

**Mecklenburg County
IBM Drive Connector
From SR 2467 (Mallard Creek Road) to IBM Drive
Federal Aid Project No. STP-5238(6)
W.B.S. No. 34811.1.FD2
T.I.P. No. U-2507AA**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

5.30.2014

DATE

for

Jennifer Harris

Richard W. Hancock, P.E., Manager
Project Development & Environmental Analysis Unit
North Carolina Department of Transportation

6-3-14

DATE

for

John F. Sullivan, III

Division Administrator
Federal Highway Administration

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**ADMINISTRATIVE ACTION
CATEGORICAL EXCLUSION**


May 2014

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
&
NC DEPARTMENT OF TRANSPORTATION

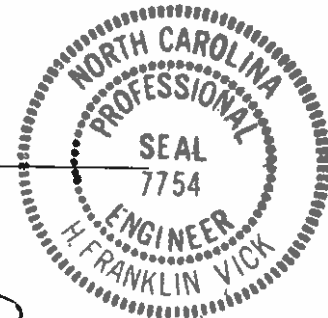
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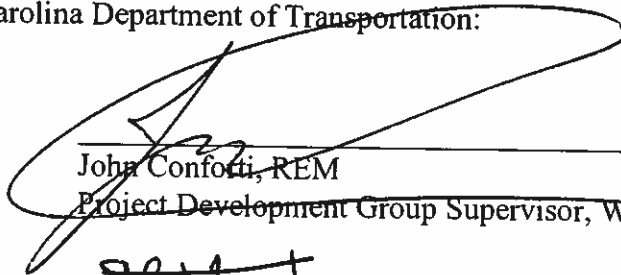


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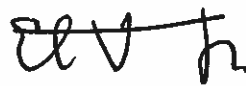
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DATE



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Project Commitments

Division 10/ Right of Way Branch

NCDOT will coordinate with the Charlotte Mecklenburg School System on construction activities in and near the project.

NCDOT will coordinate with the Charlotte Department of Transportation for local design requirements such as the normal crown superelevation and installation of a pedestrian cross-walk at Baucom Road. A traffic signal will be provided at Mallard Creek Road and IBM Drive Connector.

Drainage for the project and how it will pass under IBM Drive will be analyzed during the final design process. If jurisdictional impacts occur at this time, NCDOT will coordinate any permitting issues with the appropriate regulatory agency.

If the proposed retaining wall height exceeds 12 feet, then additional right-of-way may be necessary for soil nails and tiebacks.

The IBM Drive Connector will be built prior to limiting access on Old Mallard Creek Road to right in/right out only (part of the U-2507A project).

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I. INTRODUCTION

The project is located within the northeast quadrant of Charlotte in Mecklenburg County (see Figure 1). The IBM Drive Connector project was added to the North Carolina Board of Transportation (NCBOT) amended State Transportation Improvement Program (STIP) in January 2014 as U-2507AA. The IBM Drive Connector was developed by the City of Charlotte and Division 10 to improve vehicular and pedestrian interconnectivity with the local street network and relieves congestion at the adjacent intersections of IBM Drive/W.T. Harris Boulevard and Mallard Creek Road/W.T. Harris Boulevard. The project location is shown in Figure 1. No substantial environmental impacts are anticipated. The project development, preliminary engineering, and environmental studies for this project are being conducted in compliance with the National Environmental Policy Act (NEPA) and other applicable laws and regulations. A Categorical Exclusion (CE) document is being prepared to document any notable findings.

II. PURPOSE AND NEED STATEMENT

A. Need for Action

NCDOT proposes to connect Mallard Creek Road to IBM Drive at Baucom Road on new location, a distance of approximately 0.3 mile. Due to the change in access to nearby shopping areas by the U-2507A project, NCDOT will provide a connection adjacent to the University City YMCA property. This connection will improve vehicular and pedestrian interconnectivity with the local street network and relieves congestion at the adjacent intersections of IBM Drive/W.T. Harris Boulevard and Mallard Creek Road/W.T. Harris Boulevard.

B. Purpose of the Proposed Action

Because of the changes in traffic flow attributed to the U-2507A project, local shopping areas and the University City YMCA have expressed concerns about customer accessibility. Left turn movements along Mallard Creek Road will be restricted by utilizing a concrete median. Furthermore, traffic movements from Keaton Drive turning onto Mallard Creek Road will be limited to right-in and right-out turns only. A U-turn can be made at the T-intersection with Baucom Road in order to travel north towards Old Mallard Creek Road or W.T. Harris Boulevard. This project will limit the amount of traffic making U-turns on Mallard Creek Road.

Construction for U-2507A is currently underway and construction for U-2507AA will begin between September 2014 and June 2015.

III. EXISTING CONDITIONS

A. System Linkage

1. Existing Road Network

The project is located within the city limits and in the northeast quadrant of Charlotte between I-85 and I-77 (see Figure 1).

2. Railways, Airports and Mass Transit

Although many railways exist in Charlotte, there are no railways near the project. The closest airport is the Concord Regional Airport, approximately 7.3 miles away.

There are a number of Charlotte Area Transit System (CATS) bus stops along Mallard Creek Road and IBM Drive. The CATS bus routes 22, 29, and 54X travel along these roads with frequent stops along each route. These transit services are not anticipated to be interrupted by this project.

B. Route Classification

The IBM Drive Connector will be classified as an urban local route with a design speed of 30 miles per hour (mph) and a posted speed limited of 25 mph. Mallard Creek Road is classified as an “urban minor arterial” and W.T. Harris Boulevard is classified as an “other freeway” in the Statewide Functional Classification System. Also, W.T. Harris Boulevard is classified as a freeway/expressway on the National Highway System Routes. The Charlotte Department of Transportation (CDOT) requested that the design for this facility use the Low Speed Urban Design Guidelines. The facility will remove supers and have a normal crown except where superelevation is needed to tie to existing grades. The roadway will consist of two 11-foot lanes and a 10-foot multi-use path. See Figures 2, 3A, and 3B for the typical section and preliminary design map.

C. Traffic Volumes

An updated traffic forecast was performed by the NCDOT Transportation Planning Branch in September 2013. The updated traffic forecast for U-2507A included a 2-lane proposed connector road (IBM Drive Connector, U-2507AA) from Mallard Creek Road to IBM Drive and R-2420A (University City Blvd Extension). The IBM Drive Connector was studied with and without direct access to the Wells Fargo complex.

According to 2013 traffic studies, approximately 3,000 vehicles per day are anticipated to use the connector in year 2013. By 2015, approximately 3,300 vehicles per day are anticipated to use the connector. By 2035, approximately 4,400 vehicles per day are anticipated to use the connector. There was no difference in traffic volumes whether or not the Wells Fargo access is built to provide a direct entrance to the complex. See Figures 4-1 through 4-8 for more information on traffic volumes in the area. Mallard Creek Road has a posted speed limit of 45 mph. IBM Drive has a posted speed limit of 35 mph.

1. Capacity

The NCDOT Congestion Management Unit completed a capacity analysis using the updated U-2507A traffic forecast completed in September 2013, for the interim year 2020 and design year 2035 for AM and PM peak hours. The analysis was based on the “without Wells Fargo access” alternative.

Table 1: Intersection Analysis for Design Year (2035-Build) Peak Hour

Design Year 2035	Intersection 1		Intersection 2	
	Mallard Creek Road/Baucom Road/Proposed IBM Connector (4-leg) 2035-Build		IBM Drive and Proposed IBM Connector (3-leg) 2035-Build	
	Signal		Signal	
	AM	PM	AM	PM
Overall Intersection LOS	C	C	B	B
Worst Movement v/c Ratio	0.87	0.87	0.84	0.77
Worst Movement LOS	D (SB Mallard Creek Rd Left-turn)	E (Baucom Rd Left-turn)	D (NB IBM Dr. Left-turn)	C

The Regional Traffic Engineer reviewed the traffic forecast for both the Mallard Creek/Baucom Road/IBM Connector and the IBM Connector/IBM Drive intersections. Based on the volumes and analysis the Regional Traffic Engineer concurred with the recommendation to signalize the intersection at Mallard Creek/Baucom Road/IBM Connector. However, the Regional Traffic Engineer recommended a stop sign control at the IBM Connector/IBM Drive intersection, based on the construction of an exclusive right turn lane at the intersection.

D. Utilities

The January 21, 2014 NCDOT Utility Estimate Worksheet describes the utilities within the study area. Water, electric and telephone lines were evident during a field inspection. An unknown easement bisects the YMCA playing field. A more detailed utility study will be determined during right-of-way assessments.

E. Accident Analysis

Due to the new location of the project, there are no accidents to report during a recent three-year period.

F. Bicycles and Pedestrians

Being on new location, this project is not part of a designated bicycle route. Sidewalks exist on Mallard Creek Road and IBM Drive. Pedestrian activity was noticeable during site visits. The Wells Fargo property on IBM Drive contains an existing greenway and has plans to link this greenway to other greenways. There are no official city greenway trails in the project area. In the University Research Park Area Plan, there are proposed bike lanes on Mallard Creek Road and IBM Drive.

G. Existing Land Use and Demographics

Existing land use is classified as retail, office, single and multi-family residential uses. Other than the Autumn Park Apartment community, there are a few single family communities in the southern portion of the study area. See Figure 5 for more information on residential communities and local businesses in the area. There are high percentages of Asian and Black or African American persons and a low percentage of low-income persons within the Demographic Study Area (DSA). See Figure 6 for more information on the boundaries of the DSA. More information is included in Section VII.B.

H. School Bus Routes

Per conversation with Ms. Paula Doty at Charlotte-Mecklenburg School System on January 13, 2014, there are many school buses that use Mallard Creek Road and IBM Drive each weekday during the traditional and year-round school calendar. Vance High School, Morehead Elementary School (magnet program), and Nathaniel Alexander Elementary School are located near the project and their buses use Mallard Creek Road, IBM Drive and W.T. Harris Boulevard as their main entrance and exit points to the schools. NCDOT will coordinate with the school system on construction activities along this route.

I. Geodetic Survey Monuments and NC Traverse Stations

There are no North Carolina Geodetic Survey (NCGS) monuments in the project area. The nearest station is PID AC 7816 (IBM) located just east of the W.T. Harris Boulevard and IBM Drive intersection.

There are two NC Traverse Stations within the demographic study area. One is located on Mallard Creek Road just south of Old Mallard Creek Road (PID AC 7817, Newkirk) and one is located on Mallard Creek Road just north of Interface Lane adjacent to the Autumn Park Apartments (PID AC7818, Division).

J. Hazardous Materials

There is one underground storage tank (UST) and one hazardous materials site located within the demographic study area. The UST (MO-5458) is on YMCA property, 8022 Mallard Creek Road. This site was cleaned up on July 26, 1996 and closed out on March 5, 1997.

One hazardous materials site is located at the Flextronics Facility on Morris Estate Road. Flextronics services include printed circuit boards, metal, and plastics fabrication.

IV. ALTERNATIVES

A. No Build Alternative

The No Build or “Do-Nothing” alternative will not provide access from Mallard Creek Road to IBM Drive. The No-Build Alternative will not have any direct impacts to the human and natural resources in the area such as right of way purchases, residential/business relocations, water resources, plant communities, or wildlife habitats.

B. Alternative 1 (Preferred)

The Build Alternative would provide improved access to shopping areas, businesses, and the University City YMCA by providing a connector route from Baucom Road/Mallard Creek Road intersection to IBM Drive. The new connector route will help to reduce traffic congestion at W. T. Harris Boulevard and Mallard Creek Road. In addition, the Build Alternative will ameliorate restricted turning movements resulting from the Mallard Creek Road project.

