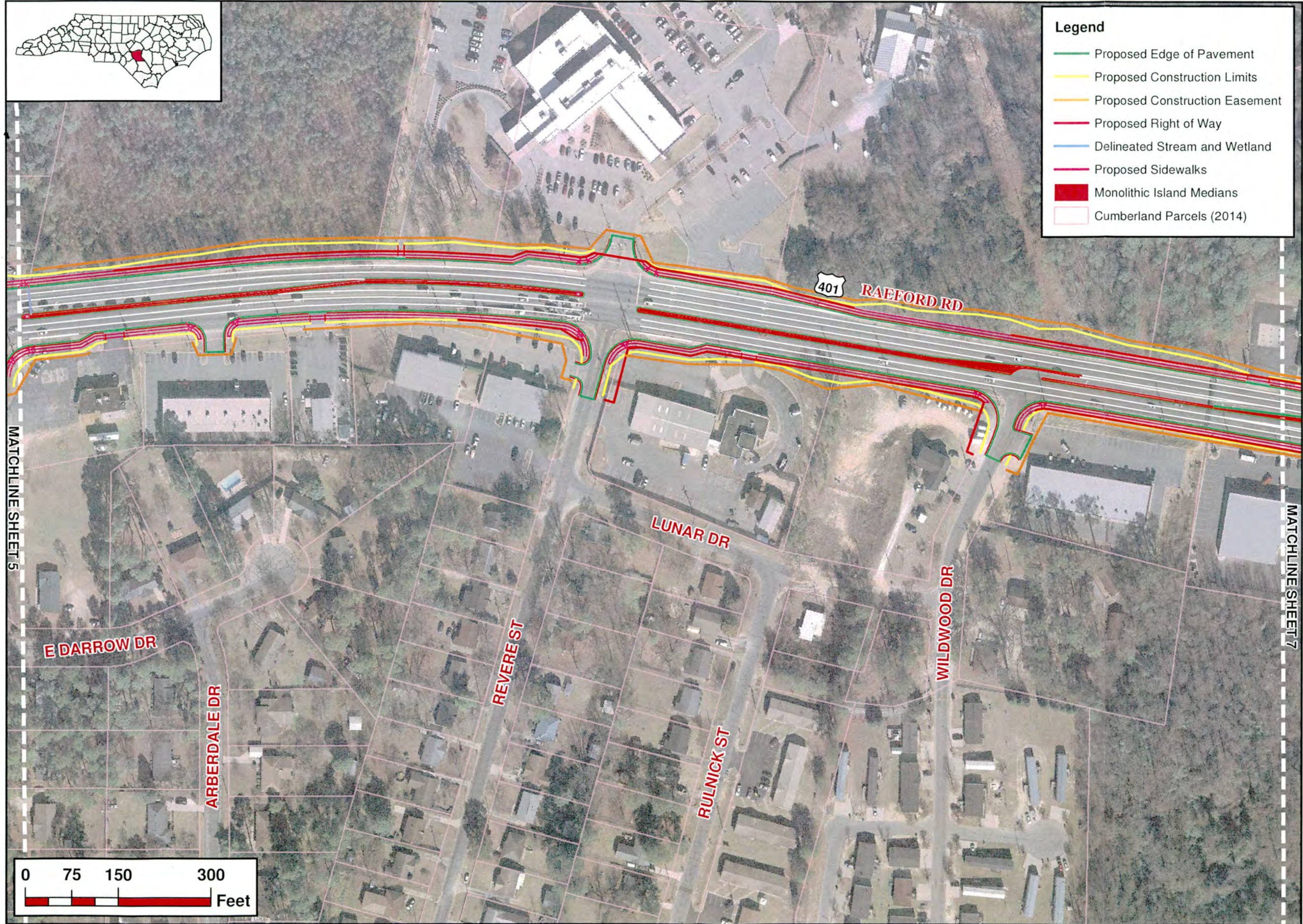
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By: J.TORTORELLA



Legend

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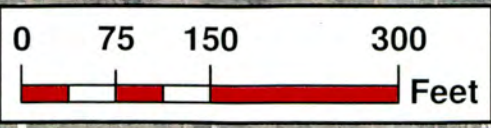
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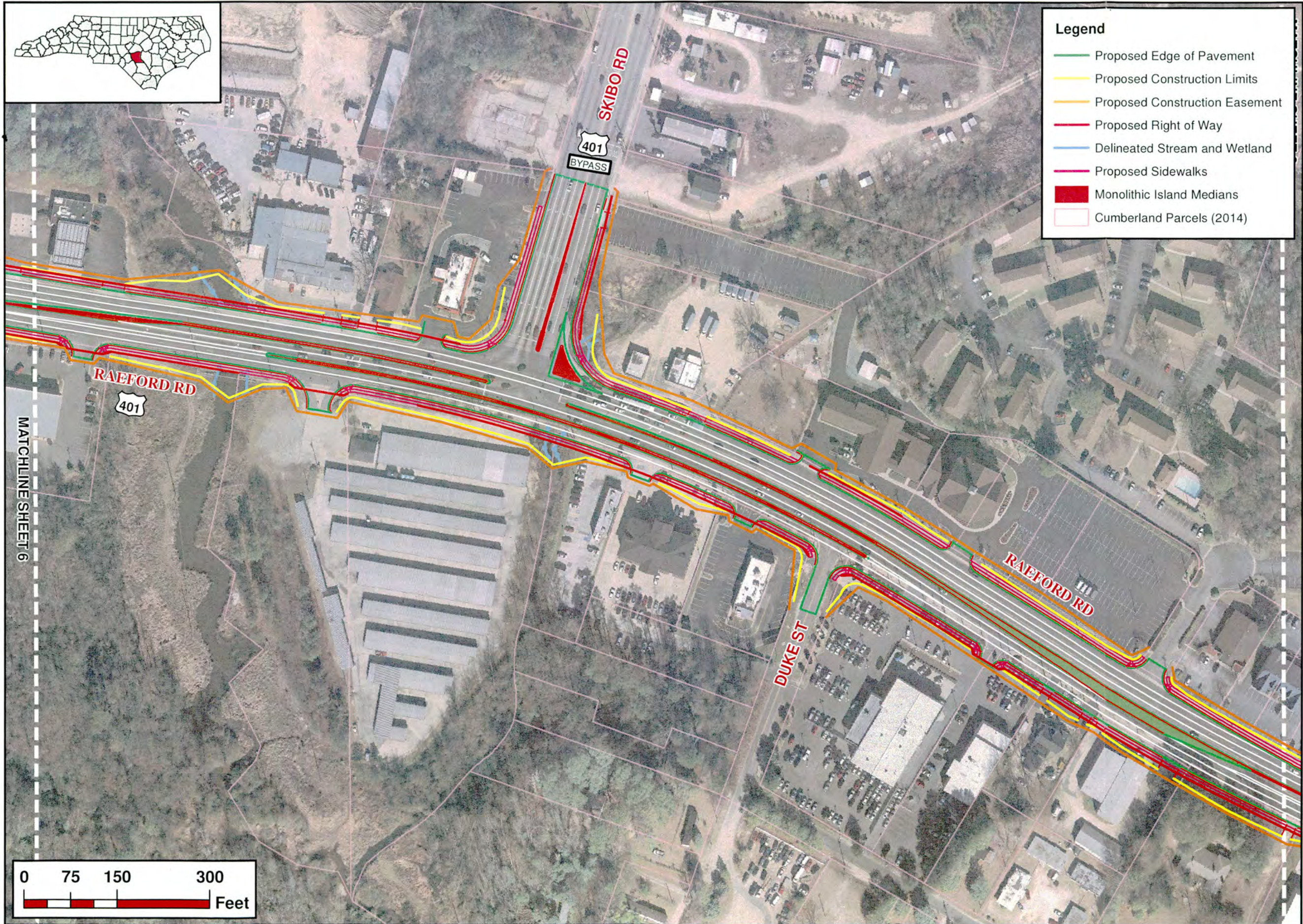
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Sheet 6



By: J.TORTORELLA



- Legend**
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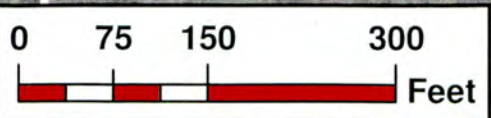
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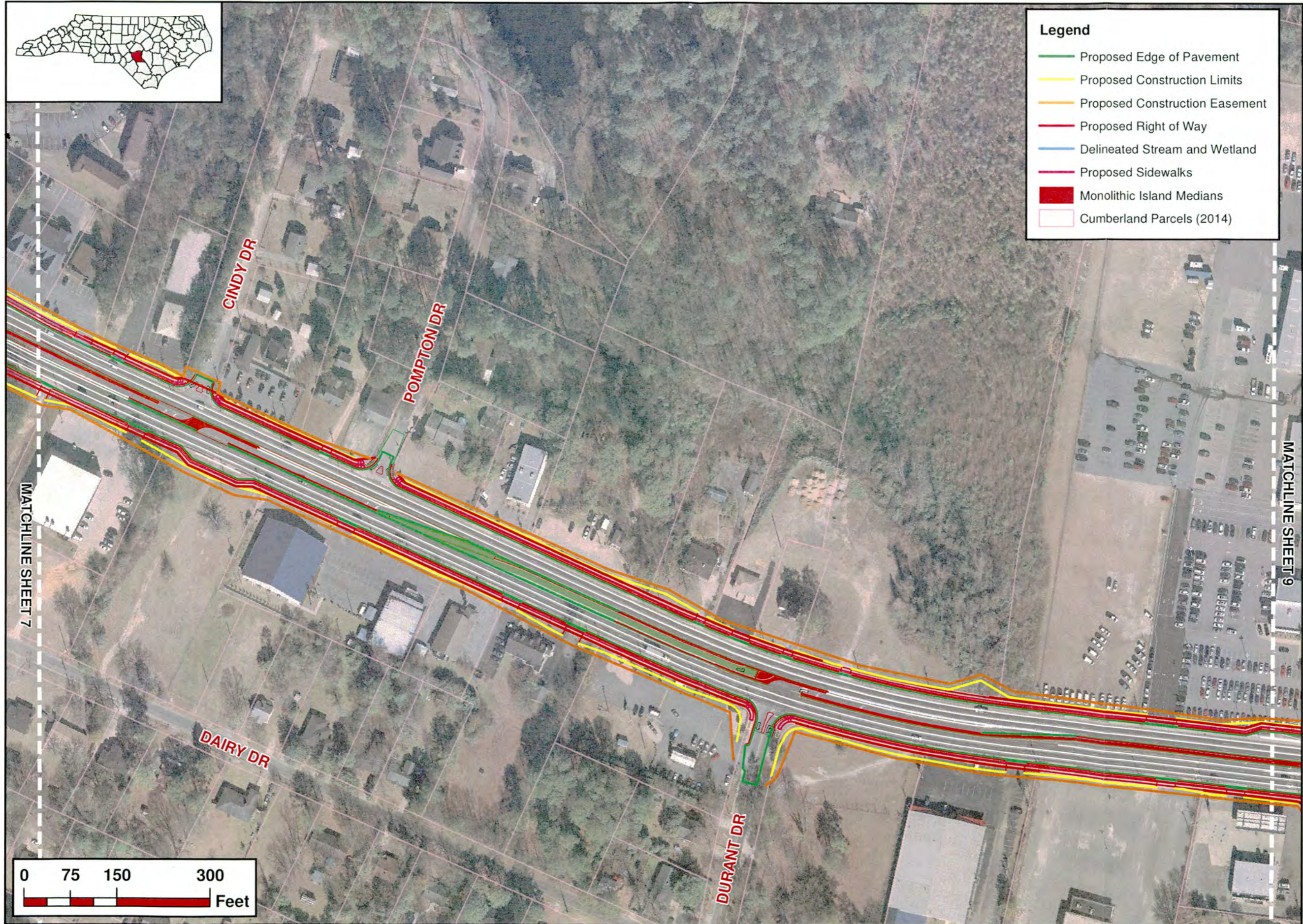
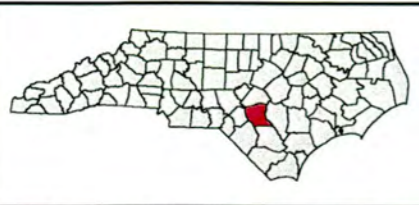
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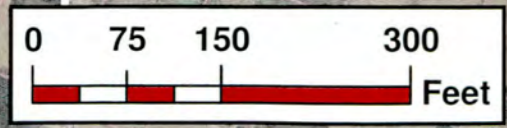


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Legend

- Proposed Edge of Pavement
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By: J.TORTORELLA



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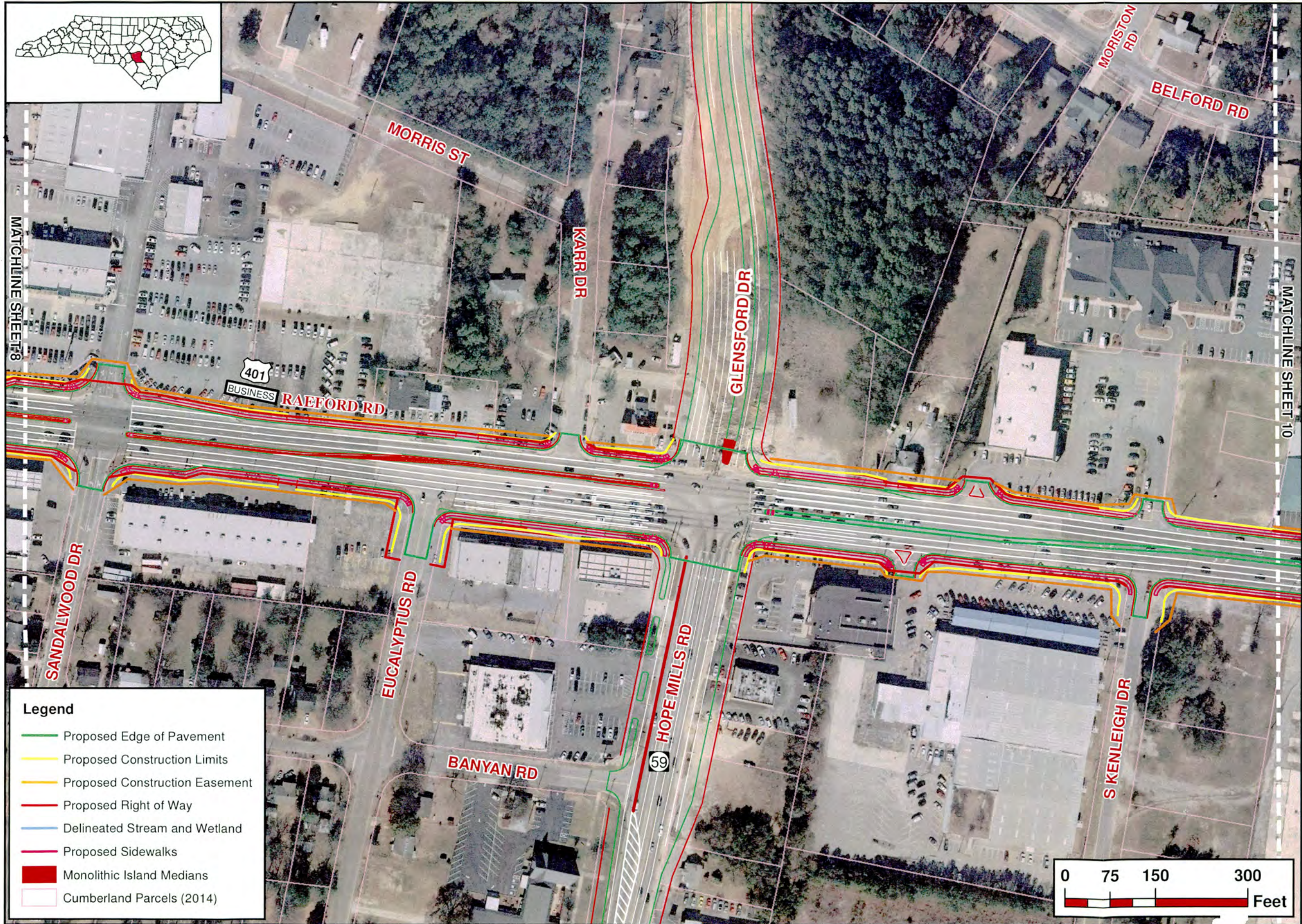
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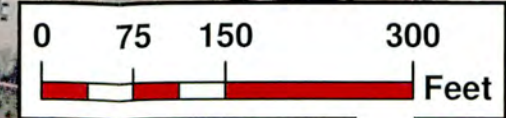
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Sheet 8