1. Design Criteria and Typical Section

The IBM Drive Connector will be a 0.3-mile roadway that extends from IBM Drive, through YMCA property, and terminates at Mallard Creek Road at Baucom Drive. It will be a two-lane curb and gutter road, with 11-foot lane widths (varying up to 18.5 feet due to 11-foot left turn lanes at the intersections with a four-foot striped area between lanes) and a ten-foot multi-use path on the YMCA side. There will be a 536-foot retaining wall on the north end of the project to avoid impacts to the YMCA walking path. The road will have a posted speed limit of 25 mph, with a design speed of 30 mph. Turn lanes at IBM Drive and Mallard Creek Road intersections are incorporated into the design plans (See Figure 3A and 3B).

On IBM Drive, a left turn lane will be added from the northbound direction onto IBM Drive Connector. In order to add this left turn lane, IBM Drive will be widened on its east side and right-of-way will be needed from the Wells Fargo property. Approximately 0.1-mile of improvement is anticipated for IBM Drive from just north of Compatible Way to just south of Old Mallard Creek Road.

On Mallard Creek Road, a traffic signal will be installed at the intersection to facilitate turning movements and traffic flow. NCDOT is coordinating with the Charlotte Department of Transportation to determine if pedestrian cross-walks are needed from the IBM Drive Connector to Baucom Drive.

2. Right-of-Way and Access Control

The right-of-way along IBM Drive varies from 60 to 125 feet. The right-of-way along Mallard Creek Road varies from 110 to 115 feet.

The majority of the right-of-way along the project is owned by University City YMCA, except at the intersections with Mallard Creek Road and IBM Drive. The proposed right-of-way will vary depending upon the terrain. Additional right-of-way at the intersections will be acquired from nearby businesses and residences. On IBM Drive Connector, the roadway width widens at the intersections to include a left-hand turn lane and median.

Currently, no driveways are proposed along the project. There is no control of access.

C. Alternatives Eliminated from Further Consideration

The No-Build Alternative does not meet the primary purpose and need for the project. For this reason, the No-Build Alternative was eliminated from further consideration.

It was suggested to use Solectron Road rather than build this project. Solectron Road is located further south of the project and does not currently connect to Mallard Creek Road. To connect it, the alignment would have to shift further south to avoid impacts to the multi-family residential community. This shift would impact the parking lot of the Flextronics Facility. It will not provide as direct access to nearby shops and YMCA as the proposed IBM Drive Connector project.

V. ESTIMATED COSTS

The estimated costs, based on 2014 prices, are as follows:

Table 2: Estimated Costs

Description	No Build	Alternative 1
	Price \$	Preferred Price \$
Clearing and Grubbing	0	68,000
Supplement Clearing and Grubbing	0	3,000
Unclassified Excavation	0	125,000
Drainage New Location	0	68,000
Drainage Y Lines (widening)	0	9,600
B25.0B Base Course (3")	0	79,296
I19.0B Binder Course (4")	0	63,140
S9.5B Surface Course (4")	0	110,418
Asphalt Binder	0	201,600
Fine Grading	0	16,560
2'-6" Concrete Curb and Gutter	0	64,755
1'-6" Concrete Curb and Gutter	0	1,110
4" Concrete Sidewalk	0	51,792
Removal of Chain Link Fence	0	1,023
Chain Link Fence	0	3,888
Erosion Control	0	40,000
Traffic Control New Location	0	10,200
Traffic Control Y Lines (widening)	0	6,000
Thermo and Markers	0	5,520
New Traffic Signal-Full Movement	0	100,000
Signing	0	10,000
Retaining Wall 536'x15.5'	0	747,720
Miscellaneous & Mobility (10% Strs&Utility)	0	74,378
Miscellaneous & Mobility (35% Roadway)	0	364,000
Eng. & Contingencies	0	375,000
Total Construction Cost	0	2,600,000
Right-of-way Costs	0	2,006,250
Right-of-way Utility Costs	0	59,419
Total Project Cost	0	4,665,669

VI. NATURAL ENVIRONMENT

The information contained in this section is based on the Natural Resources Technical Report (March 2014). All work was conducted in accordance with the NCDOT Natural Environment Section standard operating procedures and July 2012 NRTR template. Field work was conducted during June 17 and August 01, 2013. The study area encompasses approximately 8.4 acres total. Actual impacts will occur within construction limits and will be less than those calculated for this report. Special concerns evaluated in the field include potential habitat for protected species, streams, wetlands, and water quality.

A. Physical Characteristics

The study area lies in the piedmont physiographic region of North Carolina. Topography in the project vicinity is typical piedmont with gentle hills and small streams. Elevations in the study area range from 650 to 700 feet above sea level. Land use in the project vicinity is urban and consists of both commercial and residential communities with large amounts of maintained/disturbed areas.

The Mecklenburg County Soil Survey identifies one soil type within the project study area: Cecil Sandy Clay, 2 to 8% Slopes, non-hydric.

B. Water Resources

The project study area is located within the Yadkin-Pee Dee River Basin and is part of the 8-digit USGS hydrologic unit 03040105. There is one jurisdictional stream and no wetlands found within the project study area. The stream is an unnamed tributary (UT) to Doby Creek, which then flows into Mallard Creek. Doby Creek is designated as class C waters and has a stream number of 13-17-5-3. Mallard Creek is designated as class C waters and has a stream number of 13-17-5. In 2008, Doby Creek from its source to Mallard Creek is listed as a 303(d) water with impaired aquatic life and fair bioclassification. Also in 2008, Mallard Creek from Stoney Creek to Rocky River (three miles downstream of the project) is listed as a 303(d) water with impaired aquatic life and having standard violations of copper and turbidity.

The UT to Doby Creek it is not a trout water, anadromous fish water, or Primary Nursery Area (PNA). There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area.

C. Biotic Resources

1. Plant Communities

Two terrestrial communities were identified in the study area: maintained/disturbed and mixed hardwood/pine forest. Figure 7 shows the location and extent of these terrestrial communities in the project study area. A brief description of each community type follows. Scientific names of all species identified are included in the Natural Resources Technical Report (March 2014).

a. Maintained/Disturbed

Maintained/disturbed areas are located along roadway, driveway, parking lot and powerline rights-of-way and cover approximately 3.7 acres of the project study area. Vegetation in these areas is maintained by mowing. This community is dominated by a combination of native and exotic, low growing grasses, herbs, vines, and shrubs including black cherry, sweetgum, yellow poplar, blackberry, trumpet creeper, Chinese privet, clover, fescue, Japanese honeysuckle, poison ivy, and English ivy.

b. Mixed Hardwood/Pine Forest

The Mixed Hardwood/Pine forest community is the most common habitat encountered within the project study area and covers approximately 4.7 acres of the project study area. It is characterized by the presence of hardwoods and pines. This dry upland component occurs on ridges and slopes within the project study area. Canopy species include red maple, sweetgum, yellow poplar, American beech, white oak, sugar maple, Virginia pine, black cherry, eastern red cedar, and pignut hickory. The understory often includes winged elm, southern red oak, flowering dogwood, eastern red cedar, Chinese privet, shortleaf pine, persimmon and willow oak. The herb layer includes American strawberry bush, Japanese honeysuckle, muscadine, roundleaf greenbrier, and poison ivy.

Table 3: Terrestrial Communities

Terrestrial Communities	Coverage (ac.)
Maintained/ Disturbed	3.7
Mixed Hardwood/Pine Forest	4.7
Total	8.4

2. Wildlife

Terrestrial communities in the study area are comprised of both natural and disturbed habitats that may support a limited diversity of wildlife species (those species actually observed are indicated with *). Mammal species that commonly exploit these locations include eastern cottontail*, raccoon, gray squirrel*, Virginia opossum, woodchuck, and white-tailed deer. Birds that commonly use forest and forest edge habitats include the American crow*, Carolina chickadee*, tufted titmouse, brown thrasher*, song sparrow, and northern cardinal*. Birds that may use the open habitat within the study area include catbird*, and mocking bird*. Reptile and amphibian species that may use terrestrial communities located in the study area include the eastern box turtle, American toad, and five-lined skink.

3. Aquatic Communities

One aquatic community (intermittent stream) is present within the project study area. The UT to Doby Creek at this location may support eastern mosquitofish, northern cricket frog, crayfish* and stonefly*.

4. Wetland Communities

No wetland communities are present within the project study area.

5. Invasive Species

Six species from the 2012 NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified were Chinese privet (Threat), Japanese honeysuckle (Moderate Threat), and English Ivy (Threat). NCDOT will manage invasive plant species as appropriate.

D. Jurisdictional Topics

1. Clean Water Act – Section 404 and Section 401 Water Quality Certification

One jurisdictional stream was identified in the study area (Table 4). The location of it is shown on Figure 7. This jurisdictional stream, named SA, has been designated as an intermittent warm water stream for the purposes of stream mitigation. No compensatory mitigation is required and it is not subject to river basin buffer rules. Although 32 linear feet of stream are within the project study area, it is anticipated that no actual impacts to this jurisdictional feature will result from project construction.

No jurisdictional wetlands were identified within the study area.

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of National Environmental Policy Act (NEPA) documentation. As a result, a Nationwide Permit (NWP) 23 will likely be applicable if impacts to jurisdictional features are required. A NWP No. 33 may also apply for temporary construction activities. 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 NCDWR will be needed.

2. Coastal Area Management Act Areas of Environmental Concern

Mecklenburg County is not included in the twenty counties under the jurisdiction of the Coastal Area Management Act (CAMA). Therefore, no CAMA Areas of Environmental Concern (AEC) exist in the project study area. A CAMA permit from the North Carolina Division of Coastal Management (NCDCM) will not be required.

3. Federally Protected Species

As of January 17, 2014, the United States Fish and Wildlife (USFWS) lists four federally protected species for Mecklenburg County (Table 5). 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.

The North Carolina Natural Heritage Program (NCNHP) data base does not identify any species within one mile of the project study limit.

Table 4: Federally Protected Species listed for Mecklenburg County

Scientific Name	Common Name	County	Federal Status*	Habitat Present	Biological Conclusion
<i>Rhus michauxii</i>	Michaux's sumac	Mecklenburg	E	Yes	No Effect
<i>Lasmigona decorata</i>	Carolina heelsplitter	Mecklenburg	E	No	No Effect
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	Mecklenburg	E	Yes	No Effect
<i>Echinacea laevigata</i>	Smooth coneflower	Mecklenburg	E	Yes	No Effect

*E - Endangered

Carolina heelsplitter

USFWS Recommended Survey Window: year round

Habitat Description: The Carolina heelsplitter was historically known from several locations within the Catawba and Pee Dee River systems in North Carolina and the Pee Dee and Savannah River systems, and possibly the Saluda River system, in South Carolina. In North Carolina, the species is now known only from a handful of streams in the Pee Dee and Catawba River systems. The species exists in very low abundances, usually within six feet of shorelines, throughout its known range. The general habitat requirements for the Carolina heelsplitter are shaded areas in large rivers to small streams, often burrowed into clay banks between the root systems of trees, or in runs along steep banks with moderate current. The more recent habitat where the Carolina heelsplitter has been found is in sections of streams containing bedrock with perpendicular crevices filled with sand and gravel, and with wide riparian buffers.

Biological Conclusion: No Effect

No aquatic resources are present within the project study area, therefore, habitat for the Carolina heelsplitter is not present. A review of NCNHP records, updated January 2014, indicates no known Carolina heelsplitter occurrence within 1.0 mile of the study area.

Schweinitz's sunflower

USFWS Optimal Survey Window: late August-October

Habitat Description: Schweinitz's sunflower is endemic to the Piedmont of North and South Carolina. The few sites where this rhizomatous perennial herb occurs in relatively natural vegetation are found in Xeric Hardpan Forests. The species is also found along roadside rights-of-way, maintained power lines and other utility rights-of-way, edges of thickets and old pastures, clearings and edges of upland oak-pine-hickory woods and Piedmont longleaf pine forests, and other sunny or semi-sunny habitats where disturbances (*e.g.*, mowing, clearing, grazing, blow downs, storms, frequent fire) help create open or partially open areas for sunlight. It is intolerant of full shade and excessive competition

from other vegetation. Schweinitz's sunflower occurs in a variety of soil series, including Badin, Cecil, Cid, Enon, Gaston, Georgeville, Iredell, Mecklenburg, Misenheimer, Secrest, Tatum, Uwharrie, and Zion, among others. It is generally found growing on shallow sandy soils with high gravel content; shallow, poor, clayey hardpans; or shallow rocky soils, especially those derived from mafic rocks.

Biological Conclusion: No Effect

Suitable habitat for Schweinitz's sunflower is present in the study area along a roadside shoulder and forest edges. Surveys were conducted by RK&K biologists Hal Bain and Pete Stafford in these areas on August 01, 2013. No individuals of Schweinitz's sunflower or other sunflower species were observed. A review of NCNHP data, updated January 2014, indicates no known occurrences within 1.0 mile of the study area.

Smooth coneflower

USFWS Optimal Survey Window: late May-October

Habitat Description: Smooth coneflower, a perennial herb, is typically found in meadows, open woodlands, the ecotonal regions between meadows and woodlands, cedar barrens, dry limestone bluffs, clear cuts, and roadside and utility rights-of-way. In North Carolina, the species normally grows in magnesium- and calcium- rich soils associated with gabbro and diabase parent material, and typically occurs in Iredell, Misenheimer, and Picture soil series. It grows best where there is abundant sunlight, little competition in the herbaceous layer, and periodic disturbances (*e.g.*, regular fire regime, well-timed mowing, careful clearing) that prevents encroachment of shade-producing woody shrubs and trees. On sites where woody succession is held in check, it is characterized by a number of species with prairie affinities.

Biological Conclusion: No Effect

Suitable habitat for smooth coneflower is present in the study area along a roadside shoulder and forest edges. Surveys were conducted by RK&K biologists Hal Bain and Pete Stafford in these areas on June 17, 2013. No individuals of smooth coneflower or other coneflower species were observed. A review of NCNHP data, updated January 2014, 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, periodic fire) maintains its open habitat.

Biological Conclusion: No Effect

Suitable habitat for Michaux's sumac is present in the study area along a roadside shoulder and forest edges. Surveys were conducted by RK&K biologists Hal Bain and Pete Stafford in these areas on June 17, 2013. No individuals of Michaux's sumac were observed. A review of NCNHP data, updated January 2014, indicates no known occurrences within 1.0 mile of the study area.

4. Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily 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. No aquatic resources suitable to support the bald eagle are present within the project study area nor are any of these types of habitat present within 1.0 miles of the project study area.

A field review and a review of the NCNHP database, updated January 2014, revealed no known occurrences of this species within 1.0 mile and 660 feet of the project study area. Due to no known occurrences within 1.0 mile and 660 feet and that there is no habitat in the project study area, it has been determined that this project will have no effect on this species.

5. Endangered Species Act Candidate Species

As of January 17, 2014, the USFWS lists one Candidate species for Mecklenburg County: Georgia aster (*Symphyotrichum georgianum*). A review of NCNHP records, updated January 2014, indicates no known occurrences of Georgia aster within 1.0 mile of the study area.

VII. HUMAN ENVIRONMENT

The project is located in the northeast quadrant of Charlotte in Mecklenburg County between I-85 and I-77. Existing land use is classified as retail, office, single and multi-family residential uses.

The information in this section describes the human environment including demographics, historic features, Section 4(f) properties, and noise and air quality impacts. A more detailed description of the community and an assessment of potential social and economic impacts associated with this project are provided in the Community Impact Assessment Short Form for this project and is available from the NCDOT project files. The Direct Community Impact Area (DCIA) begins at W.T. Harris Boulevard, travels along Mallard Creek Road to Interface Lane and Compatible Way, then back north along IBM Drive to W.T. Harris Boulevard (see Figure 6). The DCIA is the area that directly surrounds the project and will contain the majority of impacts or benefits. The Demographic Study Area (DSA) includes the DCIA but extends further south to Morris Estate Drive, which encompasses the entire Census Tract 55.24, Block Group 2. The DSA is used in the population and demographic comparisons.

A. Section 106 Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title 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 afford the Advisory Council a reasonable opportunity to comment on such undertakings.

1. Historic Architecture

NCDOT – Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, Historic Preservation Office (HPO), Office of State Archaeology (OSA) and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that no surveys are required (see form dated November 18, 2013). In a letter dated March 6, 2014, SHPO stated that a review was conducted and no historic resources would be affected by the project.

2. Archaeology

NCDOT – Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that no surveys are required (see form dated November 5, 2013).

B. Population and Demographics

1. Overall Population

The Office of State Budget and Management projects growth for Mecklenburg County from April 2000 to 2010 at a growth rate of 23.8%. There is a high percentage of growth around the DCIA; however the DCIA is already built out. The US Census Bureau data was used to assess population and demographics in Census Tract 55.24, Block Group 2. Population in 2010 was 1,259 persons. Growth since 2000 was not reported since the boundaries of the block group had changed over the decade. Growth in the county increased 32.2% and in the State increased 18.5%. Therefore, it is assumed that growth also occurred in the block group.

2. Minority Population

There is a high percentage of minority populations in the area. Census data shows that the population is 31% Black or African American and 45% Asian. The total non-white population in the DSA is 83% compared to the county at 45%. There are two main residential communities. One is in Autumn Park; the other is a single family community off Penninger Circle and Cypress Ridge Drive.

3. Low Income Population

There is a low percentage of low income populations in the area. Census data shows that 5.3% of the population is below the poverty level, and of that 5.3%, all of them are under 50% of the poverty level.

4. Limited English Proficiency and Hispanic/Latino Population

No minority populations exceed the US Department of Justice Limited English Proficiency (LEP) Safe Harbor threshold within the DSA. The US Census data reports approximately 89 (7%) persons in the DSA are of Hispanic or Latino Origin. A notable population of Spanish speakers above 50 people is present; however, this language group is protected under EJ, not LEP. Although there is a high percentage of Asian/Pacific persons, there are none that speak English less than very well within the DSA.

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

Section 4(f) of the Department of Transportation Act of 1966, as amended, states in part “The Secretary may approve a transportation project or program requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land of a historic site of national, state, or local significance (as determined by the Federal, State or local officials having jurisdiction over the park, recreation area, refuge, or site) only if there is no prudent and feasible alternative to using the land, and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife refuge, or historic site resulting from such use.

The University City YMCA is a recreational facility located within the project study area. This facility is privately owned and requires membership to use the recreational facilities. Therefore this property is not protected under Section 4(f).

Section 6(f) of the Land and Water Conservation Act requires that the conversion of lands or facilities acquired with Land and Water Conservation Act funds be coordinated with the Department of Interior. There are no Section 6(f) properties affected by this project.

D. Noise & Air Quality

1. Noise

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 Federal or Federal-aid highway projects for construction of a highway or interchange on new location, improvements of an existing highway which significantly 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 and following procedures detailed in Title 23 CFR 772 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 “*Traffic Noise Analysis / IBM Drive Connector from SR 2467 (Mallard Creek Road) to IBM Drive*” can be viewed in the Project Development & Environmental Analysis Branch, Century Center Building A, 1010 Birch Ridge Drive, Raleigh.

Impacts from Design Year 2035 build condition traffic noise are not predicted for any noise-sensitive land use receptors as a result of the proposed highway project. Consideration of traffic noise abatement measures is not warranted because the proposed project will not create any traffic noise impacts.

Construction noise impacts may occur due to the close proximity of numerous noise-sensitive receptors to project construction activities. All reasonable efforts should be made to minimize exposure of noise-sensitive land uses to construction noise. Such efforts may include, but are not explicitly limited to, appropriate scheduling of construction activities, noise attenuating measures on construction equipment, and a consistent and open public involvement program.

The Date of Public Knowledge of the proposed highway project will be the approval date of the Categorical Exclusion (CE). After this date, the federal and state governments are no longer responsible for providing noise abatement measures for new development within the noise impact area of the proposed highway project. It is the responsibility of local governments and private landowners to ensure that noise-compatible designs are used for development after the Date of Public Knowledge. The NCDOT Traffic Noise Abatement Policy applies only to developed land and to undeveloped land for which development is permitted before the project Date of Public Knowledge. The criteria (trigger date) for determining when undeveloped land is permitted for development is the approval date of a building permit for an individual lot or site.

This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772. No additional noise analysis will be performed for this project unless warranted by a significant change in the project scope, vehicle capacity, or alignment.

2. Air Quality

Transportation conformity is required by the Clean Air Act (section 176(c) (42 U.S.C. 7506(c)) to ensure that federal funding and approval are given to highway and transit projects that are consistent with the air quality goals established by a State Implementation Plan (SIP). Conformity is required to demonstrate that the Metropolitan Planning Organization's Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) conform to the SIP. This approval was received from USDOT on May 2, 2014.

E. Indirect and Cumulative Effects Summary

Due to the presence of Transportation Causing Impact Activities (TICA's), an Indirect and Cumulative Effects (ICE) matrix is included as part of this study. The ICE's are based on a defined area, the Future Land Use Study Area (FLUSA) which is the area potentially affected through land use changes or development. The FLUSA follows the same boundary as the DCIA and is shown in Figure 5. Although there are TICA's, they are considered minimal due to the limited scope of the project within a built-out urban environment. An Indirect Scenario Assessment is not warranted.

- Scope of the Project - Although on new location, the scope is very limited at less than 0.5 mile on private YMCA property.
- Change in Accessibility - Access already exists north and south of the project, within a few minutes away. Travel time savings as a result of this project are estimated to be three minutes or less. This project will create an access where an adjacent project will limit access. Therefore, change in access will be minimal overall.
- Forecasted Population Growth - The annualized growth rate for the county is 1.3% from 2010 to 2030. The growth rate with the FLUSA will likely grow less than that of the county due to limited residential opportunities within the built-out area.
- Forecasted Employment Growth - The annualized growth rate for the county is 1.5% from 2010 to 2020. However, due to the limited nature of the project in a well-developed community, the employment opportunities in the area are not expected to experience notable change in the near future.
- Available Land - Due to the existing built-out nature of the FLUSA, there is very little land development opportunities available in the immediate area. Most forested areas are along property lines for buffering and not large enough to be considered open space. Available land is less than 1,250 acres.
- Water/Sewer Availability - Water and sewer services are provided by the City of Charlotte for the entire FLUSA.
- Market for Development - Due to the existing built-out nature of the community, the developmental potential is limited. According to the local planners Evan Lowry, Stewart Basham, and Kathy Carnett with the City of Charlotte, there is a market for development within the DSA; however, development opportunities are very limited.
- Public Policy – This area is governed by the MUMPO Long Range Transportation Plan and Comprehensive Transportation Plan. Other implemented policies are noted in the Centers, Corridors and Wedges (2010), University Research Park Area Plan (2010), 2015 Planning for our Future Plan (1997), Growth Development Policies (2007), and the Mecklenburg-Union County Thoroughfare Plan.
- Notable Environmental Features - There are no known protected species located near the project nor were any found during site surveys. To the north of the FLUSA, the project drains into Mallard Creek which is a 303(d) listed stream.