Legend

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NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
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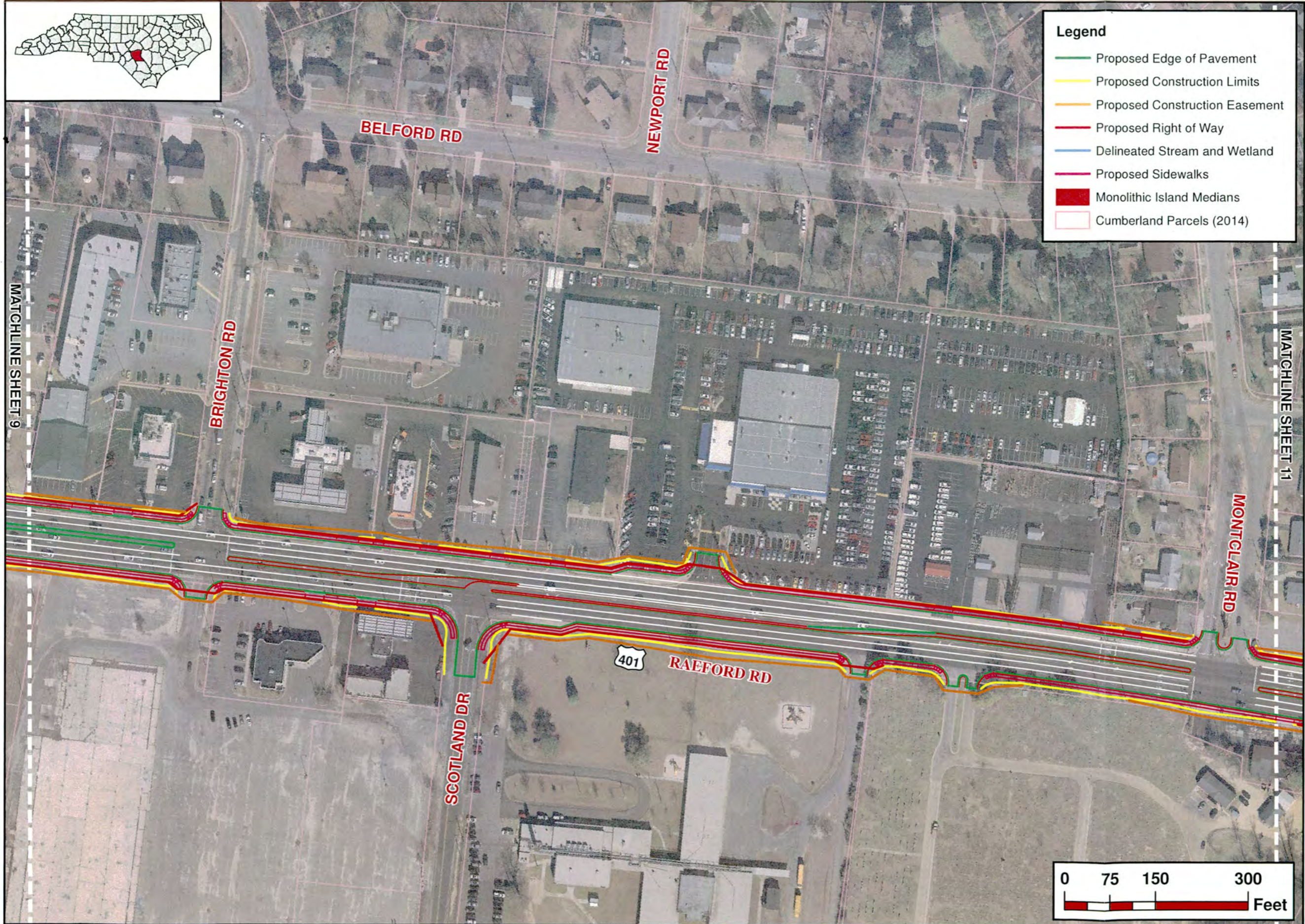
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By: J.TORTORELLA



Legend

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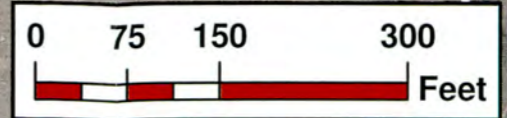
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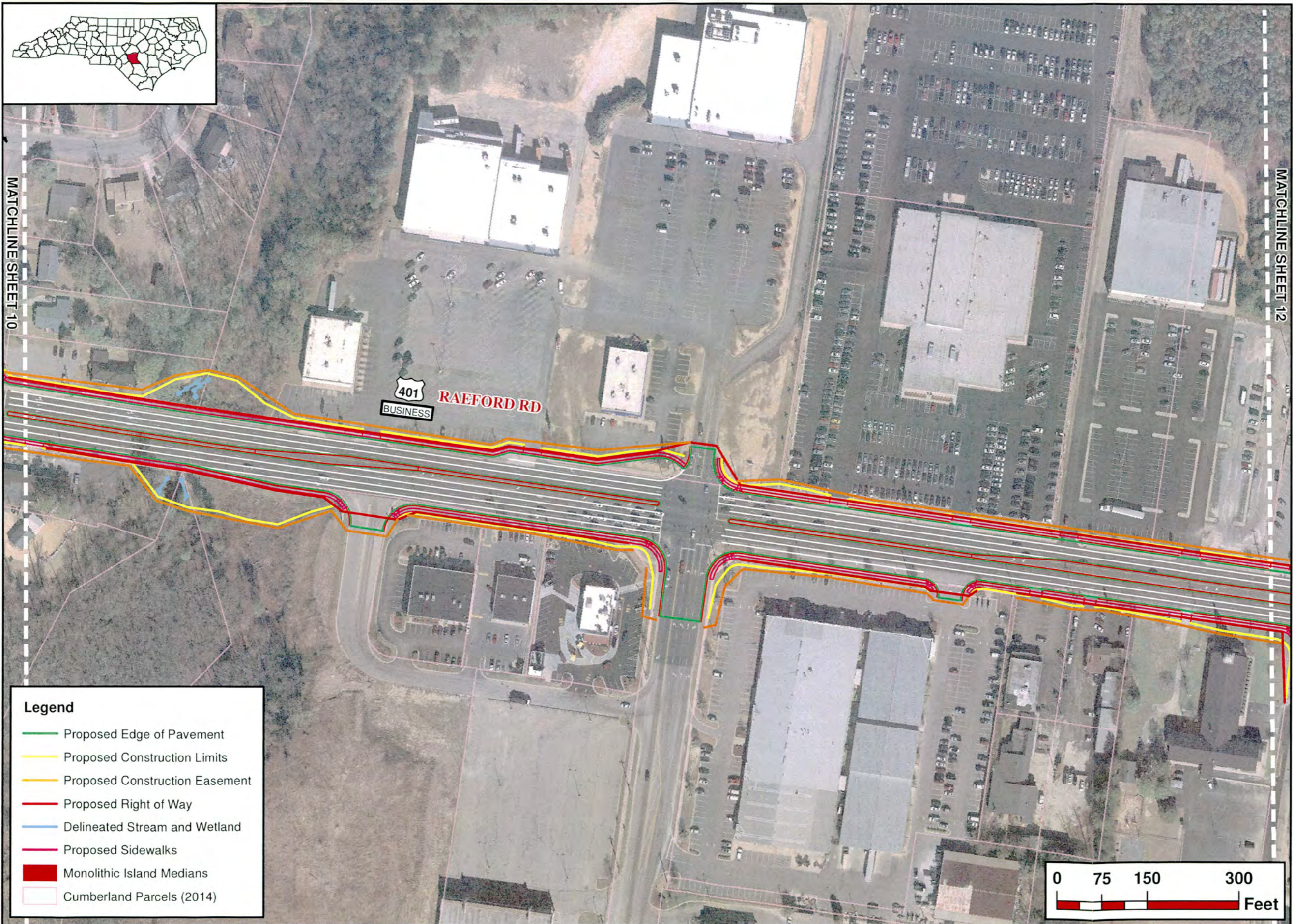
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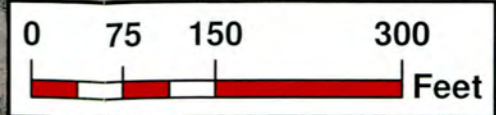
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Legend

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DETAILED STUDY ALTERNATIVE MAP
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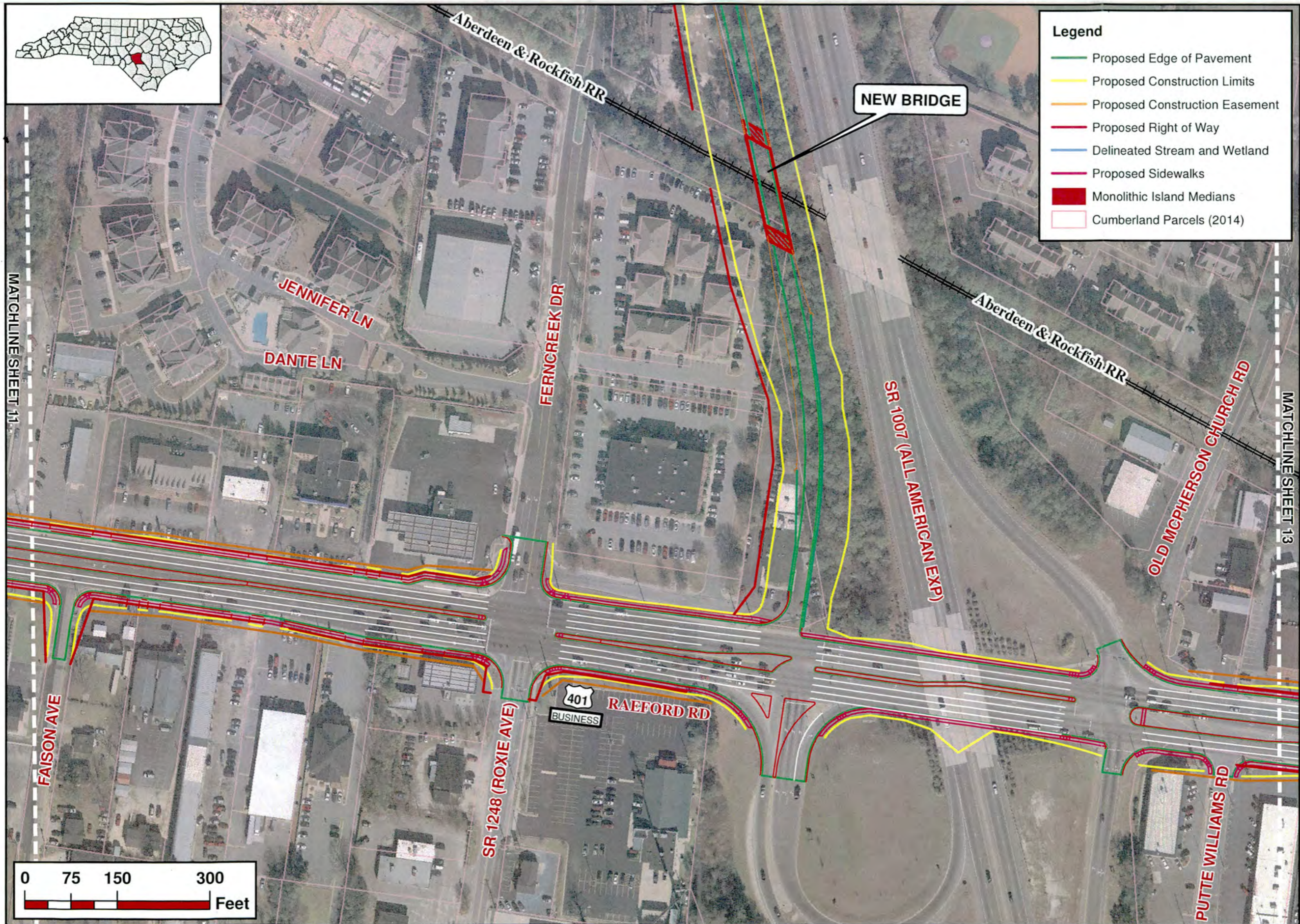


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MATCHLINE SHEET 10

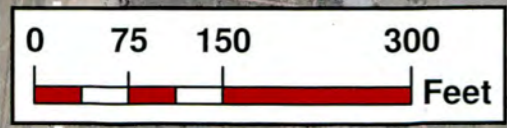
MATCHLINE SHEET 12

By: J.TORTORELLA



Legend

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- Monolithic Island Medians
- Cumberland Parcels (2014)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

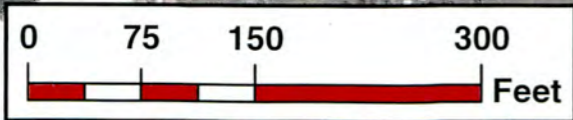
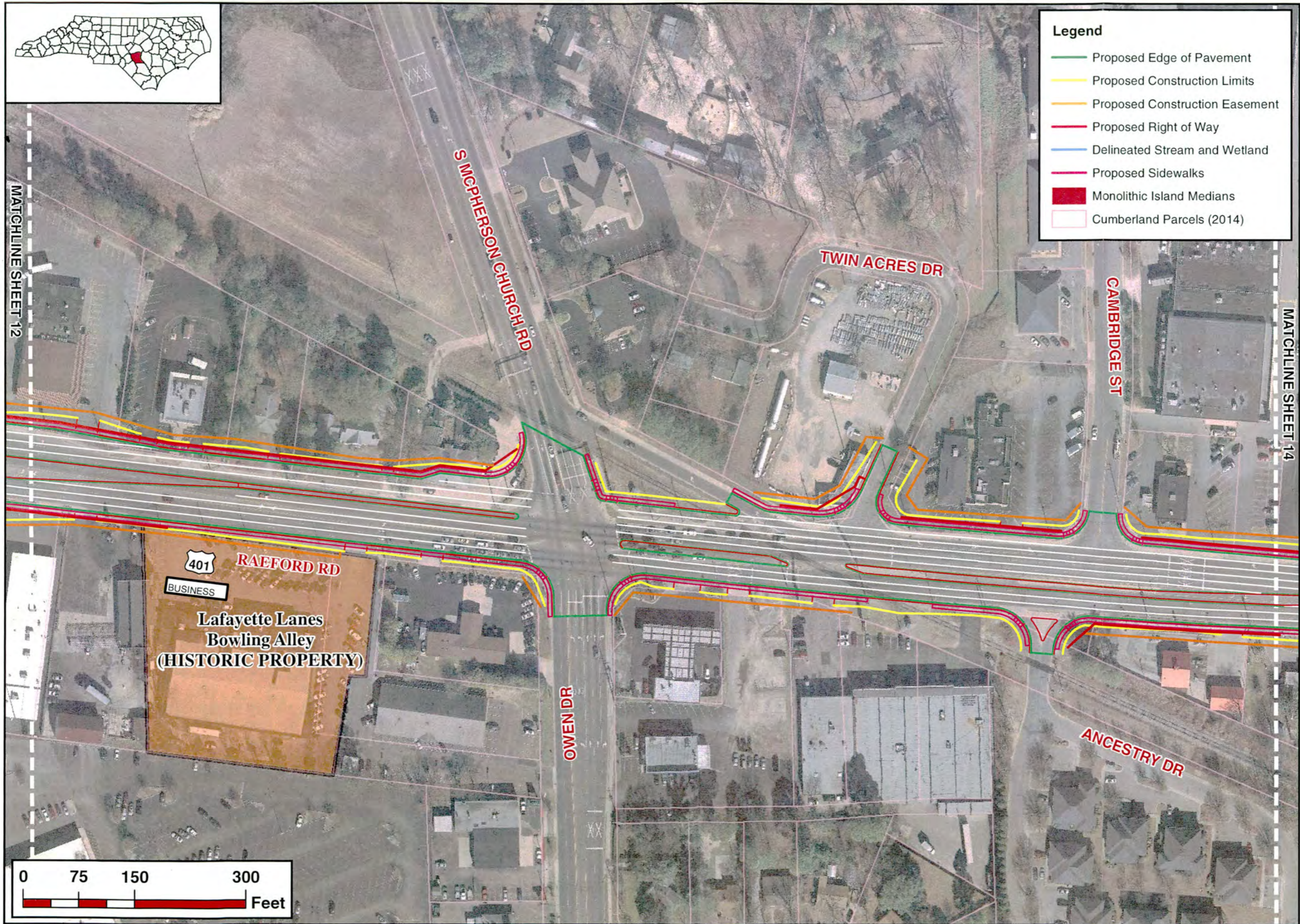
DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



County: CUMBERLAND	
Div: 6	TIP# U-4405
WBS: 39049.1.1	
Date: February 2016	

Figure
2
Sheet 12

By: J.TORTORELLA



By: J.TORTORELLA

Legend

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Construction Easement
- Proposed Right of Way
- Delineated Stream and Wetland
- Proposed Sidewalks
- Monolithic Island Medians
- Cumberland Parcels (2014)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



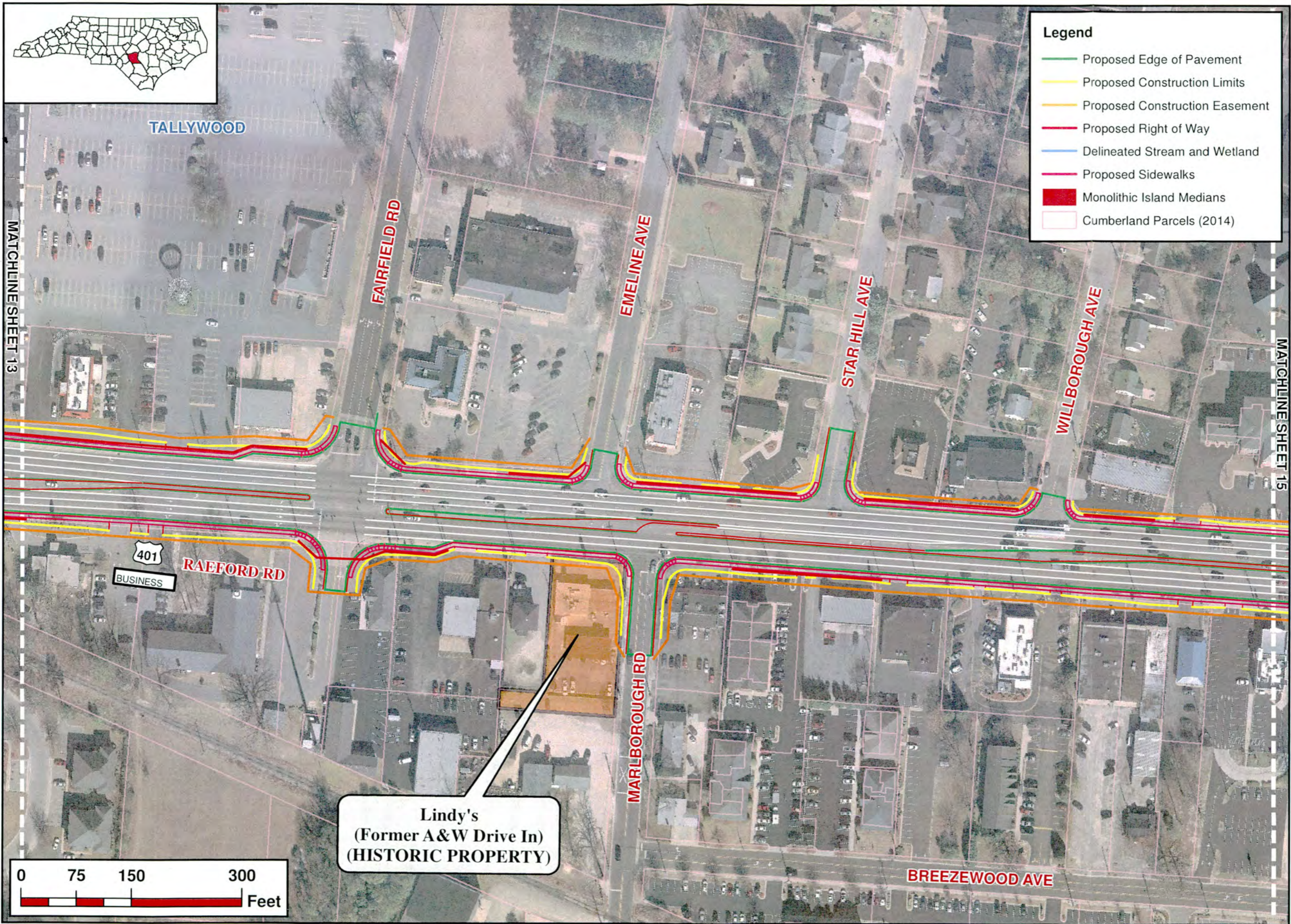
County:
CUMBERLAND

Div: 6 TIP# U-4405

WBS:
39049.1.1

Date:
February 2016

Figure
2
Sheet 13



Legend

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Construction Easement
- Proposed Right of Way
- Delineated Stream and Wetland
- Proposed Sidewalks
- Monolithic Island Medians
- Cumberland Parcels (2014)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



County: CUMBERLAND

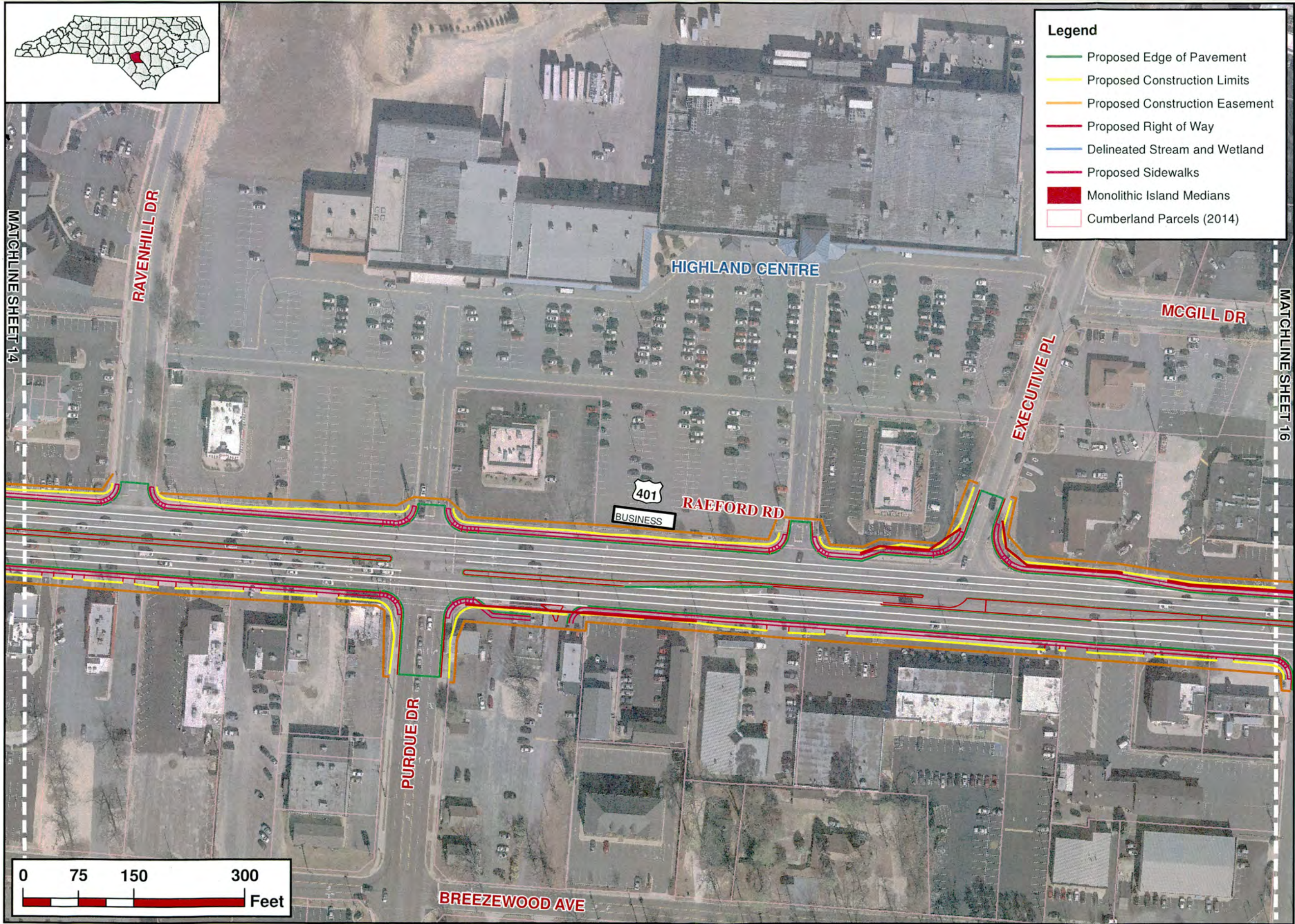
Div: 6 TIP# U-4405

WBS: 39049.1.1

Date: February 2016

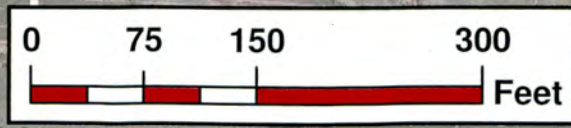
Figure
2
Sheet 14

By: J. TORTORELLA



Legend

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Construction Easement
- Proposed Right of Way
- Delineated Stream and Wetland
- Proposed Sidewalks
- Monolithic Island Medians
- Cumberland Parcels (2014)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



County:
CUMBERLAND

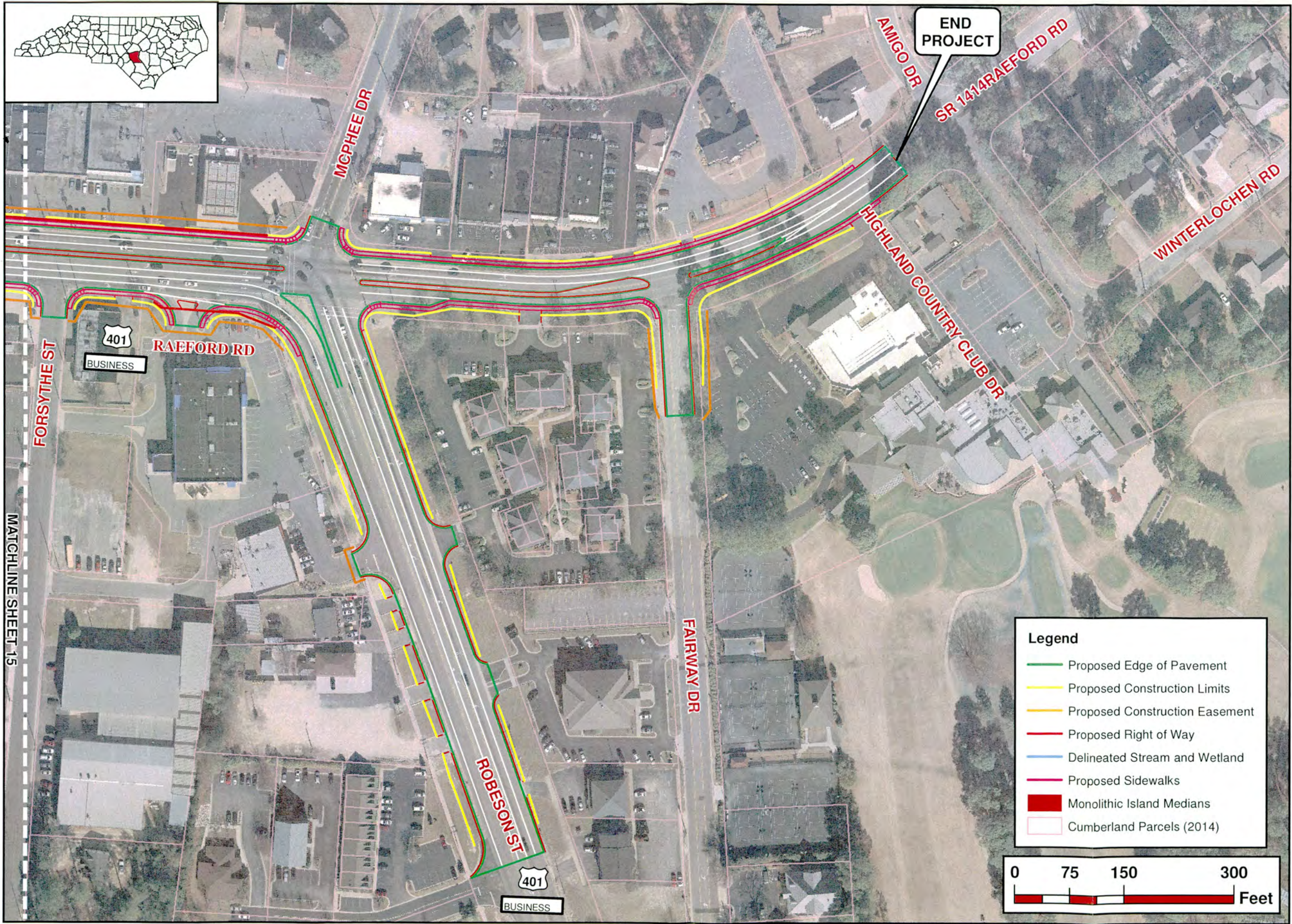
Div: 6 TIP# U-4405

WBS:
39049.1.1

Date:
February 2016

Figure
2
Sheet 15

By: J. TORTORELLA

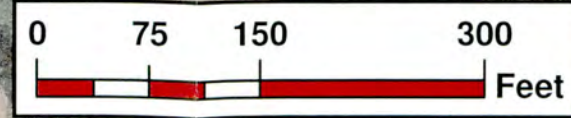


MATCHLINE SHEET 15

By: J. TORTORELLA

Legend

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Construction Easement
- Proposed Right of Way
- Delineated Stream and Wetland
- Proposed Sidewalks
- Monolithic Island Medians
- Cumberland Parcels (2014)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

DETAILED STUDY ALTERNATIVE MAP
US 401 (RAEFORD RD) FROM
WEST OF HAMPTON OAKS DRIVE TO
EAST OF FAIRWAY DRIVE
FAYETTEVILLE
CUMBERLAND COUNTY
TIP PROJECT U-4405



County:
CUMBERLAND

Div: 6 TIP#
U-4405

WBS:
39049.1.1

Date:
JUNE 2014

Figure
2
Sheet 16



Project Study Area

Match Sheet

Jurisdictional Wetland*

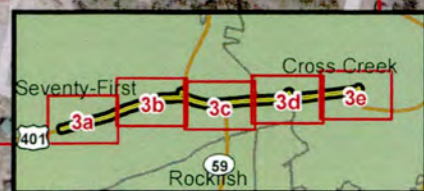
Jurisdictional Stream*

*Location and extent is approximate.

0 250 500
Feet

Sources: 2010 ESRI/Bing base hybrid map;
Project Study Area provided by NCDOT.
Wetland and Stream mapping provided by
Taylor Wiseman & Taylor.

Disclaimer: The information depicted on this figure is for
informational purposes only and was not prepared for, and is
not suitable for legal or engineering purposes.



Project:	ER10060.10
Date:	Sep 2012
Dwn/Chkd:	KT/GT
Figure:	3a

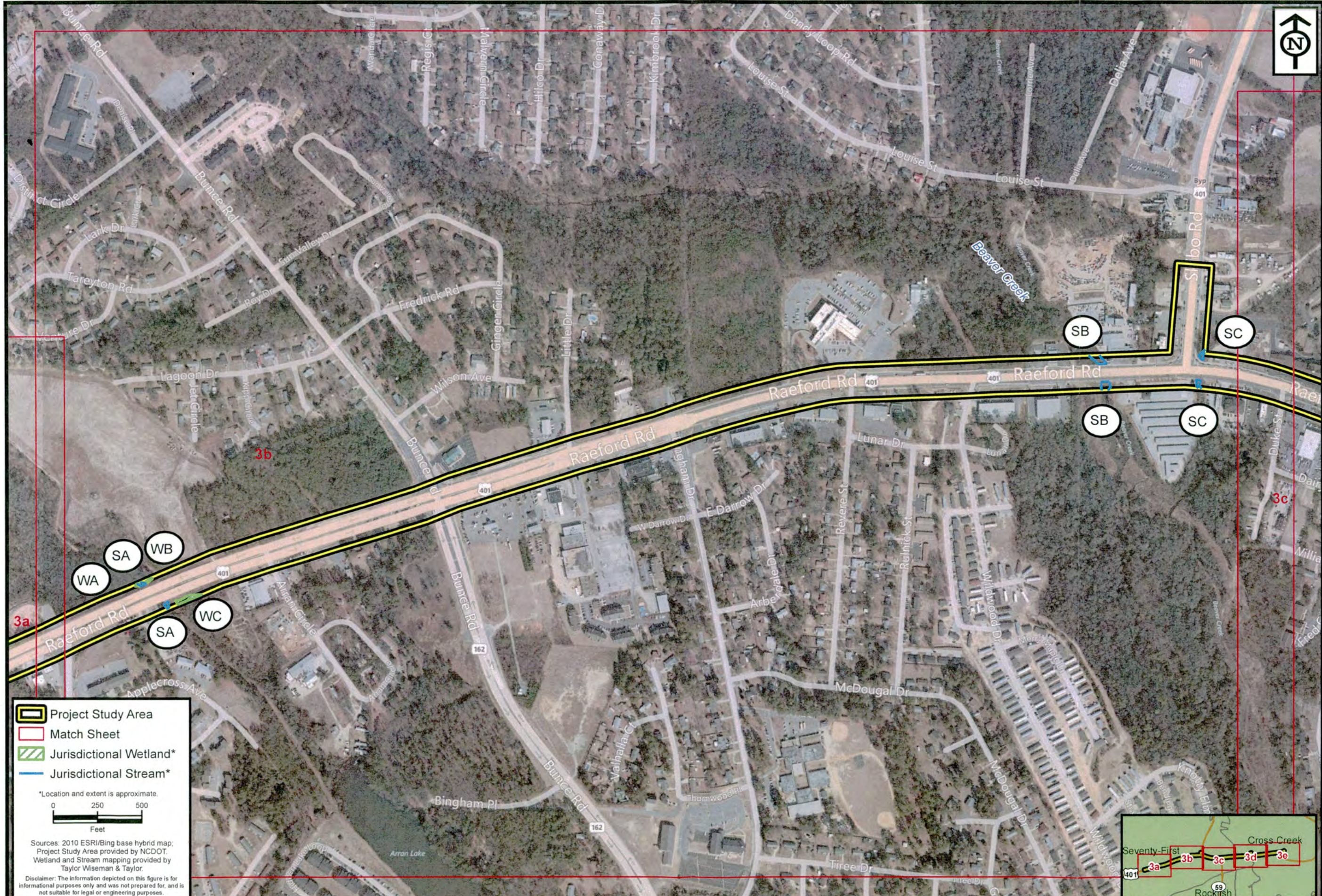
Jurisdictional Features Map

U-4405 WBS Element No. 39049.1.1

US 401 (Raeford Road) Improvements

Cumberland County, North Carolina





Project Study Area
 Match Sheet
 Jurisdictional Wetland*
 Jurisdictional Stream*

*Location and extent is approximate.

0 250 500
Feet

Sources: 2010 ESRI/Bing base hybrid map;
Project Study Area provided by NCDOT.
Wetland and Stream mapping provided by
Taylor Wiseman & Taylor.

Disclaimer: The information depicted on this figure is for
informational purposes only and was not prepared for, and is
not suitable for legal or engineering purposes.

Project:	ER10060.10
Date:	Sep 2012
Dwn/Chkd:	KT/GT
Figure:	3b

Jurisdictional Features Map
U-4405 WBS Element No. 39049.1.1
US 401 (Raeford Road) Improvements
 Cumberland County, North Carolina





Legend

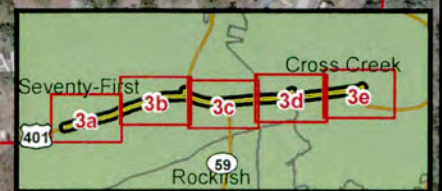
- Project Study Area
- Match Sheet
- Jurisdictional Wetland*
- Jurisdictional Stream*

*Location and extent is approximate.

0 250 500
Feet

Sources: 2010 ESRI/Bing base hybrid map;
Project Study Area provided by NCDOT.
Wetland and Stream mapping provided by
Taylor Wiseman & Taylor.

Disclaimer: The information depicted on this figure is for
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Project:	ER10060.10
Date:	Sep 2012
Dwn/Chkd:	KT/GT
Figure:	3c

Jurisdictional Features Map
U-4405 WBS Element No. 39049.1.1
US 401 (Raeford Road) Improvements
 Cumberland County, North Carolina





Legend

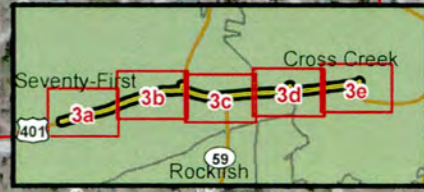
- Project Study Area
- Match Sheet
- Jurisdictional Wetland*
- Jurisdictional Stream*

*Location and extent is approximate.