VIII. GENERAL ENVIRONMENTAL EFFECTS

No adverse impact on families or communities is anticipated. Furthermore, the project is expected to have an overall positive effect on the local area. Right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

No minority populations exceed the US Department of Justice Limited English Proficiency (LEP) Safe Harbor threshold within the demographic study area (5% of the DSA or 1000 persons).

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. All construction will take place along existing alignment. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will involve the direct conversion of farmland acreage within these classifications. The study area contains CeB2, a prime farmland soil. CeB2 represents Cecil Sandy Clay with 2-8% slopes. Approximately 8.4 acres is within the slope stake limits. However the area is on YMCA property and no farming opportunities exist in or around the project study area. In addition, the proposed project is located in an urban area as defined by the US Census Bureau's urbanized area mapping. Therefore, FPPA does not apply.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section revealed two sites with a Recognized Environmental Concern (REC) within the DSA. RECs are most commonly underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas. There is one underground storage tank (UST) and one hazardous materials site. The UST (MO-5458) is on YMCA property, 8022 Mallard Creek Road. This site was cleaned up on July 26, 1996 and closed out on March 5, 1997. One hazardous materials site is located at the Flextronics Facility on Morris Estate Road. Flextronics services include printed circuit boards, metal, and plastics fabrication. No impacts will occur to the Flextronics site.

The NCDOT Geotechnical Report for Planning (December 9, 2013) found that the soils appear mostly natural and undisturbed on the Mallard Creek end. The IBM Drive end is disturbed, and fill soils have been placed for the athletic fields and walking track at the YMCA. The depth of the fill soils, which is a mixture of sands, silts, and clays with some cobble-sized material, ranged from 10 to 35 feet. No unsuitable materials were found. No significant geotechnical impacts are anticipated for the roadway. If the proposed retaining wall height exceeds 12 feet, then additional right of way may be necessary for soil nails and tiebacks.

Mecklenburg County is a participant in the National Flood Insurance Program. There is one retention basin and ditch located along IBM Drive near the southwestern construction limits. The effluent is piped under IBM Drive through a 42-inch corrugated metal pipe and released on the

east side where the effluent becomes a potential jurisdictional feature. Current design plans do not impact the end of this pipe nor the potential jurisdictional feature. The proposed project is not anticipated to increase the level or extent of upstream flood potential. However, during final design, a hydraulic analysis will be performed to assess the need for additional drainage area and flood potential. If jurisdictional impacts are anticipated during final design, NCDOT will coordinate any permitting issues with the appropriate agencies.

The Federal Highways Administration has determined that a U.S. Coast Guard Permit is not required for this project.

IX. COORDINATION & AGENCY COMMENTS

A project scoping letter announcing the start of U-2507AA project development, environmental and engineering studies was mailed out to federal and state agencies in February 2014. The letter requested recipients supply information that would be helpful in evaluating potential environmental impacts of the project. The following agencies were contacted as a part of the project development:

- U.S. Army Corps of Engineers
- U.S. Forest Service,
- U.S. Environmental Protection Agency,
- U.S. Fish and Wildlife Service,
- N.C. Department of Environment & Natural Resources,
- N.C. Wildlife Resource Commission, and
- North Carolina State Historic Preservation Office.

According to the information submitted, there were no jurisdictional impacts within the study area and no impacts are anticipated to streams or wetlands. No USACE permit will be required. No responses were received thus far from all but USACE. See Appendix A for correspondence with regulatory agencies.

Due to there being no waterway crossings, a Coast Guard Bridge permit is not required for this project.

X. PUBLIC INVOLVEMENT

A newsletter was sent to approximately 30 addresses along the project. See Appendix B for all public involvement information. No comments were received in regards to the newsletter.

A Public Meeting was held on October 28, 2013 at the Morehead Elementary School in Charlotte. Approximately 29 local residents and 11 NCDOT/RK&K staff signed in and were present at the public meeting. Four copies of the public meeting map were displayed for viewing. A handout, which included the schedule, vicinity map, typical section, and copy of the public meeting map, were distributed. Comments sheets were provided and collected from four local citizens. The location of the meeting was changed from the cafeteria to the gymnasium. Right-of-way acquisition is scheduled to begin in September 2014 and construction is scheduled to begin in or before June 2015.

The majority of the questions pertained to U-2507A, Mallard Creek Road Improvements. Mr. Brett Canipe (Division 10 Mecklenburg District 2 Engineer), Kenny Hill (Division 10 Right-of-Way), and Ron Graham (Division 10 Mecklenburg District 2 Resident Engineer) were available to address specific questions about accessibility along Mallard Creek Road. Four written comments were submitted at the meeting. Some were in favor of the project. Some questioned the need for the project or other aspects of the adjacent project.

There is not substantial controversy on social, economic, or environmental grounds concerning the project.

XI. BASIS FOR CATEGORICAL EXCLUSION

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, and that the categorical exclusion classification, as defined in 40 CFR 1508.4 and 23 CFR 771.117, is appropriate.

XII. REFERENCES

Charlotte-Mecklenburg School System, Bus Transportation
NCDOT Community Impact Assessment Short Form (January 2014)
NCDOT Geotechnical Report for Planning (December 2013)
NCDOT Natural Resources Technical Report (February 2014)
NCDOT Noise Analysis (January 2014)
NCDOT Traffic Forecast Study for U-2507A (September 4, 2013)
NCDOT Utility Estimate Worksheet (January 2014)
MUMPO Long Range Transportation Plan (March 24, 2010)

SITE PHOTOS



Picture 1: Looking South on IBM Drive where the project will connect.



Picture 2: Looking North on IBM Drive, just north of the project



Picture 3: University City YMCA



Picture 4: Looking at edge of project on YMCA property

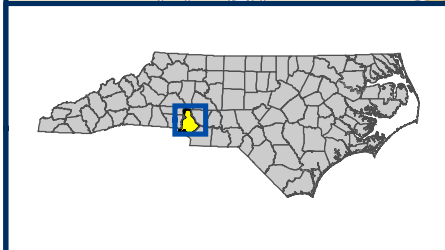
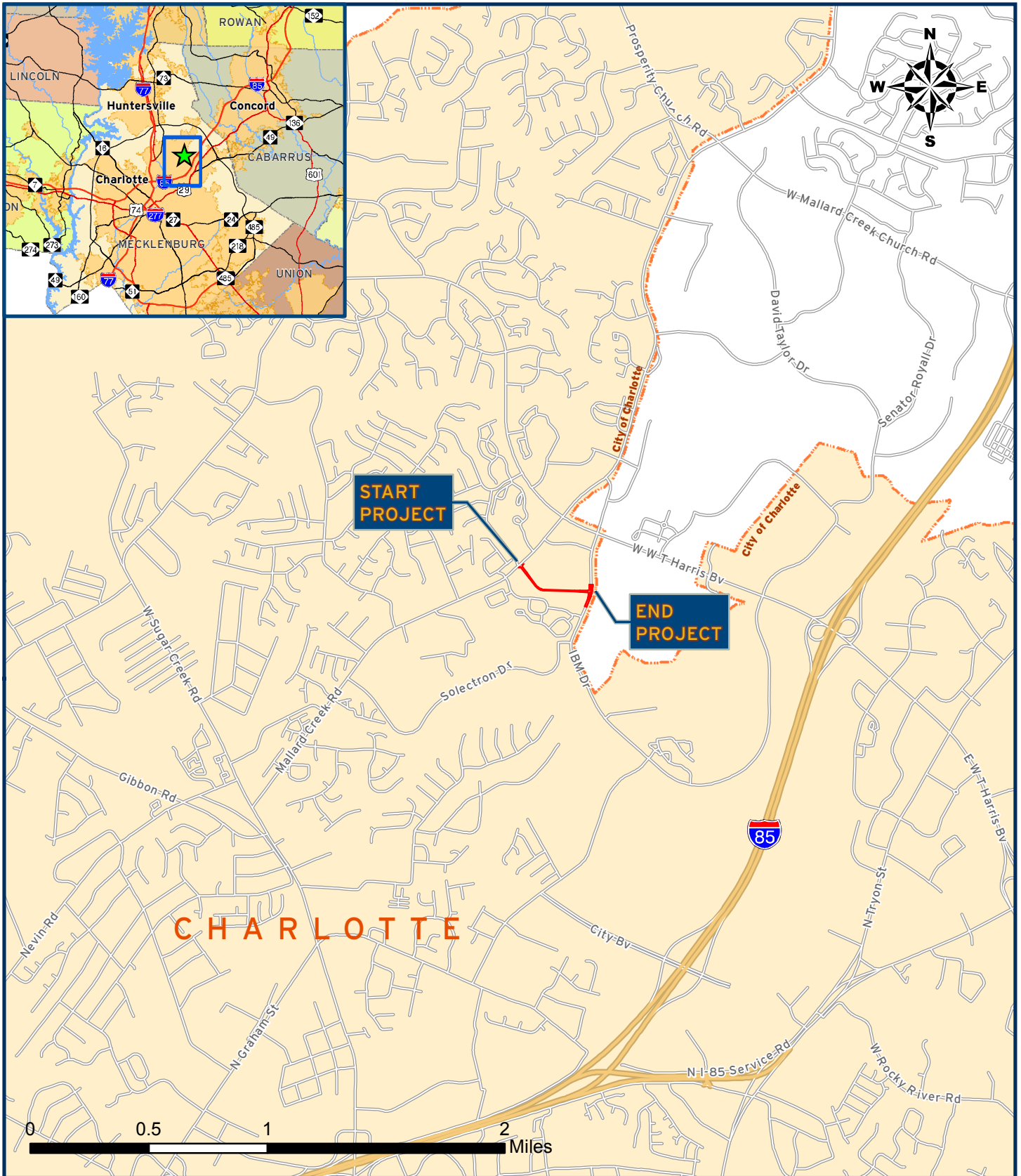