0 250 500
Feet

Sources: 2010 ESRI/Bing base hybrid map;
Project Study Area provided by NCDOT.
Wetland and Stream mapping provided by
Taylor Wiseman & Taylor.

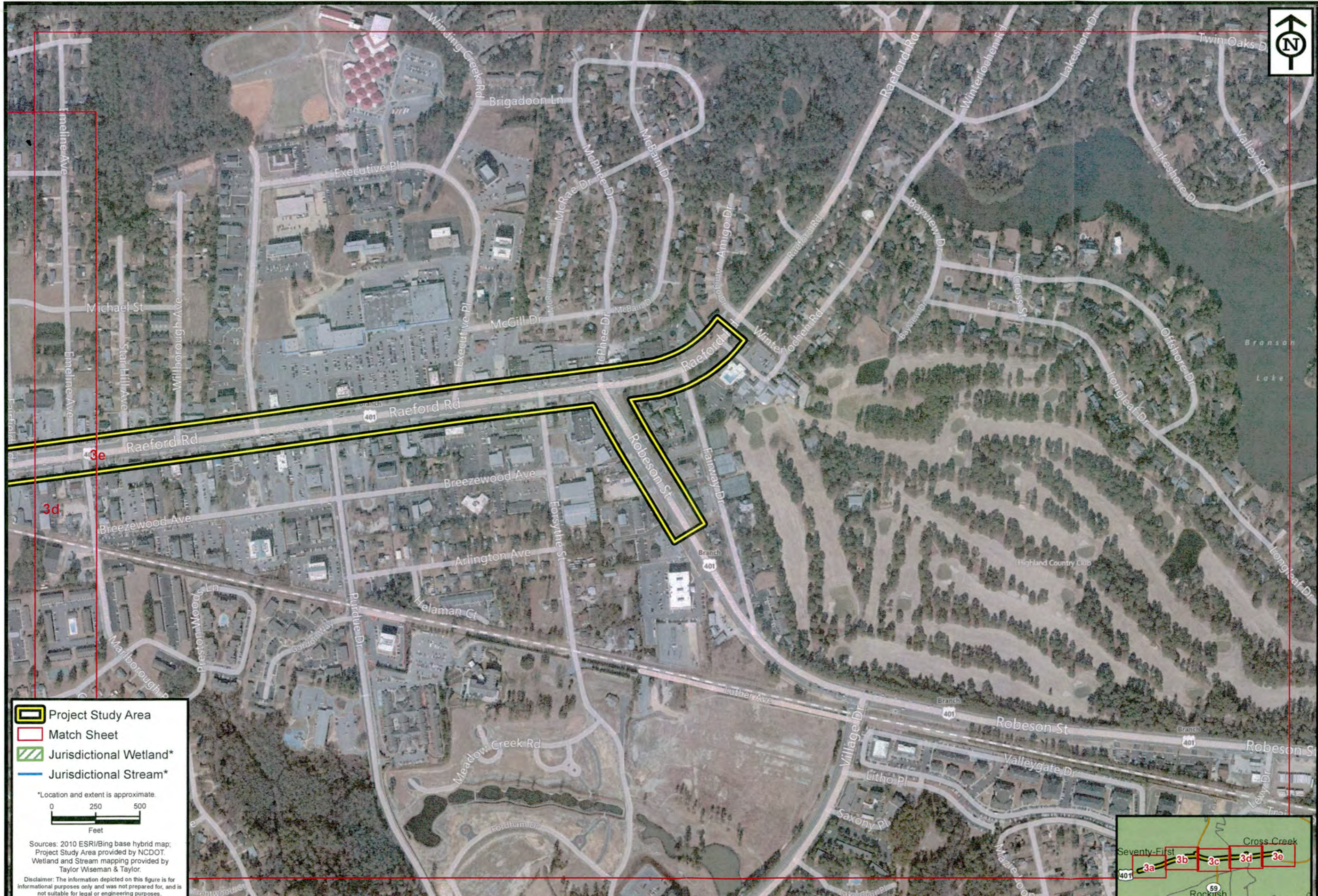
Disclaimer: The information depicted on this figure is for
informational purposes only and was not prepared for, and is
not suitable for legal or engineering purposes.



Project:	ER10060.10
Date:	Sep 2012
Dwn/Chkd:	KT/GT
Figure:	3d

Jurisdictional Features Map
U-4405 WBS Element No. 39049.1.1
US 401 (Raeford Road) Improvements
 Cumberland County, North Carolina





Project: ER10060.10
 Date: Sep 2012
 Dwn/Chkd: KT/GT
 Figure: 3e

Jurisdictional Features Map
U-4405 WBS Element No. 39049.1.1
US 401 (Raeford Road) Improvements
 Cumberland County, North Carolina

Legend

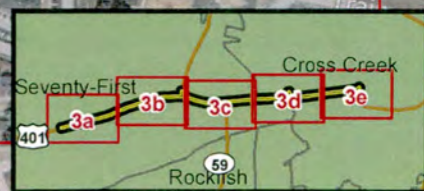
- Project Study Area
- Match Sheet
- Jurisdictional Wetland*
- Jurisdictional Stream*

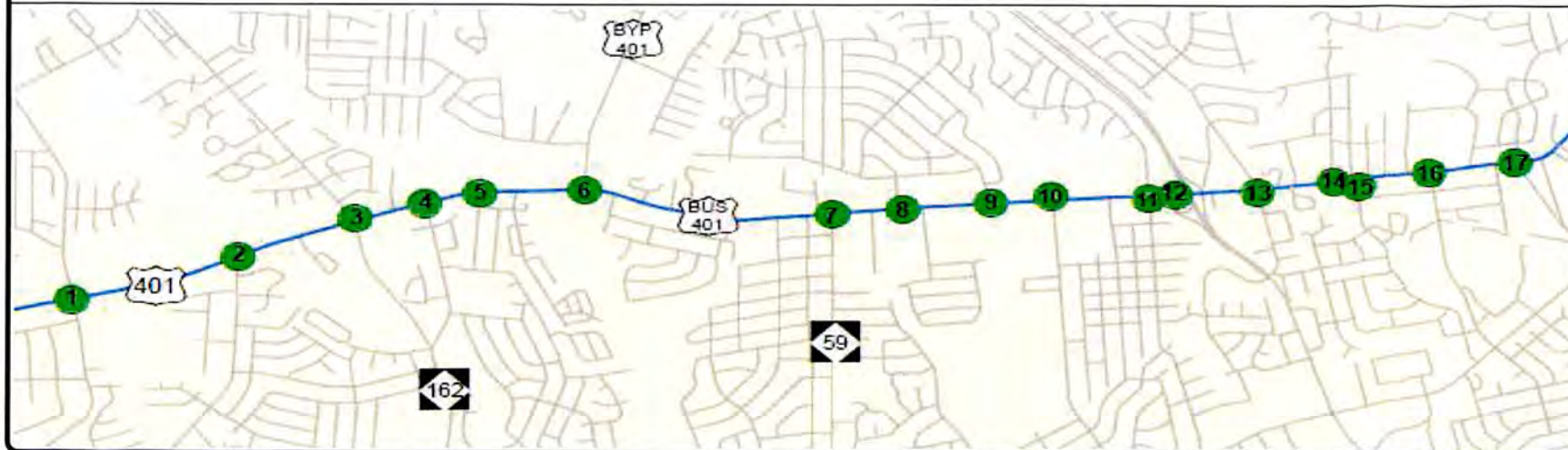
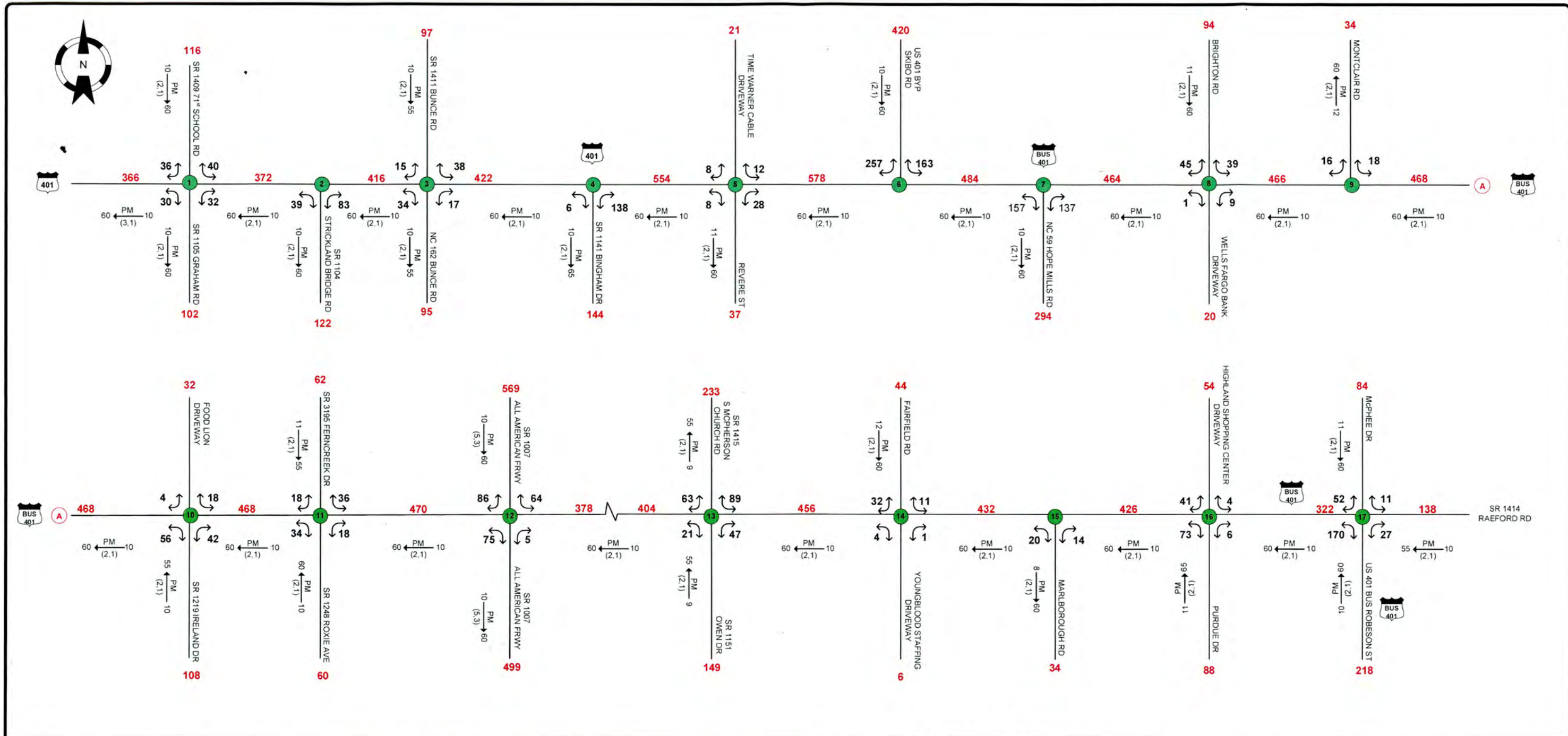
*Location and extent is approximate.

0 250 500
 Feet

Sources: 2010 ESRI/Bing base hybrid map;
 Project Study Area provided by NCDOT.
 Wetland and Stream mapping provided by
 Taylor Wiseman & Taylor.

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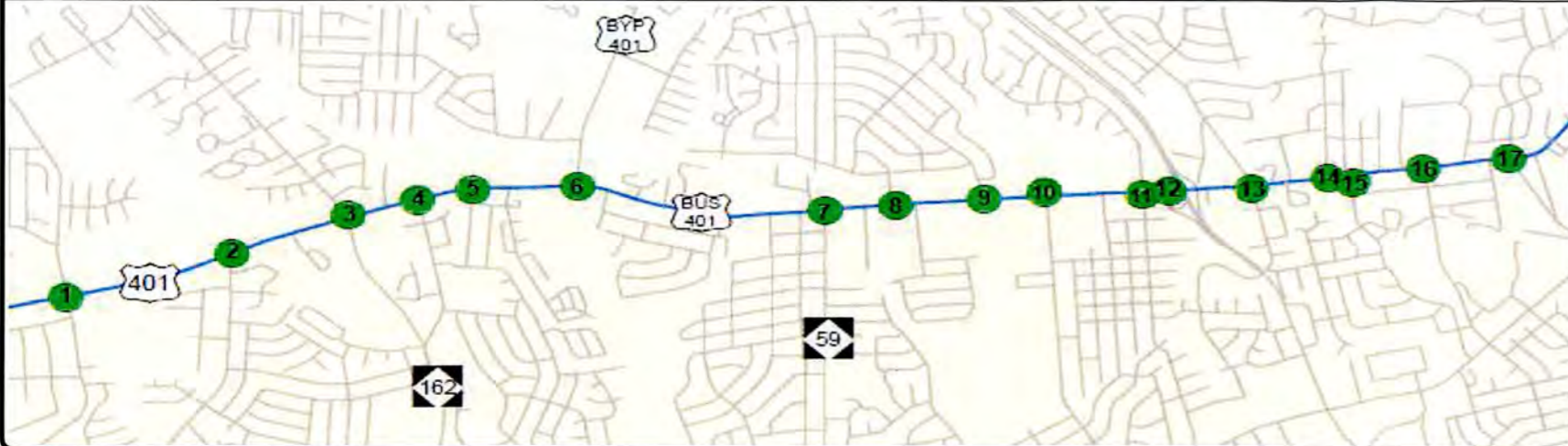
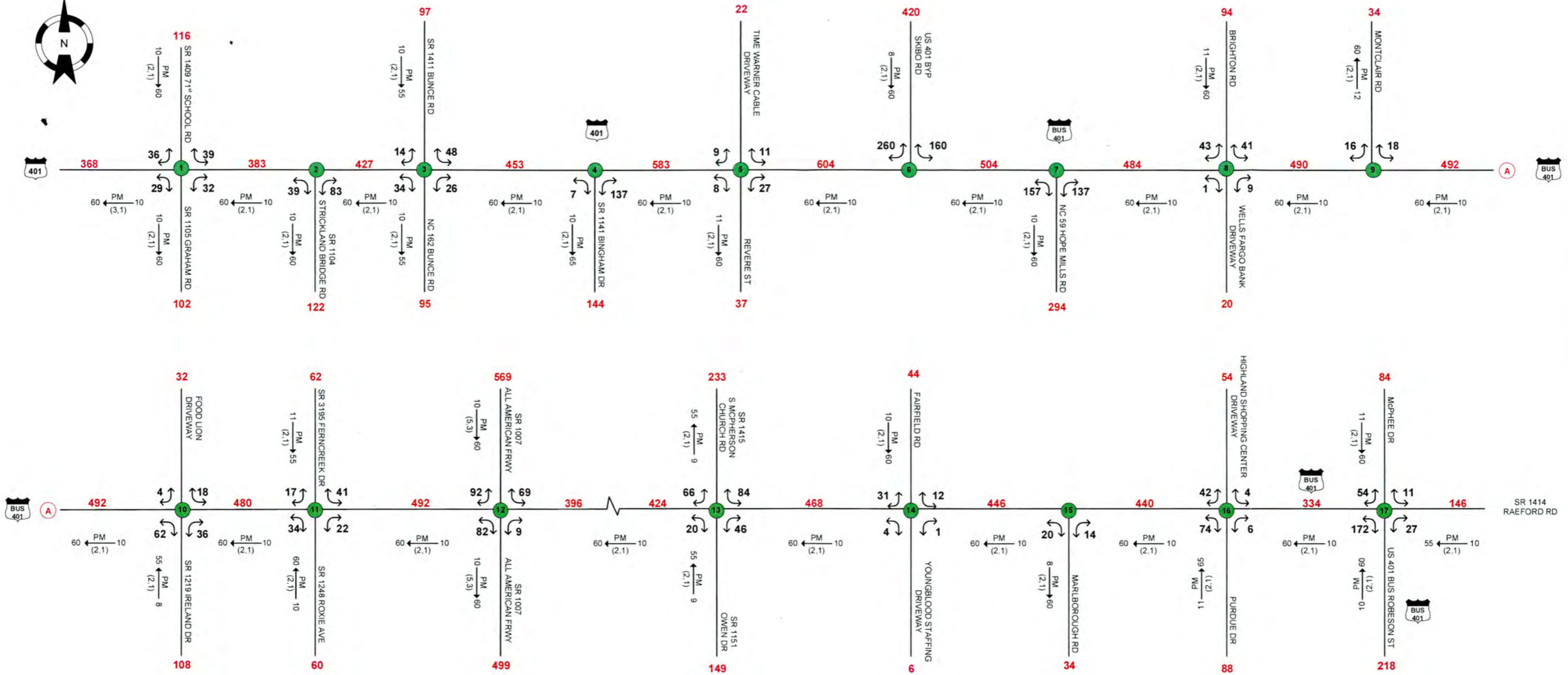
2011 AVERAGE ANNUAL DAILY TRAFFIC

LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Proposed Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d, t) Duals, TT-STs (%)

NO BUILD		SHEET 1 OF 4	
TIP: U-4405	WBS: 39049.1.1	COUNTY: Cumberland	DIVISION: 6
DATE: 09-21-2012			
PREPARED BY: Darius Sturdivant			
LOCATION: US401/US 401 Business (Raeford Road) from SR 1409 (71 st School Road) to US 401 Business (Robeson Street).			
PROJECT: Construct raised median and make access management improvements.			

Figure 4 Sheet 1



2011 AVERAGE ANNUAL DAILY TRAFFIC

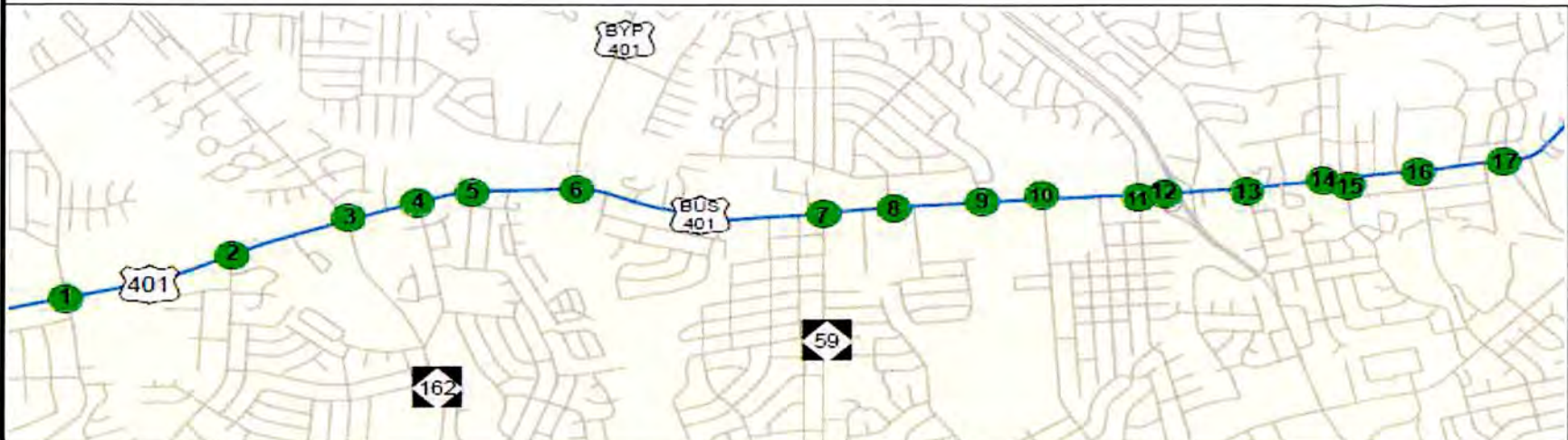
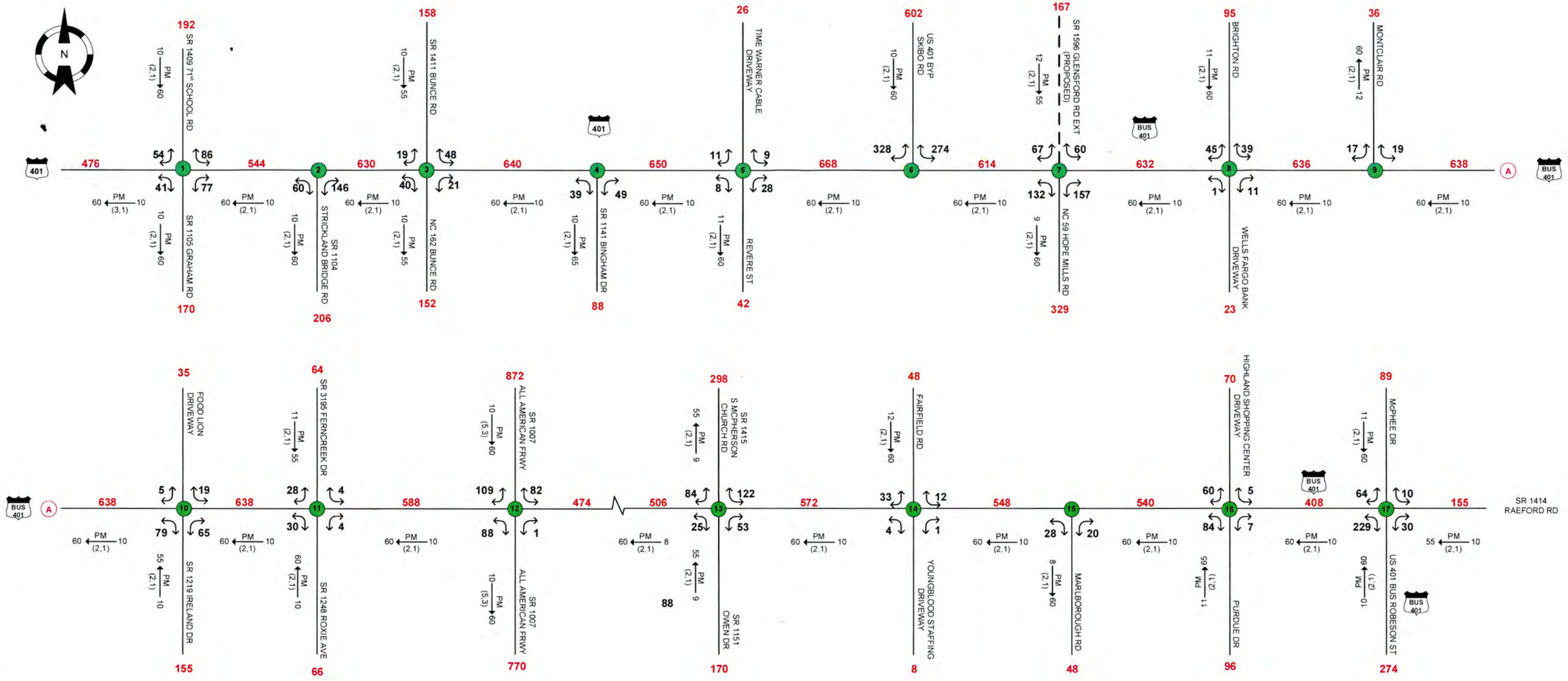
BUILD SHEET 2 OF 4

LEGEND

###	No. of Vehicles Per Day (VPD) in 100s	K	Design Hour Factor (%)
1-	Less than 50 VPD	PM	PM Peak Period
X	Movement Prohibited	D	Peak Hour Directional Split
.....	Proposed Roadway	→	Indicates Direction of D
		(d, t)	Duals, TT-STs (%)

Figure 4 Sheet 2

TIP: U-4405	WBS: 39049.1.1
COUNTY: Cumberland	DIVISION: 6
DATE: 09-21-2012	
PREPARED BY: Darius Sturdivant	
LOCATION: US401/US 401 Business (Raeford Road) from SR 1409 (71 st School Road) to US 401 Business (Robeson Street).	
PROJECT: Construct raised median and make access management improvements.	



2035 AVERAGE ANNUAL DAILY TRAFFIC

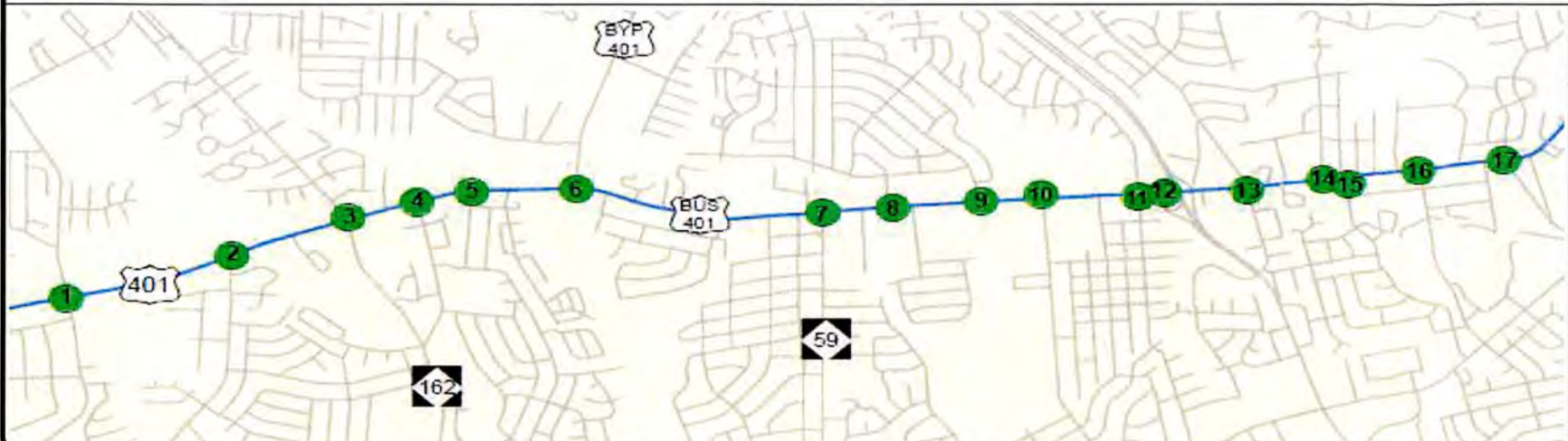
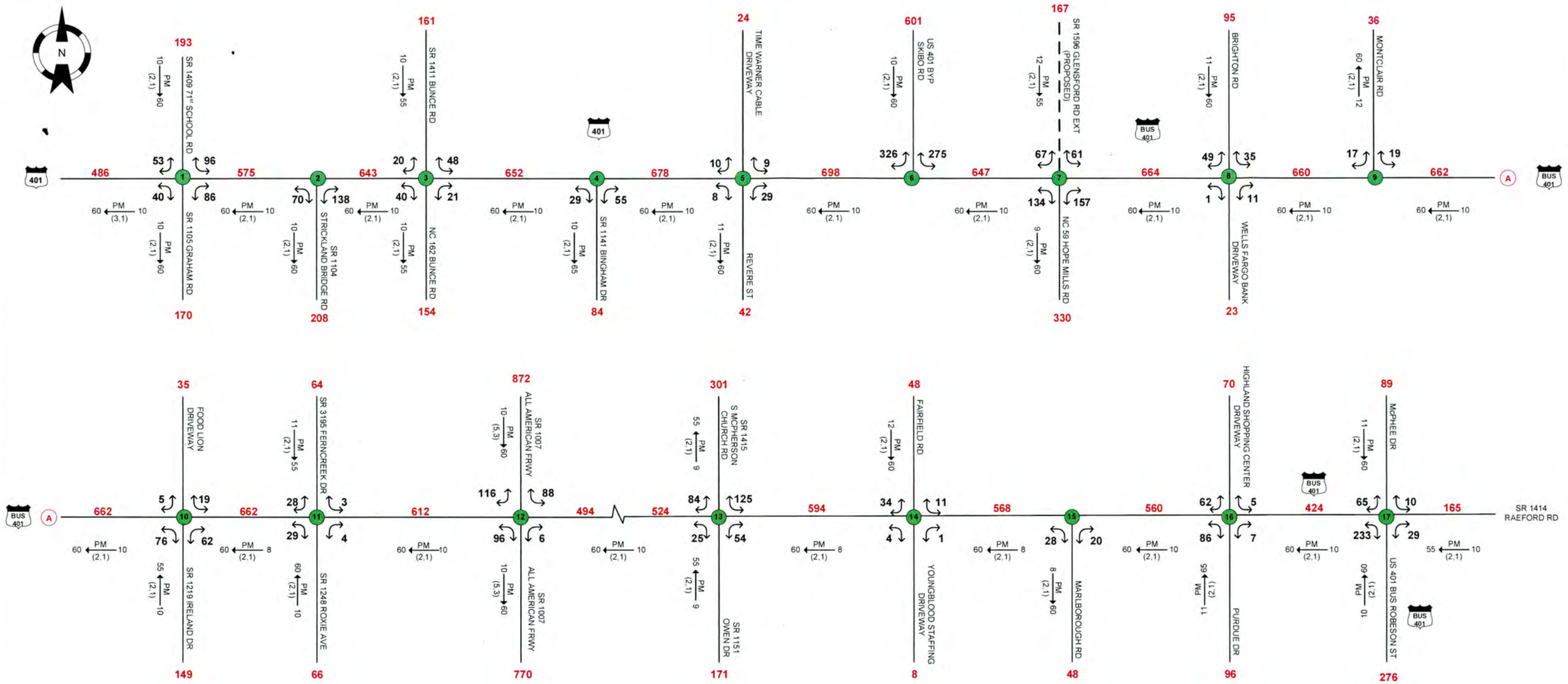
NO BUILD
SHEET 3 OF 4

LEGEND

###	No. of Vehicles Per Day (VPD) in 100s	K	Design Hour Factor (%)
1-	Less than 50 VPD	PM	PM Peak Period
x	Movement Prohibited	D	Peak Hour Directional Split
.....	Proposed Roadway	→	Indicates Direction of D
		(d, t)	Duals, TT-STs (%)

Figure 4 Sheet 3

TIP: U-4405	WBS: 39049.1.1
COUNTY: Cumberland	DIVISION: 6
DATE: 09-21-2012	
PREPARED BY: Darius Sturdivant	
LOCATION: US401/US 401 Business (Raeford Road) from SR 1409 (71 st School Road) to US 401 Business (Robeson Street).	
PROJECT: Construct raised median and make access management improvements.	



2035 AVERAGE ANNUAL DAILY TRAFFIC

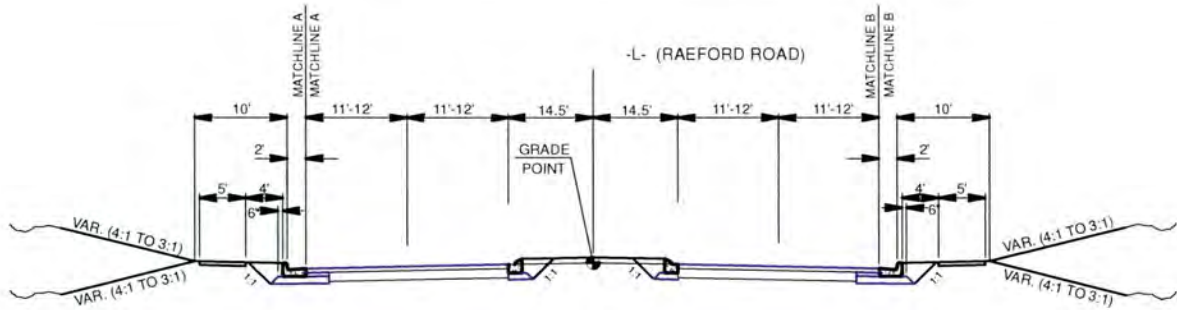
BUILD SHEET 4 OF 4

LEGEND

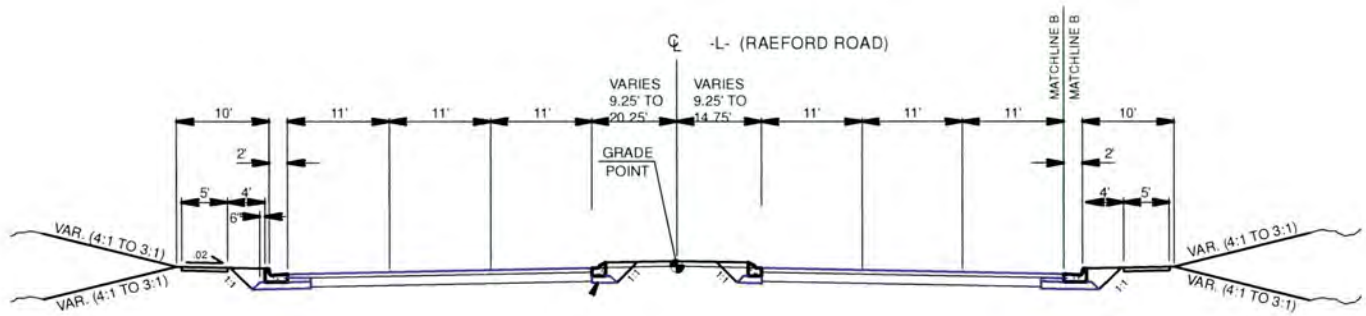
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- x Movement Prohibited
- Proposed Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d, t) Duals, TT-STs (%)

Figure 4 Sheet 4

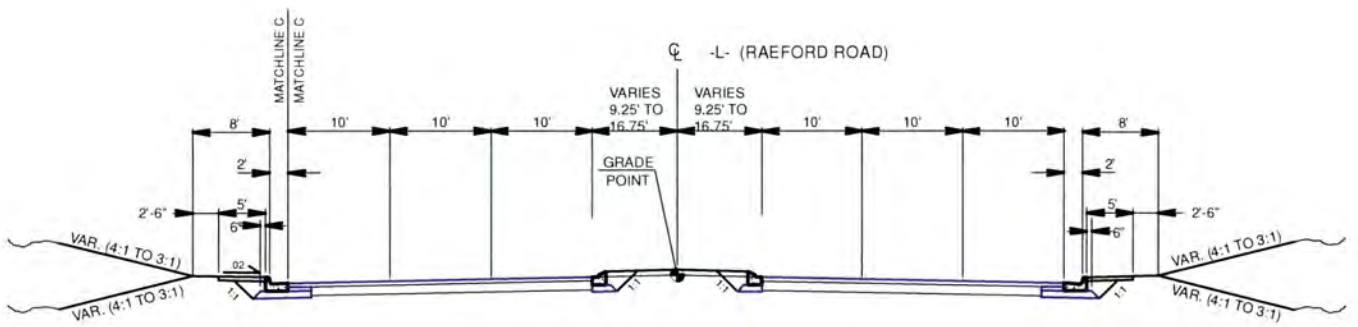
TIP: U-4405	WBS: 39049.1.1
COUNTY: Cumberland	DIVISION: 6
DATE: 09-21-2012	
PREPARED BY: Darius Sturdivant	
LOCATION: US401/US 401 Business (Raeford Road) from SR 1409 (71 st School Road) to US 401 Business (Robeson Street).	
PROJECT: Construct raised median and make access management improvements.	