Picture 5: Looking East on edge of project on YMCA property



Picture 6: Looking South from Mallard Creek Road at Baucom Road

FIGURES



VICINITY MAP
 North Carolina Department
 of Transportation


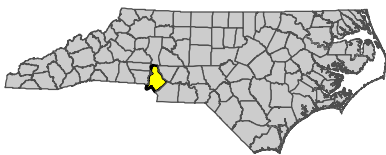
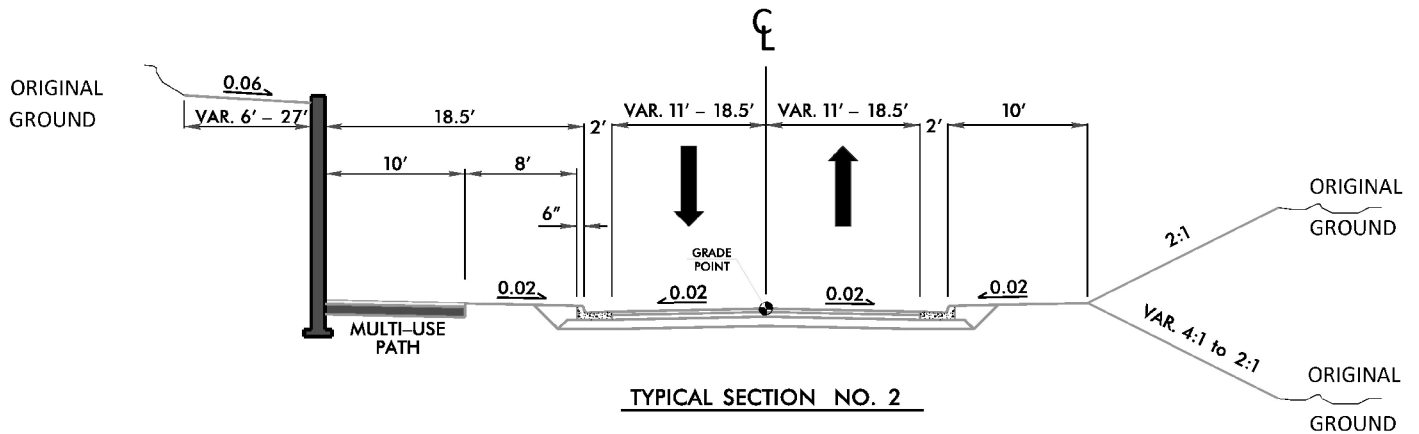
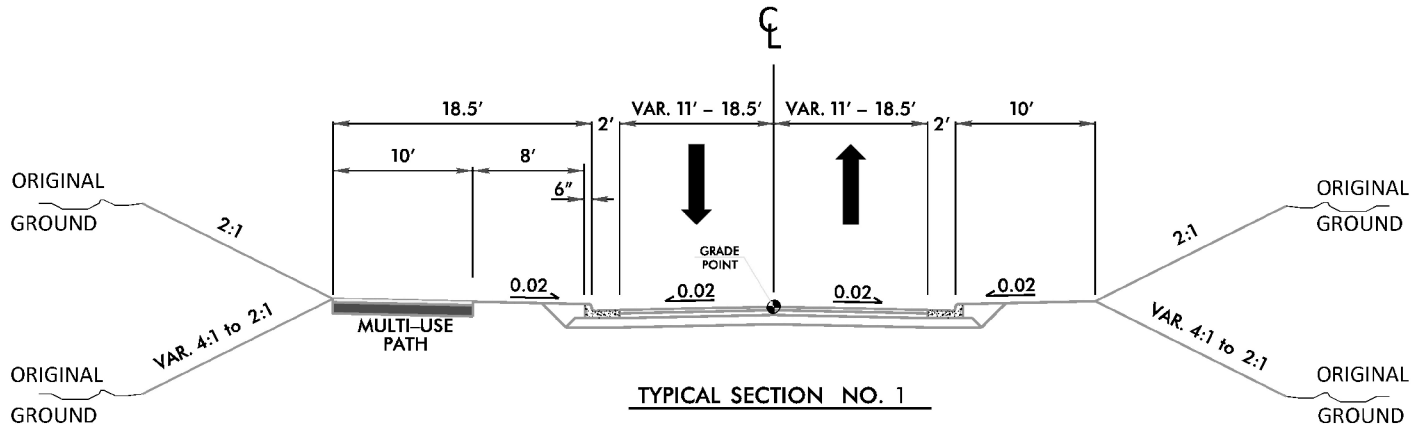


FIGURE 1

IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA

May 2014

Prepared by: **RK&K**



TYPICAL SECTIONS

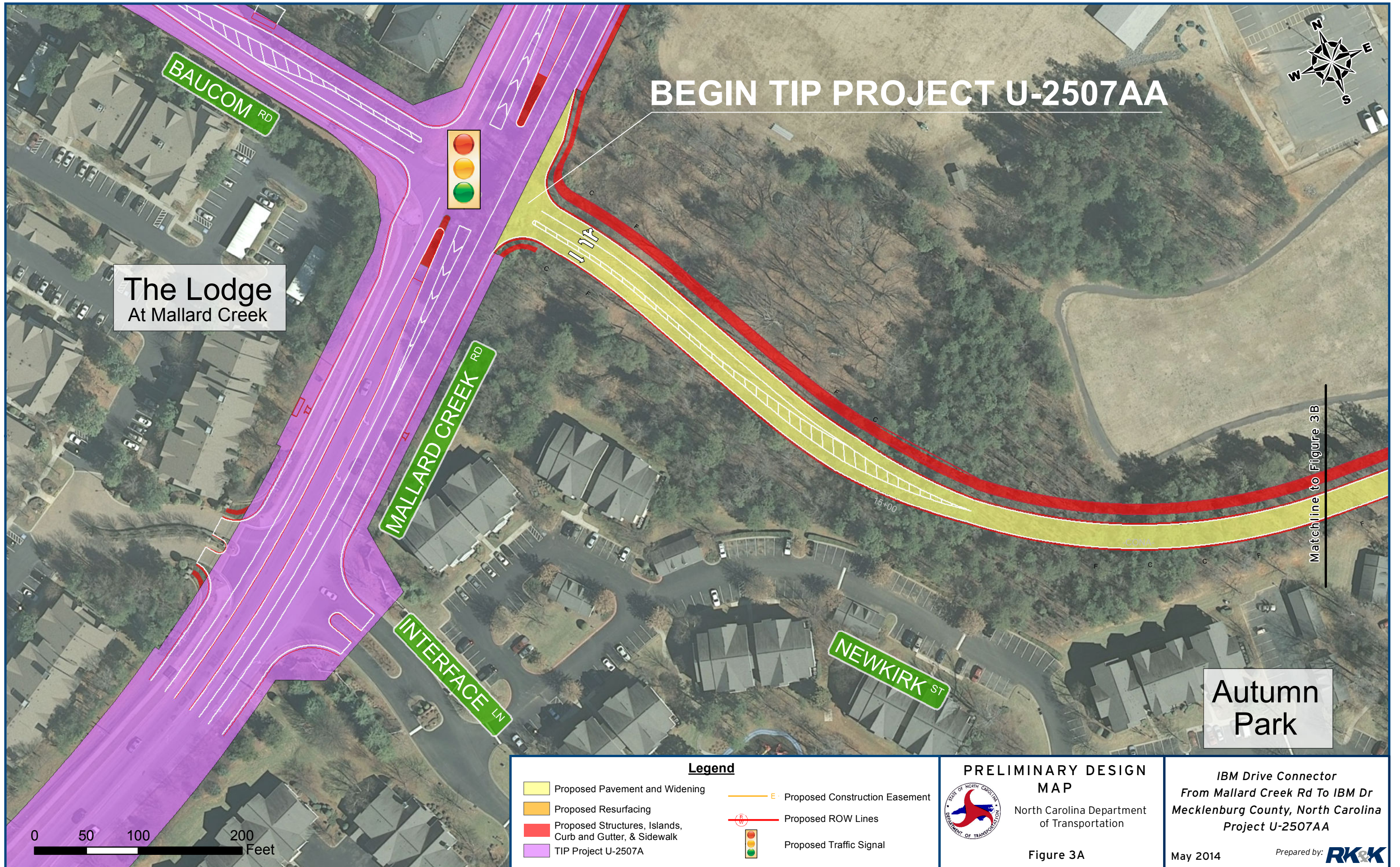
North Carolina Department
of Transportation

FIGURE 2

*IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA*

May 2014

Prepared by: **RK&K**



BEGIN TIP PROJECT U-2507AA

The Lodge
At Mallard Creek

Autumn
Park

Matchline to Figure 3B

Legend

- Proposed Pavement and Widening
- Proposed Resurfacing
- Proposed Structures, Islands, Curb and Gutter, & Sidewalk
- TIP Project U-2507A
- Proposed Construction Easement
- Proposed ROW Lines
- Proposed Traffic Signal

PRELIMINARY DESIGN MAP



North Carolina Department of Transportation

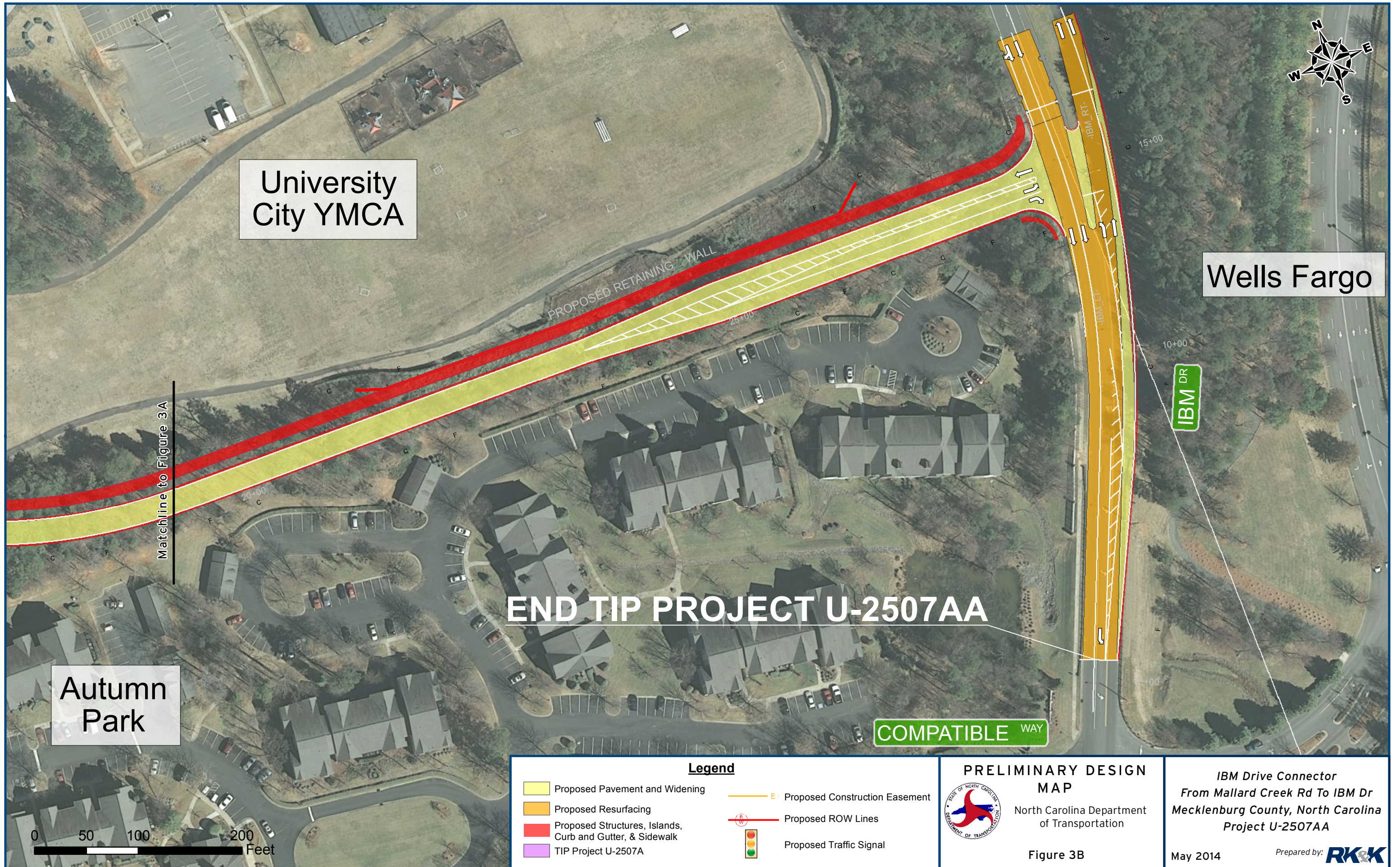
Figure 3A

IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA

May 2014

Prepared by: **RK&K**

0 50 100 200 Feet



University City YMCA

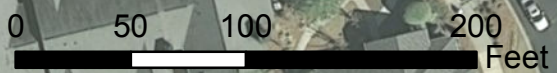
Wells Fargo

Autumn Park

END TIP PROJECT U-2507AA


COMPATIBLE WAY

Matchline to Figure 3A



Legend	
	Proposed Pavement and Widening
	Proposed Resurfacing
	Proposed Structures, Islands, Curb and Gutter, & Sidewalk
	TIP Project U-2507A
	Proposed Construction Easement
	Proposed ROW Lines
	Proposed Traffic Signal