TYPICAL SECTION 1
HAMPTON OAKS DRIVE TO 71st SCHOOL ROAD / GRAHAM ROAD



TYPICAL SECTION 2
71st SCHOOL ROAD/ GRAHAM ROAD TO OWEN DRIVE



TYPICAL SECTION 3
OWEN DRIVE TO ROBESON STREET

 <p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT</p>	TYPICAL SECTION MAP US 401 (RAEFORD RD) FROM WEST OF HAMPTON OAKS DRIVE TO EAST OF FAIRWAY DRIVE FAYETTEVILLE CUMBERLAND COUNTY TIP PROJECT U-4405		County: CUMBERLAND	Figure 5
			Div: 6 TIP# U-4405	
			WBS: 39049.1.1	
			Date: March 2016	

By: J.TORTORELLA

APPENDIX A

AGENCY COMMENTS



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

October 12, 2011

RECEIVED
Division of Highways
OCT 14 2011
Preconstruction
Project Development and
Environmental Analysis Branch

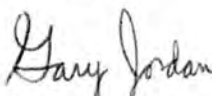
Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed improvements to US 401/US 401 Business (Raeford Road) from SR 1409 (71st School Road) to US 401 Business (Robeson Street) in Fayetteville, Cumberland County, North Carolina (TIP No. U-4405). These comments provide information in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

Due to the urban and highly developed nature of the study area, we believe impacts to fish and wildlife resources will be negligible. It appears that no habitat for federally threatened or endangered species occurs within the project area. Therefore, the Service has no objections or concerns for this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,

for 
Pete Benjamin
Field Supervisor



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

TO: Matthew Potter, PE
Project Development Engineer, NCDOT

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: October 24, 2011

SUBJECT: Response to the start of study notification from the N. C. Department of Transportation (NCDOT) regarding fish and wildlife concerns for the proposed improvements to US 401 in Fayetteville, Cumberland County, North Carolina. TIP No. U-4405

This memorandum responds to a request from the NCDOT for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. Biologists on the staff of the N. C. Wildlife Resources Commission (NCWRC) have reviewed the proposed improvements. Our comments are provided in accordance with certain 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).

At this time we do not have any specific concerns related to this project. To help facilitate document preparation and the review process, our general informational 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:

NC Natural Heritage Program
Dept. of Environment & Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601.
WWW.ncnhp.org

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. The need for channelizing or relocating portions of streams crossed and the extent of such activities.
3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages 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 (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.
4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.
5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).
6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.
7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.
8. 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 for this project. If we can further assist your office, please contact me at (919) 528-9886.

Potter, Matthew W

From: Militscher.Chris@epamail.epa.gov
Sent: Thursday, September 29, 2011 2:32 PM
To: Potter, Matthew W
Cc: Ronnie.D.Smith@usace.army.mil; Herndon, Mason
Subject: U-4405, Start of Study, US 401/US 401 Bus.

Matthew: EPA has reviewed the Start of Study package for the above referenced 10.6-mile improvements project and offer the following comments:

1. US 401 Bus. is proposed to be changed from 7-lanes with center turning lane to 6-lane median divided.
2. US 401 is currently 4-lane median divided....and is proposed to be 4-lane median divided. Please provide a general indication what changes are being proposed.
3. The existing speed limit is 45-55 mph. The proposed speed limit is 45 to 65 mph. There is no control of access on the existing multi-lane facility. There is no control of access proposed for the 'improved' facility.
4. The FAMPO CTP identifies Raeford Road (US 401) as a Boulevard needing improvements. The SHC Plan indicates that Boulevard speed limits are recommended at 30 to 55 mph.
5. 2010 AADT is provided (31,000 to 55,000). There is no Design Year AADT identified.
6. The Natural and Human Environmental Features section is blank.
7. From a NCDWQ website, it appears that US 401 Bus./US 401 cross an UT to Little Rockfish Creek, Beaver Creek, and other smaller tributaries.
8. There appears to be numerous businesses located close to the existing roadway facilities.
9. A CE is proposed under NEPA.

Thank you for the opportunity to comment.

Christopher A. Militscher, REM, CHMM
USEPA Region 4 Raleigh Office
919-856-4206



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

October 24, 2011

RECEIVED
Division of Highways

OCT 28 2011

Preconstruction
Project Development and
Environmental Analysis Branch

Regulatory Division

Action ID. No. SAW-2011-01806; U-4405, Cumberland County

Dr. Gregory J. Thorpe, Ph.D.
Environmental Management Director
North Carolina Department of Transportation
Project Development & Environmental Analysis
1548 Mail Service Center
Raleigh, N.C. 27699-1548

Dear Dr. Thorpe:

Reference is made to your letter of September 23, 2011, regarding proposed access management improvements and the construction of a raised median along US 401/US 401 Business (Raeford Road) from SR 1409 (71st School Road) to US 401 Business (Raeford Road) in Fayetteville, Cumberland County, North Carolina. The letter requested information to assist in evaluating potential environmental impacts of the project.

We have reviewed the subject documents and determined that, based upon a review of the information provided and available maps, the construction of this project may impact streams and/or wetlands within the work corridor. Please be aware that impacts associated with the discharge of fill into jurisdictional waters of the United States are subject to our regulatory authority pursuant to Section 404 of the Clean Water Act. Any discharge of excavated or fill material into waters of the United States and/or any adjacent wetlands would require Department of the Army (DA) permit authorization. The type of DA authorization required (i.e., general or individual permit) will be determined by the location, type, and extent of jurisdictional area impacted by the project, and by the project design and construction limits.

Until additional data is furnished which details the extent of the construction limits of the proposed project, and an onsite inspection is completed with regard to determinations of the presence of jurisdictional waters in the project area, we are unable to verify that the project will not have jurisdictional impacts, or to provide specific comments concerning DA permit requirements or a recommendation of alternatives. To assist you with determining permitting requirements, we recommend that you perform a detailed delineation of the streams and/or wetlands present on the project site. When this

information becomes available, it should be forwarded to our office for review and comment, as well as a determination of DA permit eligibility.

Should you have any further questions related to DA permits for this project, please contact me at (910) 251-4829.

Sincerely,



Ronnie Smith
NCDOT, Project Manager
Wilmington Regulatory Field Office

Copies Furnished:

Mr. Matthew Potter
North Carolina Department of
Transportation
Project Development & Environmental
Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548

Mr. Chris Militcher
United States Environmental Protection
Agency
c/o Federal Highway Administration
310 New Bern Avenue, Room 206
Raleigh, NC 27601

Mr. Mason Herndon
NCDENR-DWQ
225 Green Street, Suite 214
Fayetteville, NC 28301-5094

CESAW-RG/Scott McLendon
CESAW-RG-L/Dale Beter

Mr. Jim Rerko
Division Environmental Officer, Division 6
North Carolina Department of
Transportation
Post Office Box 1150
Fayetteville, NC 28302



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

October 21, 2011

MEMORANDUM

To: Gregory J Thorpe, Ph.D., NCDOT

From: Mason Herndon, NC Division of Water Quality, Fayetteville Regional Office *MH*

Subject: Start of Study comments on proposed improvements to US 401/401 Business (Raeford Road) from SR 1409 (71st School Road) to US 401 Business (Robeson Street) in Fayetteville, Cumberland County, Federal Aid Project No. STPDA-0401(230), WBS No. 39049, TIP No. U-4405.

Reference your correspondence dated September 23, 2011 in which you requested comments for the referenced project. Preliminary analysis of the project reveals the potential impacts to streams and jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number	303(d) Listing
UT to Branson Creek	Cape Fear	C	18-27-5-1	N/A
Buckhead Creek	Cape Fear	C	18-31-24-5	N/A
Beaver Creek & UT's	Cape Fear	C	18-27-5-1	N/A

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. The proposed project is located within the jurisdictional limits of the Phase II NPDES Stormwater Program. Development of a stormwater management plan shall be coordinated with NCDWQ and the local delegated authority.
2. DWQ cannot comment on permit requirements with the limited information provided. A detailed delineation is required to determine the presence or absence of jurisdictional resources within the project limits. In addition, NCDOT must provide an estimate of impacts to any resources located within the construction limits of the alternatives before we can specifically comment on DWQ permit eligibility.

General Project Comments:

3. 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

225 Green St., Suite 714, Fayetteville, NC 28301-5043
Phone: 910-433-3300 \ FAX: 910-486-0707
Internet: www.ncwaterquality.org



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.

4. 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 NCDWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
5. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, 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.
6. 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 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.
7. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT 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.
8. If a bridge is being replaced with a hydraulic conveyance other than another bridge, NCDWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
9. 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.
10. Whenever possible, NCDWQ 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 shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) shall not be placed in the stream when possible.
11. 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 NCDWQ's *Stormwater Best Management Practices*.
12. 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.

APPENDIX B

CULTURAL RESOURCES REVIEW

12-05-0008

NO SURVEY REQUIRED FORM**PROJECT INFORMATION**

Project No: **U-4405** County: Cumberland
 WBS No: 39049.1.1 Document: CE
 F.A. No: STPDA-0401(230) Funding: State Federal

Federal (USACE) Permit Required? Yes No Permit Type: Unknown as of yet

Project Description:

The project calls for the proposed replacement of the center-turn lane with a raised median along US 401/ US 401 Business (Raeford Road), a proposed connector from All American Expressway on to US 401 Business, and bulb-outs along US 401/ US 401 Business. Additional turning lanes are also possible along Skibo Road and Robeson Street for their intersections with US 401. The archaeological Area of Potential Effects (APE) for the project is defined as a 5.5-mile (8.85 km) long corridor running east to west. The corridor is typically 200 feet (60.96 m) wide extending 100 feet (30.48 m) on either side of the road from its present center. The APE also encompasses 600 feet (182.88 m) along Skibo Road heading north from US 401 Business, 1000 feet (304.80 m) along Robeson Street heading south from US 401 Business, and 650 feet (198.12 m) for a proposed off-ramp from All American to US 401 Business.

SUMMARY OF CULTURAL RESOURCES REVIEW*Brief description of review activities, results of review, and conclusions:*

US 401/ US 401 Business is situated in the western portion of Fayetteville and just southeast of the Fort Bragg Army Base in Cumberland County, North Carolina. The project area is plotted on the western edge of the Fayetteville USGS 7.5' topographic quadrangle and along the eastern edge of the Clifdale quadrangle (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on May 14, 2012, while a visual inspection of the project area was carried-out on May 10. The background check found that sections of the project area were previously reviewed and cleared by OSA and NCDOT archaeologists in 1999 for road widening projects. The sections that were reviewed are between Cambridge Street and Raven hill Road (ER 99-8026; TIP U-3848) and between Wildwood Street and Duke Street (ER 99-7971; TIP U-3846). No further archaeological work was recommended for these sections due to prior urban development. The background check also identified one probable archaeological site (31CD160) and one property on the National Register within the APE. One Study Listed property is also adjacent to the APE.

Inspection of the project area revealed that the entire APE is heavy disturbed by development mostly from commercial properties. Utility corridors and drainage ditches run along both sides of US 401/ US 401 Business and the APE extensions along Skibo Road, Robeson Street, and the proposed off-ramp. Parking Lots and paved drives are also numerous. The few wooded areas have also been disturbed by grading and other earthmoving activities. Although much of the soils appear well drained from the USDA soil map, the extensive ground disturbance makes it very unlikely intact and significant deposits will be present within the APE.

Archaeological site 31CD160 is reported to be located north of the intersection of McPherson Church Road with US 401 Business (Figure 2). The site was first identified by Virgil Thompson, who found a total of 13 ceramic sherds at the site prior to the 1970s. Attempts to relocate the site were carried out by Ken Robinson in 1986 for an archaeology survey and planning grant in Cumberland County. The site could not be relocated, and it was determined that it was likely destroyed during the extension of McPherson Church Road or the construction of US 401 Business. It was recommended as ineligible for the National Register. Currently, the probable location and nearby area is paved or covered in gravel. It is not likely any intact deposits associated with this site will be affected by the current road improvement project.

The Seventy-First Consolidated School, a National Register property, is also within the project limits (Figure 3). However, it is unlikely intact archaeological deposits will be within the APE due to prior ground disturbance consisting of a parking lot, paved drives, and a drainage ditch. In addition, the Wooten Log House, a Study List property, is adjacent to the APE along Breezewood Avenue (Figure 4). No archaeological deposits associated with this property should be affected since it is well outside of the APE.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

Ground disturbance along US 401/ US 401 Business in Cumberland County is considered severe. It is very unlikely intact and significant archaeological sites are within the APE due to impacts from past development. No further archaeological work is recommended for the proposed improvements to US 401/ US 401 Business for the current project. But, if construction should affect subsurface areas beyond the defined APE, further archaeological consultation might be necessary.

SUPPORT DOCUMENTATION

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from county survey.

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL NO SURVEY REQUIRED

ARCHAEOLOGY

HISTORIC ARCHITECTURE

(CIRCLE ONE)


NCDOT Cultural Resources Specialist

5/15/11

Date

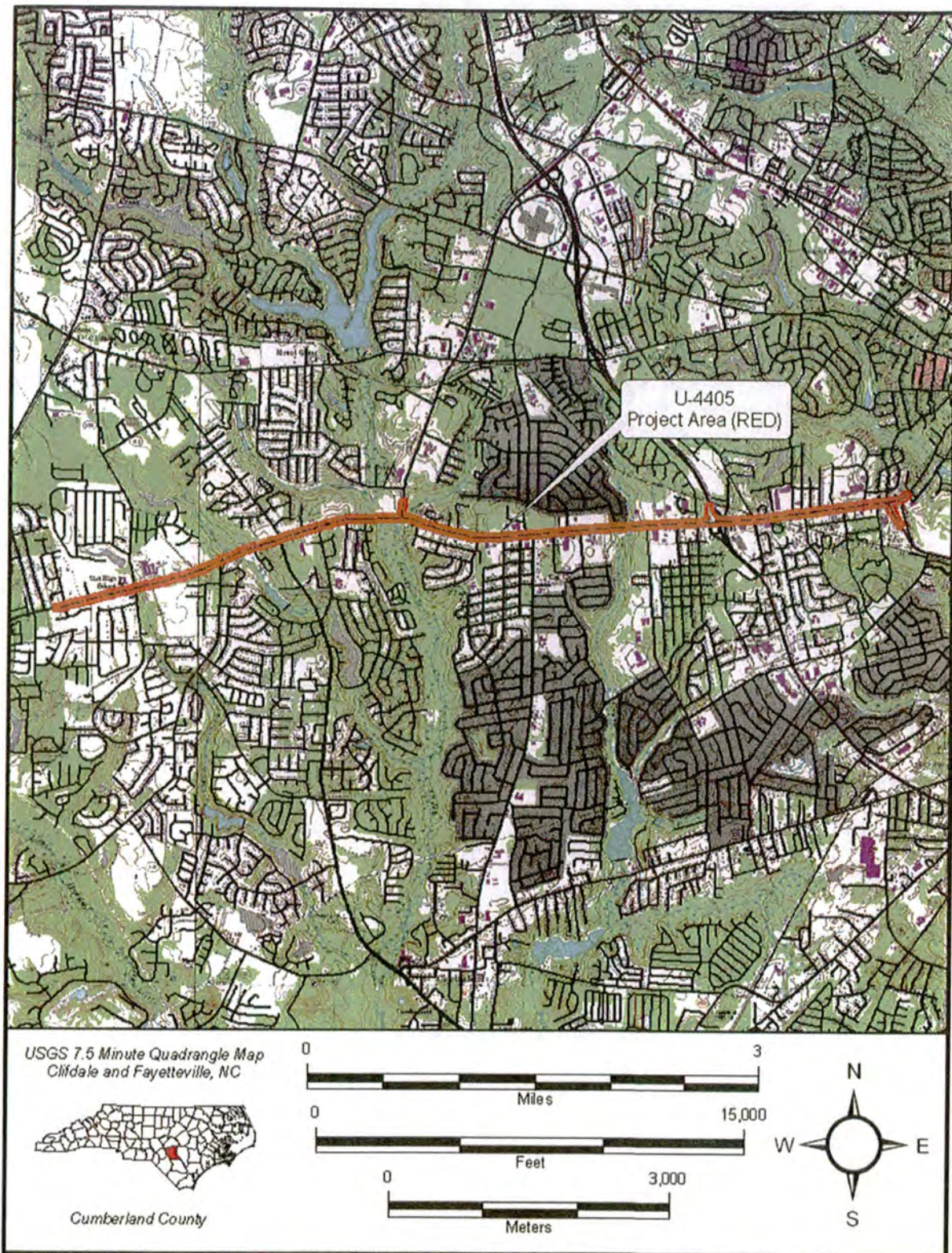


Figure 1. Topographic Setting of Project Area, Fayetteville (1957; photorevised 1987) and Clifdale (1948; photorevised 1982), NC, USGS 7.5' Topographic Quadrangle.

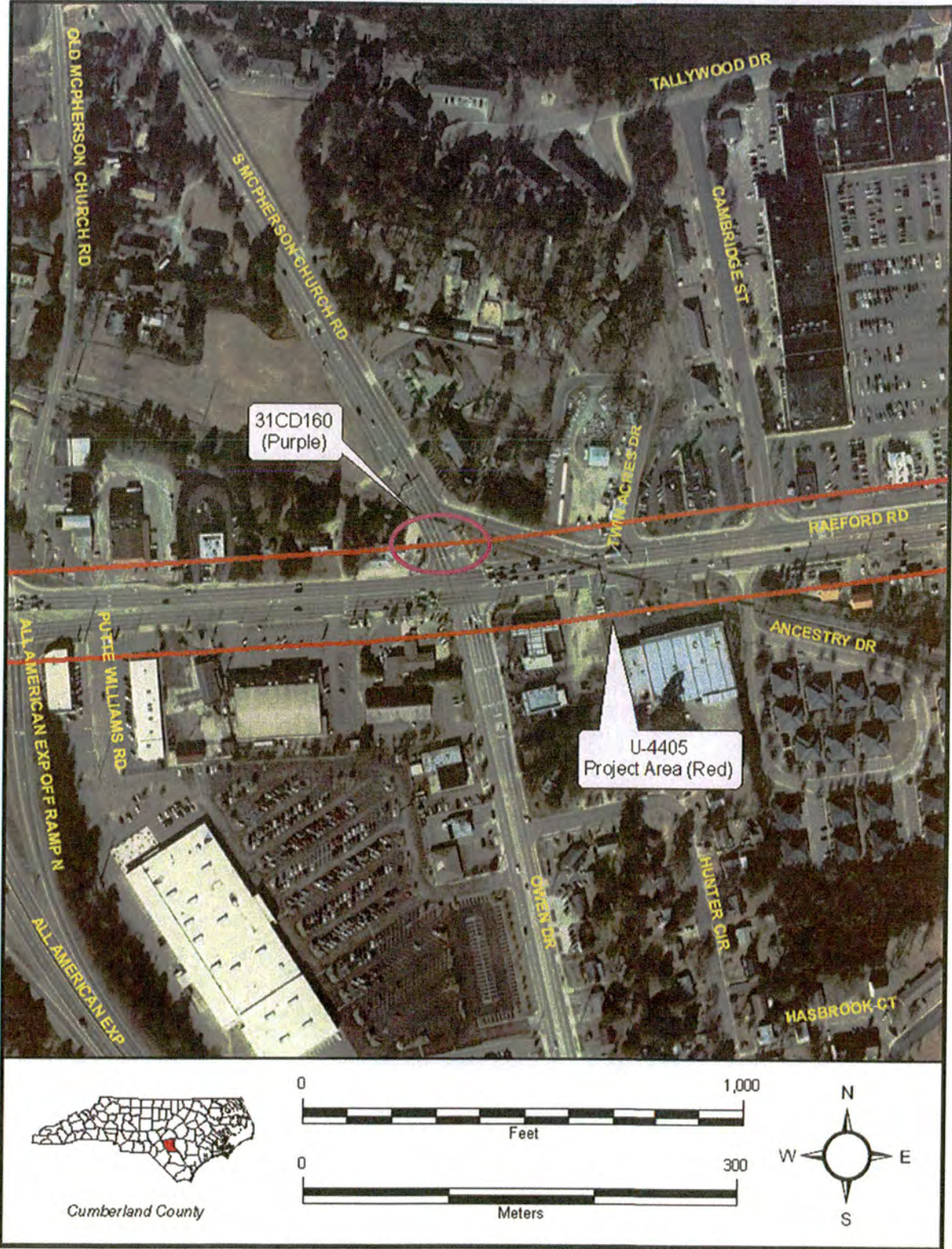


Figure 2. Aerial photograph of the probable location of site 31CD160 within the Project Area.

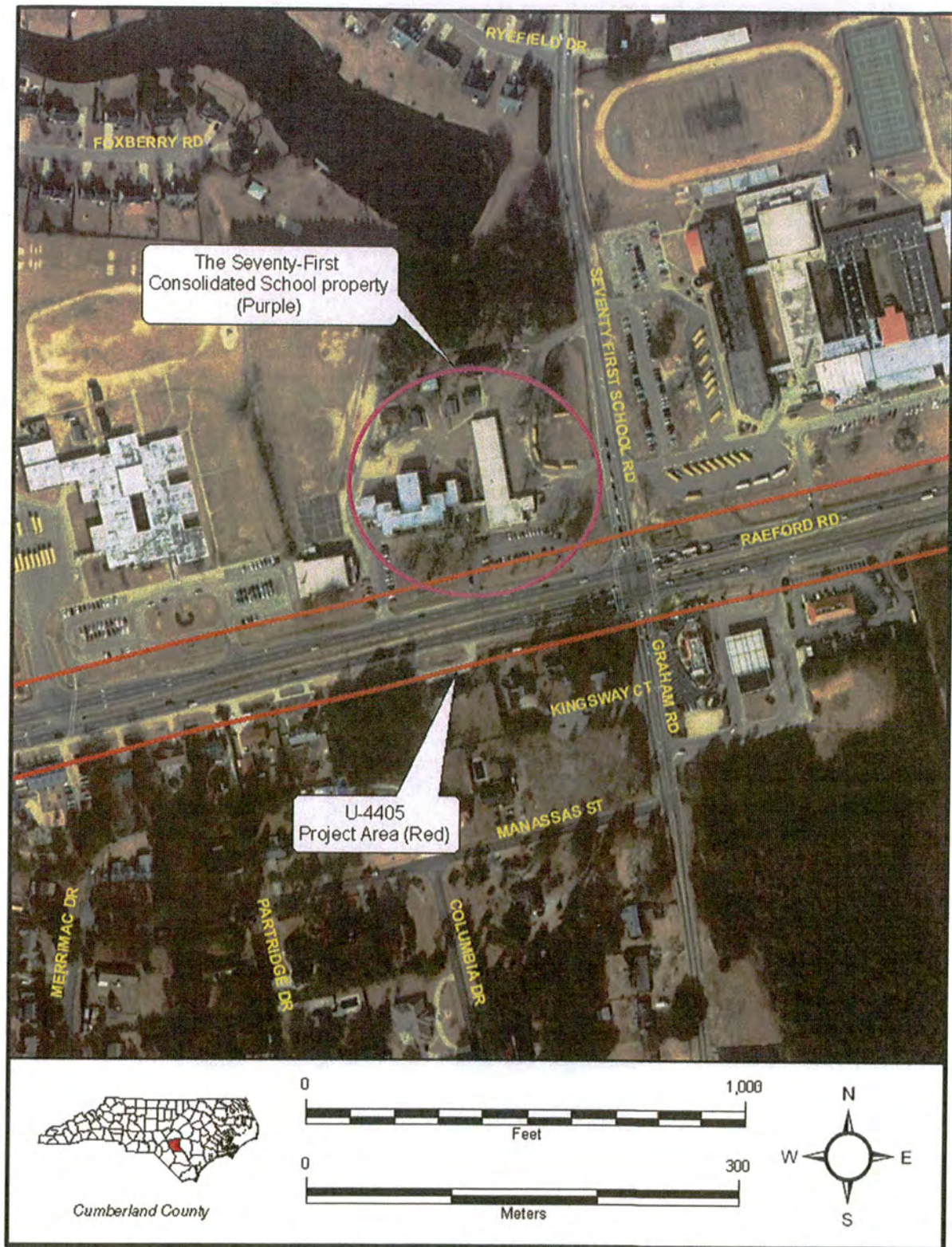


Figure 3. Aerial photograph of The Seventy-First Consolidated School property within the Project Area.

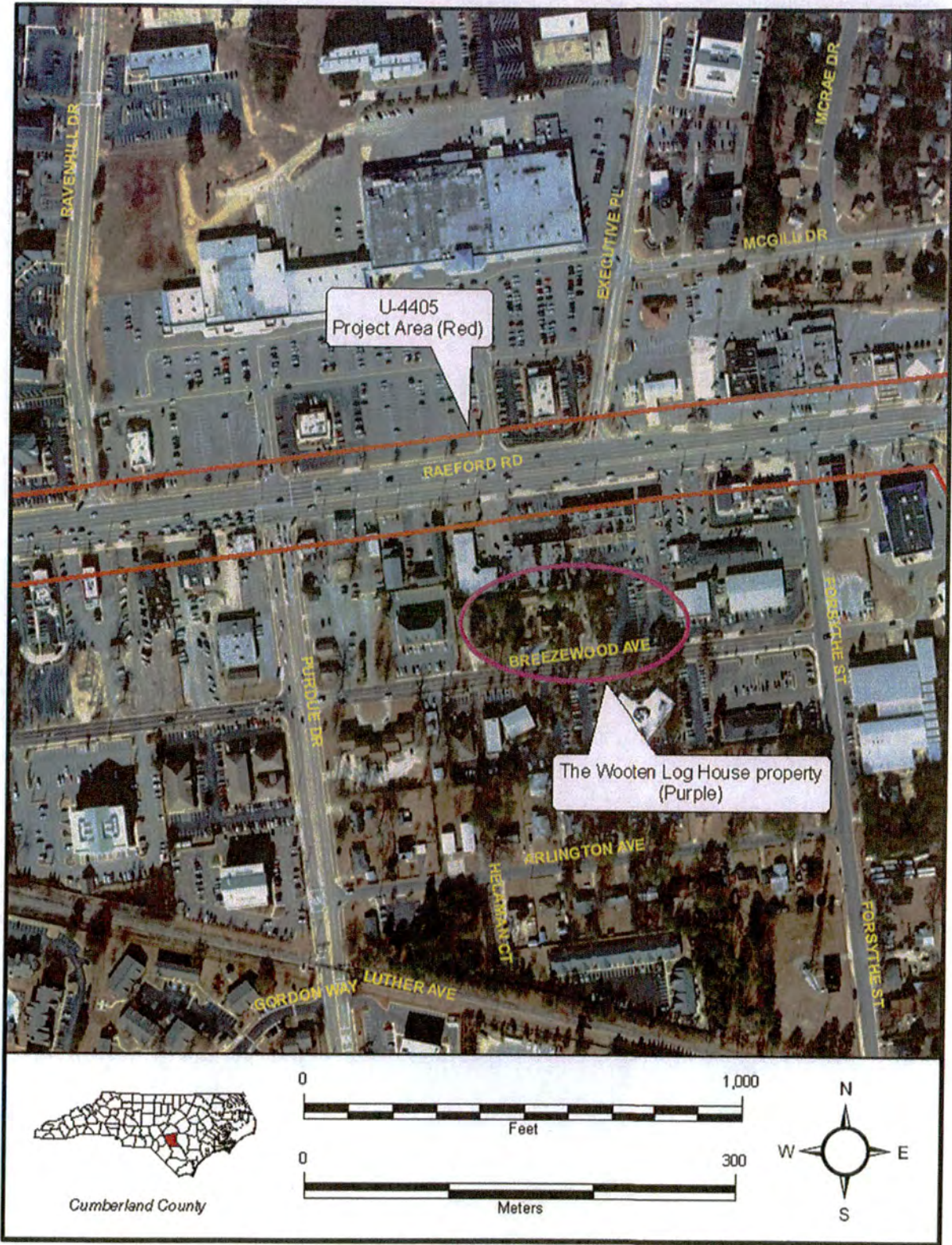


Figure 4. Aerial photograph of the Wooten Log House property adjacent to the Project Area.

12-05-0008

**REQUEST FOR CULTURAL
RESOURCES REVIEW FORM**

MEMORANDUM TO: Drew Joyner, Human Environment Unit
1598 Mail Service Center, Raleigh, NC 27699-1598

ATTENTION: Matt Wilkerson, Archaeology Supervisor
Mary Pope Furr, Historic Architecture Supervisor

FROM: Matthew Potter, PE
Project Development Engineer

SUBJECT: Request for Cultural Resources Review

DATE: April 19, 2012

**PROJECT INFORMATION**

Project No: U-4405 *County:* Cumberland

WBS No: 39049.1.1 *Document:* CE

F.A. No: STPDA-0401(230) *Funding:* State Federal

USGS Quad: clifdl, fayevl

Project Description: Proposed Improvements to US 401/ US 401 Business (Raeford Road) from SR 1409 (71st School Road) to US 401 Business (Robeson Street) in Fayetteville, Cumberland County. The project will replace the center-turn lane with a raised median. The majority of improvements will be made within existing ROW.

Purpose & Need: Reduce Congestion and Improve Safety.

SCHEDULING AND CONTACT INFORMATION

Date Needed: July 19, 2012

Engineer: Matthew Potter *Tel* (919) 707-6036 *Email* mwpotter@ncdot.gov

DESIGN INFORMATION

Project Length: 5.5 miles

Exist. R/W: Varies from 100' to 150' *Proposed R/W:* Varies

Exist. Speed Limit: 45-55 mph *Proposed Speed Limit:* 45-55 mph

Exist. X-Section: 4-lane median divided west of Skybo Road, 7-lane east of Skybo Road

Detour Route: No official Detour will be used

Structure Type: None *Year Built:* NA



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 3, 2011

MEMORANDUM TO: File
FROM: Matthew Potter P.E. *Matthew Potter*
Project Planning Engineer
Project Development and Environmental Analysis Branch

SUBJECT: U-4405 Project Initiation Meeting Minutes, Proposed
Improvements to US 401 (Raeford Road) from East of
US 401 Bypass (Skibo Road) to west of SR 1007
(All-American Freeway) in Fayetteville, Cumberland
County, WBS Element 39049.1.1, Federal Aid - STPDA-
0401 (230)

A meeting was held on May 27, 2011 at 10:30 a.m., in the Project Development and Environmental Analysis Branch Large Conference Room in Century Center Building B in Raleigh. The purpose of the meeting was to discuss the history of the project, how to proceed, and the project schedule.

Attendees:

Greg Burns	Division 6
Tracey Pittman	Division 6
Lee Jernigan	Division 6
Rekha Patel	Roadway Design
Mike Little	Roadway Design
Darius Sturdivant	Transportation Planning
W.M. Petit	TIP Development
Harrison Marshall	Human Environment Unit
Mike Rutan	Fayetteville Area MPO
Rusty Thompson	City of Fayetteville
Neil Perry	City of Fayetteville
Rob Hanson	PDEA
Charles Cox	PDEA
Matthew Potter	PDEA

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE:

www.ncdot.org/doh/preconstruct/pe/

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC 27601

has already occurred. No Citizens' Informational Workshop will be held. Harrison Marshall also noted that EJ and LEP aspects of public involvement should be coordinated with Ed Lewis. Given the size of the project and the surrounding area, translated documents and language translators are likely to be needed at all public meetings.

W.M. Petit requested that a project schedule be refined and sent to Ray McIntyre, TIP development unit, so the TIP can be updated. Preliminary construction cost estimates and right of way cost estimates should also be requested and forwarded to the TIP development unit once received.

Matthew asked if traffic forecasts had been completed as a part of the Corridor Study, and if so could the department get a copy of the forecast. Mike stated that if a traffic forecast was completed Kimley-Horn and Associates would be the appropriate contact for that information.

Matthew noted that due to the amount of information provided in the Corridor Study and the discussions held at the Project Initiation Meeting, no formal scoping meeting will be held. However, Start of Study and Scoping letters will still be sent to local environmental agencies and NCDOT staff to solicit further input.

Action Items:

1. Start of Study and Scoping Letters will be sent out.
2. A project schedule will be refined and sent to Ray McIntyre.
3. Updated Construction Cost estimates, from Doug Lane, for TIP will be required.
4. Traffic forecast from Kimley-Horn will be requested, if it is available; otherwise a new traffic forecast from TPB will be requested.

Follow-up:

1. Start of Study Letters sent on September 23, 2011.
2. Schedule will be finalized after scoping.
3. Construction Cost estimate from Corridor Study will be used until preliminary designs are complete.
4. Kimley-Horn and Associates did not complete a traffic forecast. A new forecast request will be sent to TPB.

If you have any questions or comments, please contact me at (919) 707-6036 or at mwpotter@ncdot.gov.

MWP/mp

Jones, Damon

From: Potter, Matthew W
Sent: Monday, May 14, 2012 1:58 PM
To: Jones, Damon
Subject: RE: Road improvements of US 401 (U-4405; Cumberland Co.) archaeology

Damon,

To answer your questions, the only proposed connector is at the All American Expressway and would be an additional off ramp (from All American on to US 401 Business) in the northwest quadrant. I extended the study area down Skibo and Robeson Street just in case additional turn lanes are needed. At this point we do not know where the bulb-outs will be placed, but they would be within the study area that was shown in the aerial. Please let me know if you have any additional questions.

Thanks,
Matthew Potter

From: Jones, Damon
Sent: Wednesday, May 09, 2012 2:20 PM
To: Potter, Matthew W
Subject: Road improvements of US 401 (U-4405; Cumberland Co.) archaeology

Matthew,

I have been assigned the proposed improvements of US 401/US 401 Bus. (Raeford Road) project (TIP U-4405) in Fayetteville, Cumberland County (our# 12-05-0008). This project falls under the Programmatic Agreement with SHPO that says we will handle the archaeological review for minor transportation projects.

The Request for Environmental Input packet contains topo maps, aerial photos illustrating the study area, and a memo. You are not sure if permits will be required as of yet, and the easement is only temporary. The project is not located on US Forest Service property.

I do a couple of questions. Are the Proposed Connector Roads, which are shown on the aerial, included in this project? Also, the memo mentions additional right-of-way required for the bulb-outs at median U-turns. Do you know where these bulb-outs will be place? Or am I not noticing them on the aerals?

I will start the Cultural Resource Review for this project and let you know within 30 days if an archaeological survey will be required.

Thanks

C. Damon Jones
Archaeologist II

N.C. Department of Transportation
PDEA - Human Environment Unit
1598 Mail Service Center
Raleigh, NC 27699-1598



North Carolina Department of Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

September 17, 2013

MEMORANDUM

TO: Vanessa Patrick
Human Environment Unit
NC Department of Transportation

FROM: Ramona M. Bartos *RMB for Ramona M. Bartos*

SUBJECT: Historic Architectural Evaluation, Improvements to US 401/US 401 Business (Raeform Road), U-4405, WBS #39049.1.1, Cumberland County, ER 13-1644

Thank you for your letter of August 5, 2013, transmitting the above survey report.

For the purpose of compliance with Section 106 of the National Historic Preservation Act, we concur that **Lindy's** (CD 1040, the former A & W Drive-In) is eligible for listing in the National Register of Historic Places under Criterion C for its architecture and that the proposed National Register boundaries appear appropriate. A typo on page 14 of the report lists the period of significance as 1951 to 1967; the period should begin with the drive-in's construction in 1963. We also concur that the **Lafayette Lanes** (CD 1042) is eligible for listing in the National Register under Criterion A for recreation and C for architecture, and that the proposed boundaries appear appropriate.

At this time we cannot concur with the recommendation regarding the **Owen's Florist and Owen's House** (CD 1330). We believe that the shop's architectural significance is best evaluated in terms of mid-twentieth century commercial architectural, not just limited to florists or nurseries. The two Chicago-style windows are very late examples of the type and the modernism of the glass storefront additions, while dating to the potential period of significance, does not appear to be fully integrated into the overall design of the building. Overall, we do not believe that this property is architecturally significant enough to meet Criterion C.