PRELIMINARY DESIGN MAP



North Carolina Department of Transportation

Figure 3B

*IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA*

May 2014

Prepared by: **RK&K**

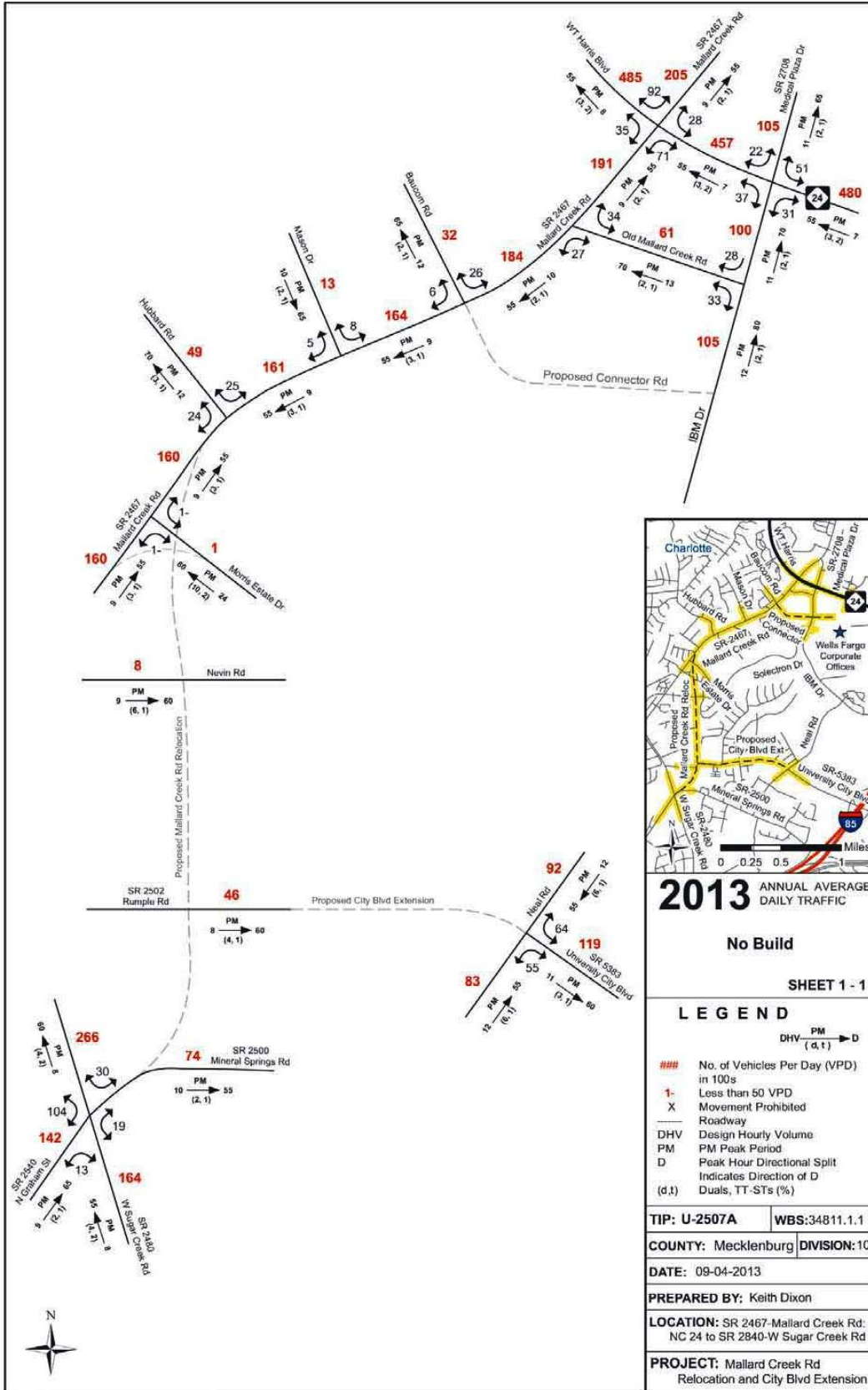


Figure 4-1

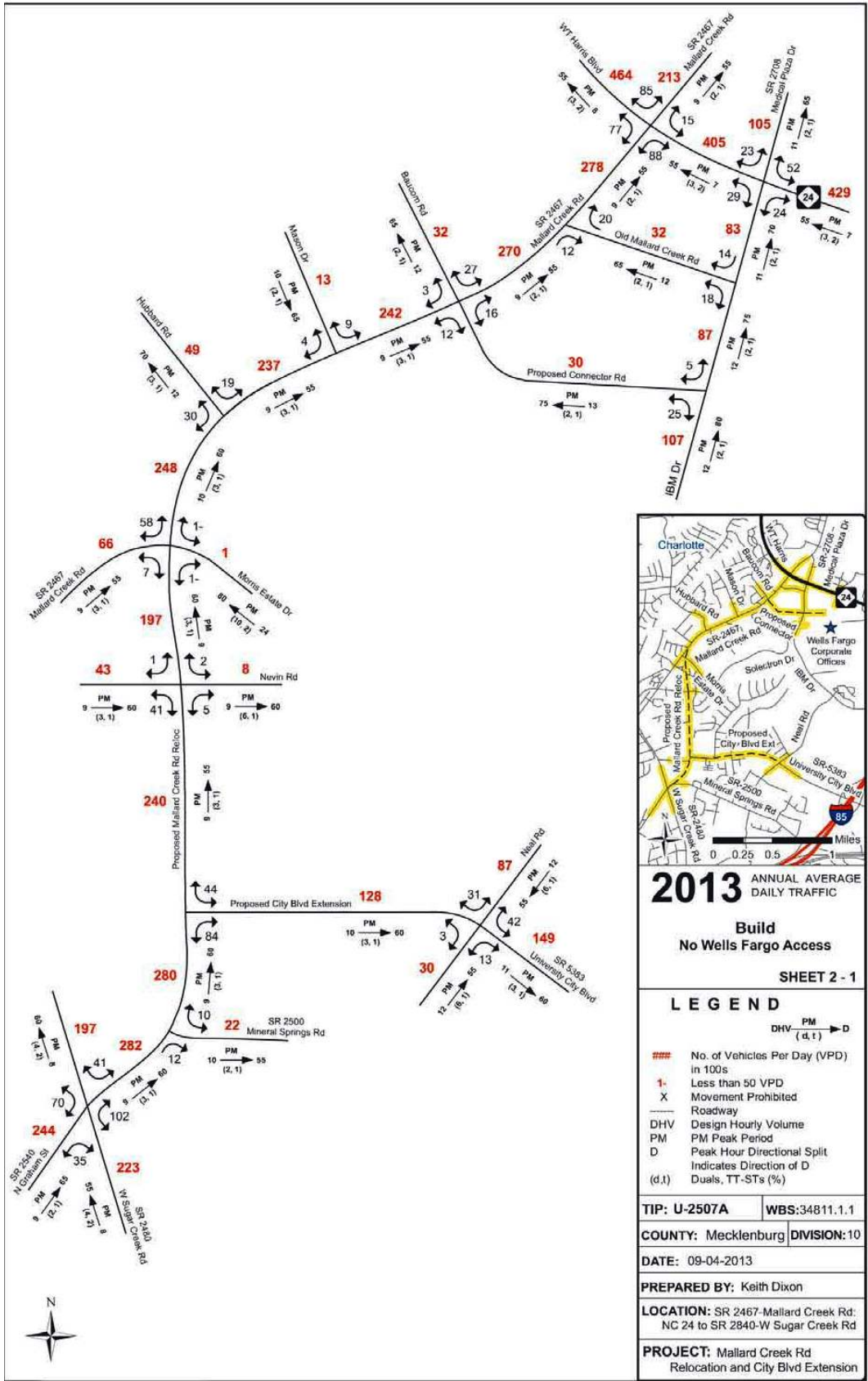


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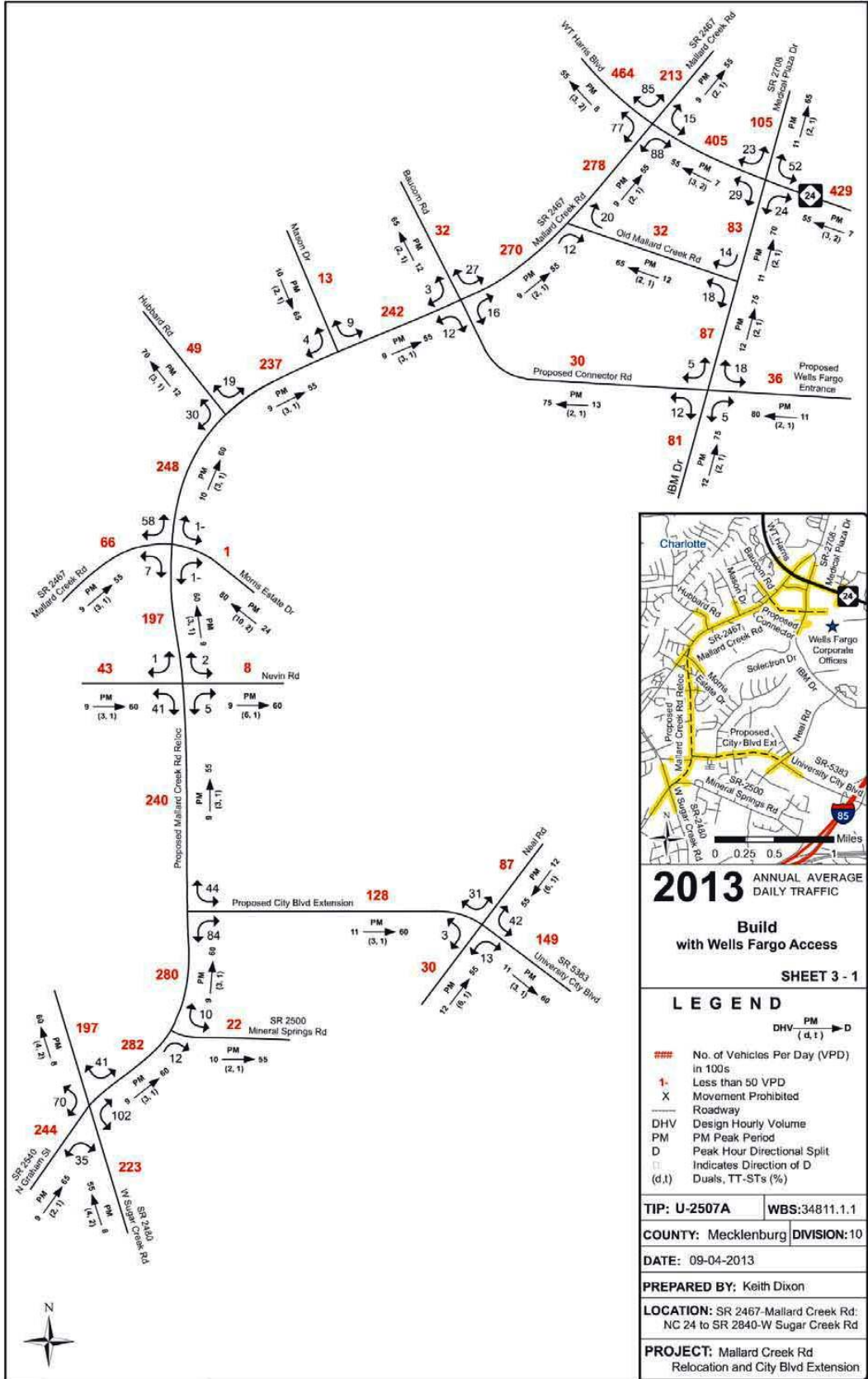