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 919-807-6579 or renee.gledhill-earley@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, NCDOT, mfurr@ncdot.gov
Jeroen van den Hurk, Coastal Carolina Research, jvandenhurk@ccrtarboro.com
Bruce Daws, Fayetteville Historic Resources Commission, bdaws@ci.fay.nc.us



HISTORIC ARCHITECTURE AND LANDSCAPES ASSESSMENT OF EFFECTS FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

PROJECT INFORMATION

Project No:	U-4405	County:	Cumberland
WBS No.:	39049.1.1	Document Type:	
Fed. Aid No:	STPDA-0401(230)	Funding:	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
Federal Permit(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Permit Type(s):	
Project Description: Improvements to US 401/US 401 Business (Raeford Road) from SR 1409 (71 st School Road) to US 401 Business (Robeson Street) in Fayetteville.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions: HPOWeb reviewed on 22 May 2012 and yielded one NR, one SL, no DE, LD, or SS properties in the project area: the Wooten Log House (CD 0606-SL) near the eastern end of the project area and the Seventy-First Consolidated School (CD 0519) at the western end. Cumberland County current mapping, aerial photography, and tax information indicates multiple pre-1965 properties, dating predominantly to the 1940s-1960s, in the Area of Potential Effects (APE) (viewed May-June 2012). Constructed in 1976, Bridge No. 6 on SR 1007 (Wilkes Road) over US 401 Business (Raeford Road) is neither included in the NCDOT Historic Bridge Survey, nor representative of any distinctive engineering or aesthetic type. The Cumberland County comprehensive architectural survey (1970s) and Fayetteville surveys (1980; 2001-2 update; 2008-9 "modern") recorded and addressed the individual properties identified above, as well as several notable modernist buildings along Raeford Road. The presence of a National Register-listed property, as well as pre-1965 properties throughout the entire project area indicated need for a field investigation. The APE extends 500 feet to either end of the proposed 5.5-mile project length (E-W), 200 feet to either side of the US 401/US 401 Business (Raeford Road) centerline (N-S), and 200 feet beyond Y-line work to encompass all construction activities as currently defined.

NCDOT architectural historians established and surveyed the APE in November 2012. They confirmed that the Wooten Log House is located well beyond likely project impact, and the proposed widening in the vicinity of the Seventy-First Consolidated School will occur within the existing right-of-way and not affect any contributing elements of the property. They identified three resources requiring additional investigation and evaluation: the A & W (now Lindy's) Drive-In (CD 1040), Owen's Florist and Owen's House (CD 1330), and the Lafayette Lanes Bowling Alley (CD 1042). The July 2013 architectural evaluation report, prepared by Coastal Carolina Research for NCDOT, recommended all three resources as eligible for the National Register (technical report on file at NCDOT); in September 2013 NCDOT and HPO agreed that the drive-in and the bowling alley are eligible, while the florist store and house are not (see attached). A July 2014 consultation with HPO and FHWA revealed that the project as defined at that time imposed an adverse effect and a 4f situation for both of the properties in question. NCDOT refined the design and in November 2015 obtained concurrence with HPO and FHWA on "no adverse effect" and "de minimis" findings for both properties as detailed below.

ASSESSMENT OF EFFECTS

Property Name:	Lindy's (former A & W) Drive-In	Status:	DE
Survey Site No.:	CD1040	PIN:	0427-11-1195
Effects <input type="checkbox"/> No Effect <input checked="" type="checkbox"/> No Adverse Effect <input type="checkbox"/> Adverse Effect			
Explanation of Effects Determination: <i>Alignment shifted away from property; 2^{front} driveway → 1 driveway and move sign towards side street. Eliminate side driveway a possibility w/ elim. of canopy curb (principally safety issue) will not change effects call.</i>			
List of Environmental Commitments: —			

ASSESSMENT OF EFFECTS

Property Name:	Lafayette Lanes Bowling Alley	Status:	DE
Survey Site No.:	CD1042	PIN:	0417-90-0844 and 0417-90-1889
Effects <input type="checkbox"/> No Effect <input checked="" type="checkbox"/> No Adverse Effect <input type="checkbox"/> Adverse Effect			
Explanation of Effects Determination: <i>Alignment shifted away from property; new sidewalk outside ROW/historic boundary; small PUE for guy wire anchoring; temporary constr. easement. No removal of parking or impact of structure.</i>			
List of Environmental Commitments: —			

FHWA Intends to use the State Historic Preservation Office's concurrence as a basis for a "de minimis" finding for the following properties, pursuant to Section 4(f): *Clay W. [Signature]*
Lindy's (former A&W) Drive-In (CD1040)
Lafayette Lanes Bowling Alley (CD1042)
 17 Nov. 2015

SUPPORT DOCUMENTATION

Map(s) Previous Survey Info. Photos Correspondence Design Plans

FINDING BY NCDOT AND STATE HISTORIC PRESERVATION OFFICE

Historic Architecture and Landscapes – ASSESSMENT OF EFFECTS

Vanessa C. Patrick

NCDOT Architectural Historian

17 November 2015

Date

Renee McShill-Early

State Historic Preservation Office Representative

11-17-15

Date

Clara W. Clark

Federal Agency Representative

11/17/15

Date

APPENDIX C

**NCDOT RELOCATION ASSISTANCE PROGRAM/
RELOCATION REPORTS**

DIVISION OF HIGHWAYS RELOCATION PROGRAMS

It is the policy of NCDOT to ensure comparable replacement housing will be available prior to construction of state and federally-assisted projects. Furthermore, 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

As part of the Relocation Assistance Program, experienced NCDOT staff will be available to assist displacees with information such as availability and prices of homes, apartments, or businesses for sale or rent and financing or other housing programs. The Relocation Moving Payments Program provides for payment of actual moving expenses encountered in relocation. Where displacement will force an owner or tenant to purchase or rent property of higher cost or to lose a favorable financing arrangement (in case of ownership), the Relocation Replacement Housing Payments or Rent Supplement Program will compensate up to \$22,500 to owners who are eligible and qualify and up to \$5,250 to tenants who are eligible and qualify.

The relocation program for the proposed action will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), and/or the North Carolina Relocation Assistance Act (GS-133-5 through 133-18). The program is designed to provide assistance to displaced persons in relocating to a replacement site in which to live or do business. At least one relocation officer is assigned to each highway project for this purpose.

The relocation officer will determine the needs of displaced families, individuals, businesses, non-profit organizations and farm operations for relocation assistance advisory services without regard to race, color, religion, sex, or national origin. The NCDOT will schedule its work to allow ample time, prior to displacement, for negotiations and possession of replacement housing which meets decent, safe and sanitary standards. The displacees are given at least a 90-day written notice after NCDOT purchases the property. Relocation of displaced persons will be offered in areas not generally less desirable in regard to public utilities and commercial facilities. Rent and sale prices of replacement property will be within the financial means of the families and individuals displaced and will be reasonably accessible to their places of employment. The relocation officer will also assist owners of displaced businesses, non-profit organizations and farm operations in searching for and moving to replacement property.

All tenant and owner residential occupants who may be displaced will receive an explanation regarding all available options, such as (1) purchase of replacement housing, (2) rental of replacement housing, either private or public, or (3) moving existing owner-occupant housing to another site (if possible). The relocation officer will also supply information concerning other

state and federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location.

The Moving Expense Payments Program is designed to compensate the displacee for the costs of moving personal property from homes, businesses, non-profit organizations and farm operations acquired for a highway project. Under the Replacement Program for Owners, NCDOT will participate in reasonable incidental purchase payments for replacement dwellings such as attorney's fees, surveys, appraisals, and other closing costs and, if applicable, make a payment for any increased interest expenses for replacement dwellings. Reimbursement to owner-occupants for replacement housing payments, increased interest payments and incidental purchase expenses may not exceed \$22,500 (combined total), except under the Last Resort Housing provision.

A displaced tenant may be eligible to receive a payment, not to exceed \$5,250, to rent a replacement dwelling or to make a down payment, including incidental expenses, on the purchase of a replacement dwelling. The down payment is based upon what the state determines is required when the rent supplement exceeds \$5,250.

It is a policy of the State that no person will be displaced by NCDOT's state or federally-assisted construction projects unless and until comparable replacement housing has been offered or provided for each displacee within a reasonable period of time prior to displacement. No relocation payment received will be considered as income for the purposes of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law.

Last Resort Housing is a program used when comparable replacement housing is not available, or when it is unavailable within the displacee's financial means, and the replacement payment exceeds the federal/state legal limitation. The purpose of the program is to allow broad latitude in methods of implementation by the state so that decent, safe and sanitary replacement housing can be provided. It is not believed this program will be necessary on the project, since there appear to be adequate opportunities for relocation within the area.

REQUEST FOR R/W COST ESTIMATE / RELOCATION EIS

COST ESTIMATE REQUEST

RELOCATION EIS REPORT

NEW REQUEST:

UPDATE REQUEST:

REVISION REQUEST:

DATE RECEIVED: _____ DATE ASSIGNED: _____ # of Alternates Requested: _____

DATE DUE: _____

TIP NUMBER <u>U-4405</u>	DESCRIPTION: <u>PROPOSED WIDENING AND IMPROVEMENTS TO RAEFORD ROAD - US-401 BUSINESS FROM WEST OF HAMPTON OAKS DRIVE TO EAST OF FAIRWAY DRIVE IN FAYETTEVILLE</u>
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39049.1.1 CUMBERLAND COUNTY: _____ DIV: 6 APPRAISAL OFFICE: 2

REQUESTOR: ZAHID M. BALOCH AND REHKA PATEL, P.E. DEPT: PDEA ROADWAY DESIGN

TYPE OF PLANS PROVIDED: PRELIMINARY R/W WITHOUT UTILITY EASEMENTS AND SOME DRAINAGE

BASED ON PAST PROJECT HISTORICAL DATA, THE LAND AND DAMAGE FIGURES HAVE BEEN ADJUSTED TO INCLUDE CONDEMNATION AND ADMINISTRATIVE INCREASES THAT OCCUR DURING SETTLEMENT OF ALL PARCELS.

APPRAISER: RJB TRANSMITTED: _____ # of Alternates Completed: _____
COMPLETION DATE: 3-25-2016

TYPE OF ACCESS:	NONE: <input checked="" type="checkbox"/> LIMITED: <input type="checkbox"/>	NONE: <input type="checkbox"/> LIMITED: <input type="checkbox"/>	NONE: <input type="checkbox"/> LIMITED: <input type="checkbox"/>
	PARTIAL: <input type="checkbox"/> FULL: <input checked="" type="checkbox"/>	PARTIAL: <input type="checkbox"/> FULL: <input type="checkbox"/>	PARTIAL: <input type="checkbox"/> FULL: <input type="checkbox"/>
ESTIMATED NO. OF PARCELS:	<u>240 ± TAX PARCELS</u>		
RESIDENTIAL RELOCATEES:	<u>-0-</u>	\$ <u>-0-</u>	\$
BUSINESS RELOCATEES:	<u>15</u>	\$ <u>2,125,000</u>	\$
GRAVES: <u>4 TO 8 ± PER JOHN WILLIAMSON</u>	<u>8</u>	\$ <u>80,000</u>	\$
CHURCH / NON - PROFIT:	<u>-0-</u>	\$ <u>-0-</u>	\$
FARMS: (Type) _____	<u>-0-</u>	\$ <u>-0-</u>	\$
MISC: _____		\$	\$
SIGNS: <u>NUMEROUS ON PROJECT</u>		\$ <u>TREATED AS PERSONALITY FOR THIS ESTIMATE</u>	\$
LAND, IMPROVEMENTS, AND DAMAGES:		\$ <u>23,525,000 ±</u>	\$
ACQUISITION:		\$ <u>2,745,000 ±</u>	\$
TOTAL ESTIMATED R/W COST:		\$ <u>28,475,000 ±</u>	\$

28,475,000

THE ESTIMATED NUMBER OF ABOVE RELOCATEES INCLUDES THOSE PARCELS WHERE THE PROPOSED ACQUISITION AREAS INVOLVE RELOCATION OF LIVABLE OR BUSINESS UNITS ONLY.

NOTES: THIS R/W ESTIMATE AND JOHN WILLIAMSON'S RELOCATION EIS REPORT ARE BASED ON PRELIMINARY R/W PLANS PREPARED BY "ATKINS CONSULTANTS" DATED 12 OCTOBER 2015. NO UTILITY EASEMENTS NOR SOME DRAINAGE EASEMENTS ARE DEPICTED ON THE SETS PROVIDED FOR OUR USE. OUR ESTIMATE AND RELOCATION WILL NEED TO BE REVISED AND UP-DATED ONCE THOSE ARE DETERMINED AND FINALIZED. A COPY OF JOHN'S REPORT IS ATTACHED.

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. CORRIDOR DESIGN

WBS ELEMENT:	39049.1.1	COUNTY	Cumberland	Alternate	1	of	1	Alternate
T.I.P. NO.:	U-4405							
DESCRIPTION OF PROJECT:	US-401(Raeford Rd.) West of Hampton Oaks Dr. to East of Fairway Dr. in Fayetteville.							

ESTIMATED DISPLACEDS					INCOME LEVEL							
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP			
Residential	0	0	0	0	0	0	0	0	0			
Businesses	5	10	15	4	VALUE OF DWELLING		DSS DWELLING AVAILABLE					
Farms	0	0	0	0	Owners		For Sale		For Rent			
Non-Profit	0	0	0	0	0-20M	0	\$ 0-150	0	0-20M	0	\$ 0-150	0
					20-40M	0	150-250	0	20-40M	0	150-250	0
					40-70M	0	250-400	0	40-70M	0	250-400	0
					70-100M	0	400-600	0	70-100M	0	400-600	0
					100 UP	0	600 UP	0	100 UP	0	600 UP	0
					TOTAL	0	0	0	0	0	0	0

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? 24 months

REMARKS (Respond by Number)	
3.	The loss of business involved will not affect the area .
4.	See attached list.
6.	Realtors, MLS, Newspapers and private market.
8.	As required by law.
11.	Section 8 Housing in Fayetteville.
12.	There are no government projects competing for housing.
14.	Same as #6 above.
<p>Note 1 to 3 graves may be affected by the project in the Cumberland Memorial Gardens Cemetary and 3 to 5 graves in the Lewis Chapel Missionary Baptist Church Cemetary. Also, the business displaces listed are physically impacted by the acquisition. However, there could be additional business displaces due to the loss of traffic flow or loss of parking. Please see attachment for additional comments comparing the plans to my field review.</p>	

	3-14-16		3/17/16
 Right of Way Agent	Date	 Relocation Coordinator	Date

March 14, 2016

TIP #: U-4405

WBS #: 39049.1.1

County: Cumberland

Re: EIS Report for US-401(Raeford Road) from West of Hampton Oaks Drive to
East of Fairway Drive in Fayetteville

To Whom It May Concern:

I have been asked to complete a relocation study for the above subject project. I completed a field review and made a thorough examination of the proposed project in accordance with the preliminary plans furnished by the NCDOT Right of Way Branch. The project study area consists of only one alternative. This alternative runs along existing US-401(Raeford Road) for approximately 5.8 miles. The project utilizes the existing right of way, some additional permanent right of way, permanent utility easements and temporary construction easements the entire length of the project.

Commercial and small business front both sides of US-401(Raeford Road) for the entire length of the project. I have researched the Fayetteville market for properties that are similar to those that I anticipate will be affected and it does appear that there is an ample supply of available replacement properties. The primary source of my investigation were realtors, property management firms, Fayetteville MLS Service and the private market.

Relocation benefits under the Uniform Relocation Act will be of great assistance to anyone who is displaced from the project. There are no residential displacees on the project with the majority being business. The business displacees will have ample assistance under this program and the loss of these structures will not have an impact on the local economy since similar services will be available during and after the project. Two cemeteries will be affected by the project. One to three graves may be affected in the Cumberland County Memorial Gardens and three to five graves may be affected in the Lewis Chapel Missionary Cemetery.

I have met with Mr. Fred Barkley of NCDOT Right of Way Branch to compare the plans to our field reviews. We have agreed to the number of displacees as indicated on the relocation report. Please note there are three buildings located in the proposed right of way that are presently vacant and not included in this report.

I anticipate that a lead time of 24 months would be adequate to facilitate the relocation of those individuals involved with the project. Should there be questions, please advise me accordingly.

Displacees-U-4405

Name	Address	Size	Employees	Minorities
Flooring/Carpet	6002	Small	4-8	2-4
Rimguard Xtreme	5409	Small	6-8	3-4
Highland Animal	3602	Small	6-8	1-2
BP	3701	Medium	8-10	3-5
Owen's Florist	3306	Medium	8-10	3-5
Shalimar Grill	3401A	Medium	8-10	6-8
N-T Nail & Spa	3401B	Medium	8-10	8-10
Best of Both Worlds	3401C	Medium	8-10	4-5
Boonma Thai Cuisine	3401D	Medium	8-10	8-10
Ferrellgas	3210	Medium	8-10	3-4
Lindy's Pizza	3001	Medium	8-10	2-4
Zorba's	2919	Medium	8-10	2-4
Black's Smokehouse	2801	Medium	8-10	2-4
Franklin's Bakery	2609A	Small	4-6	2-3
Highland Cleaners	2609B	Small	4-6	2-3

Notes: 6895-1SB D is vacant and not included in report.

5516-1SB building is vacant and not included in report.

3813-1SB building is vacant and not included in report

Mr. Fred Barkley of NCDOT Right of Way indicated that a retaining wall has been recommended on plan sheet 30 thus the right of way will be reduced and the 2 business buildings and 2 dwellings are not displaced and therefore are not included in this report.

Per discussion with Mr. Barkley, this report is in reference to the revised plans of U-4405 dated 10-12-15.

Sincerely,

John Williamson

John Williamson
Relocation Consultant

Attachments