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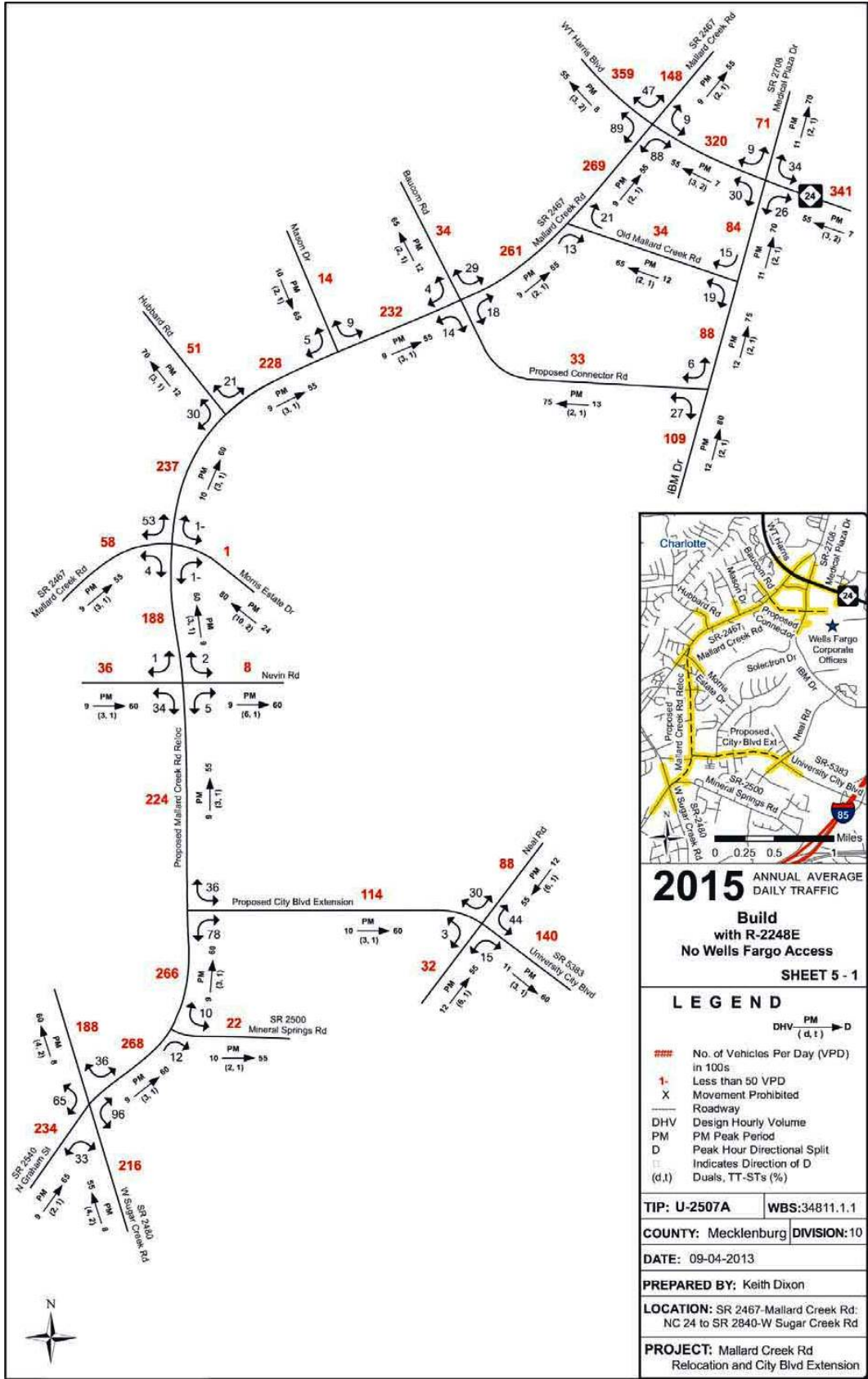


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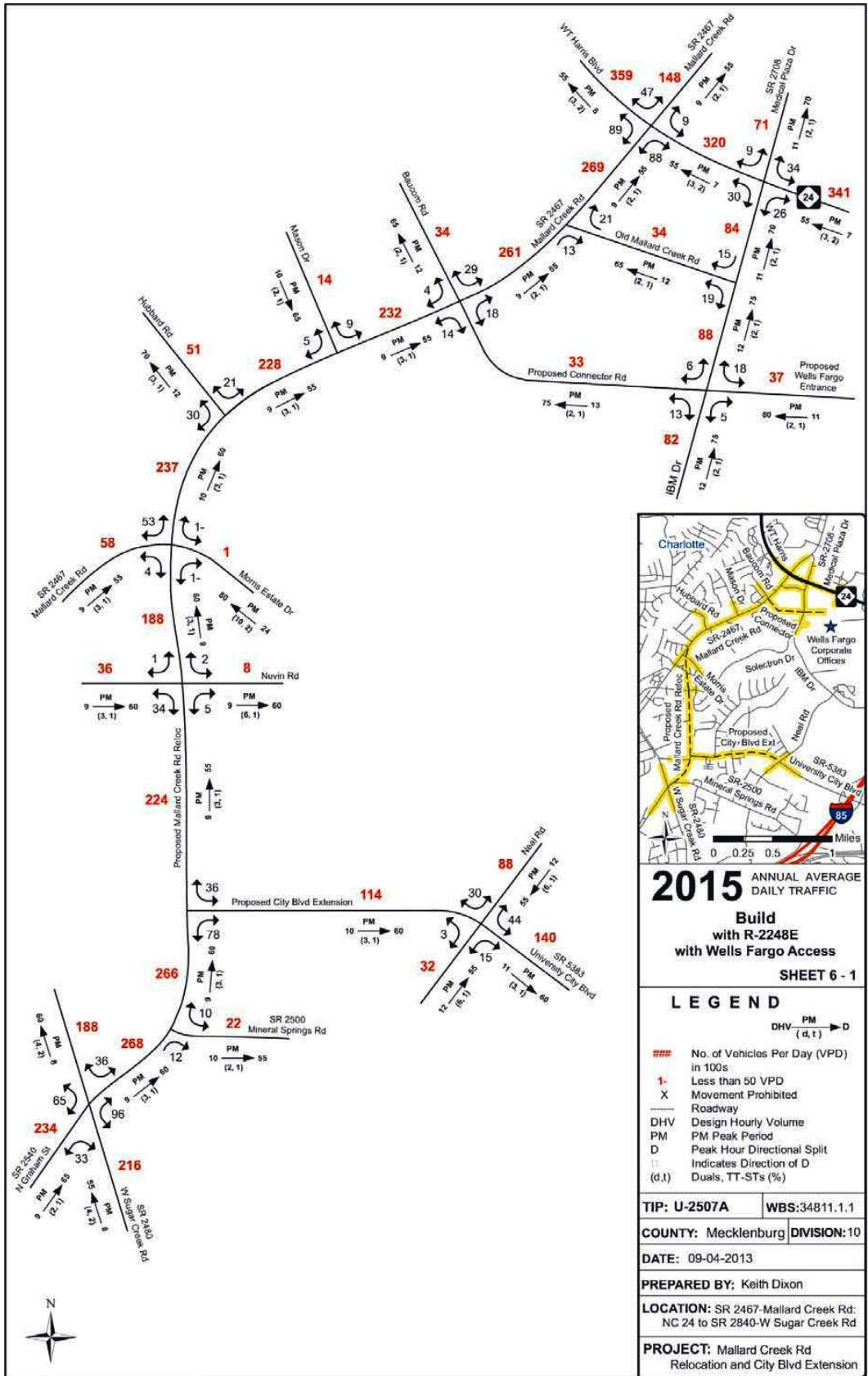


Figure 4-6

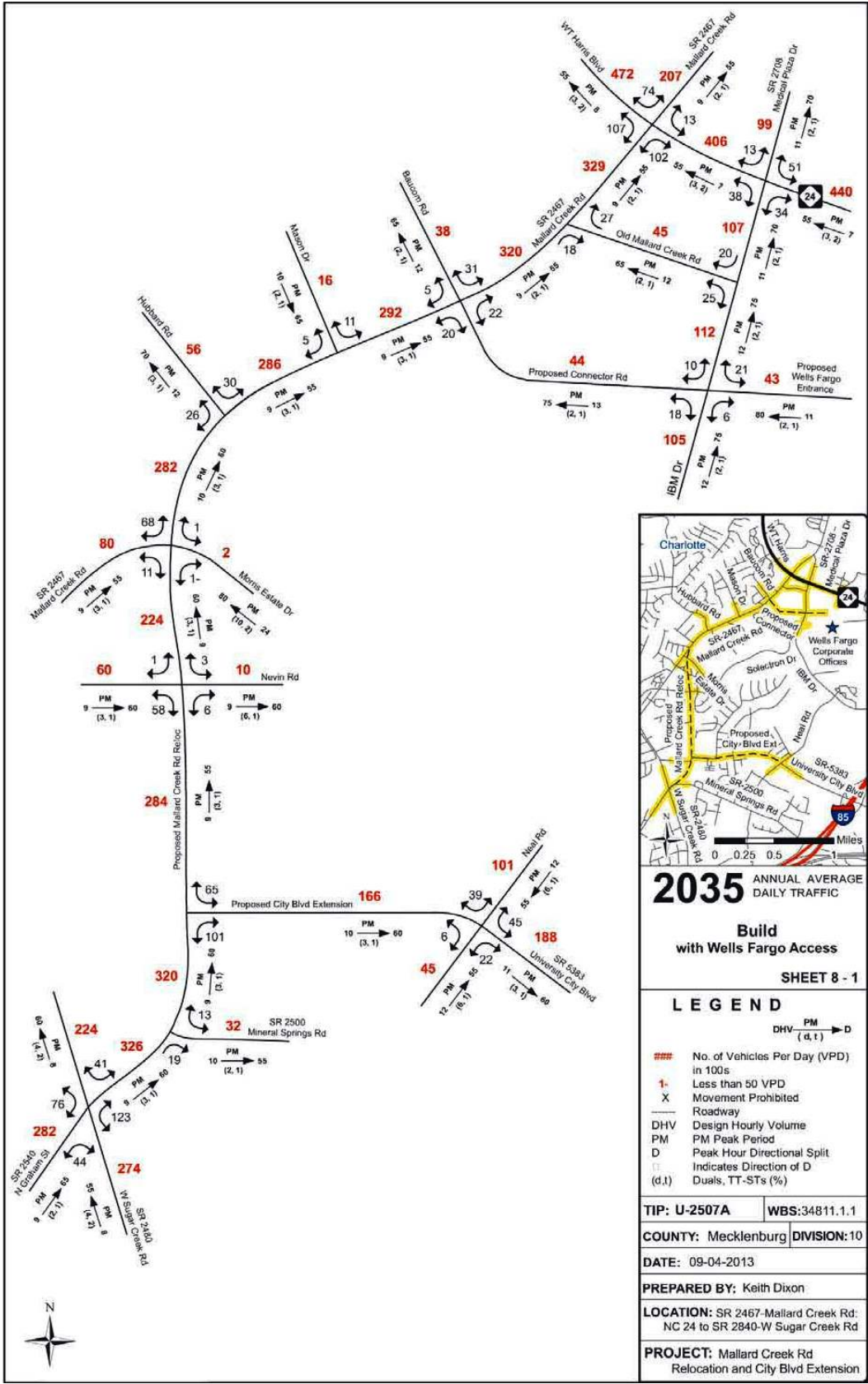


Figure 4-8



Legend

- Direct Community Impact Area
- Proposed Design
- Parcel Boundaries
- Local Business
- Bus stops
- Streams
- Buildings

Direct Community Impact Area and Future Land Use Study Area

North Carolina Department of Transportation


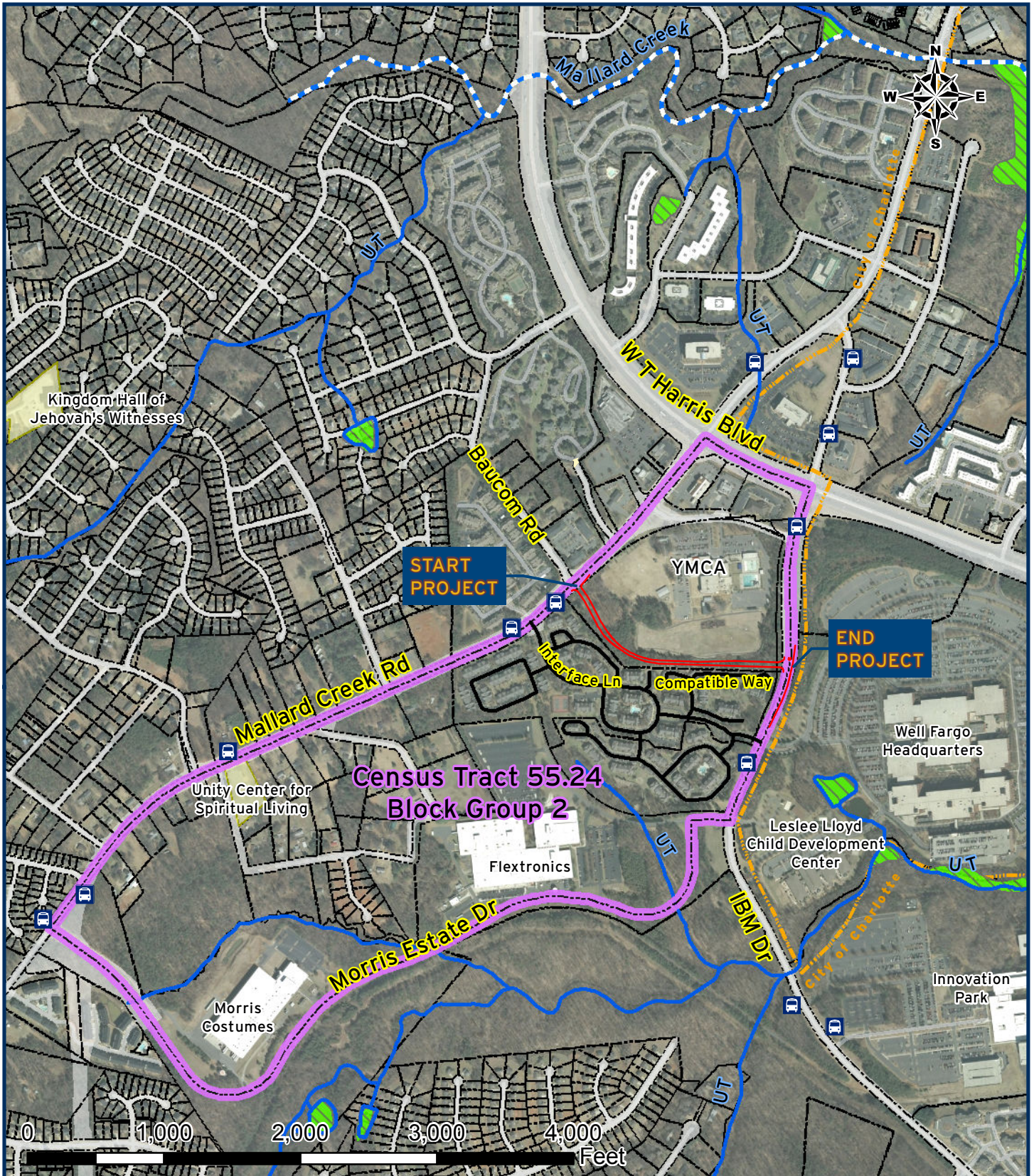


FIGURE 5

*IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA*

May 2014

Prepared by: **RK&K**



Legend

- Demographic Study Area
- Proposed Design
- Parcel Boundaries
- Bus stops
- 303 (d) Streams
- Streams
- Wetlands
- Churches

Demographic Study Area

North Carolina Department
of Transportation


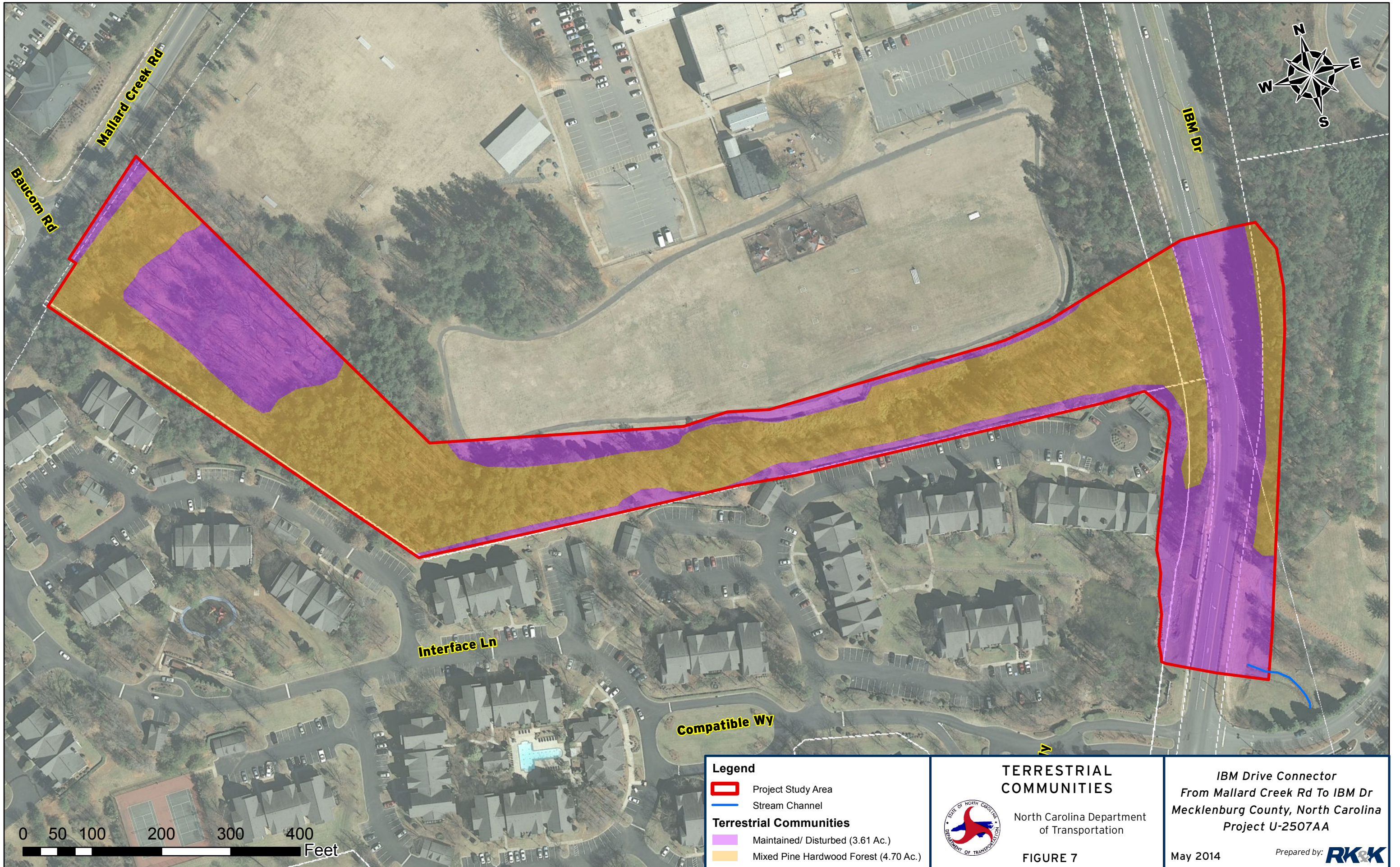


FIGURE 6

*IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA*

May 2014 Prepared by: **RK&K**



Legend

- Project Study Area
- Stream Channel

Terrestrial Communities

- Maintained/ Disturbed (3.61 Ac.)
- Mixed Pine Hardwood Forest (4.70 Ac.)

TERRESTRIAL COMMUNITIES

North Carolina Department of Transportation




FIGURE 7

*IBM Drive Connector
From Mallard Creek Rd To IBM Dr
Mecklenburg County, North Carolina
Project U-2507AA*

May 2014 Prepared by: **RK&K**

APPENDIX A:
Agency Correspondence



**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

March 6, 2014

MEMORANDUM

TO: Elmo Vance
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

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

SUBJECT: IBM Drive Connector, New Location from Mallard Creek Road to IBM Drive, U-2507 AA,
Mecklenburg County, ER 14-0201

Thank you for your letter of January 29, 2014, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

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

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

cc: Mary Pope Furr, NCDOT
Matt Wilkerson, NCDOT

13-10-0012



NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

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



PROJECT INFORMATION

Project No: **U-2507AA** County: **Mecklenburg**
 WBS No: **34811.1.1** Document: **CE**
 F.A. No: **Not Assigned Yet** Funding: State Federal

Federal Permit Required? Yes No Permit Type: **N/A**

Project Description: The NCDOT proposes to construct a new connector road from IBM Drive to Mallard Creek Road (SR 2467). Project length measures approximately 0.5 mile (2,640 feet). Proposed ROW measures about 100 feet. Therefore, the Area of Potential Effects (APE) for this new-location road project measures approximately 26,400 square feet (0.61 acre).

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Monday, November 4, 2013. Two (2) archaeological surveys have been conducted adjacent to and within the immediate vicinity of the proposed project, resulting in at least six (6) archaeological sites having been recorded within one-half (1/2) mile of the proposed project. Digital copies of HPO's maps (Derita Quadrangle) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpweb/>) were last reviewed on Tuesday, November 5, 2013. There are no known historic architectural resources located within the project area that may have intact archaeological deposits within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological 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:

This is a Federally-funded project that will not require a Federal permit. However, this is a new-location road project; therefore, the construction of the proposed connector road will take place on newly acquired right-of-way, a corridor measuring 100 feet wide by 0.5 mile long. All proposed activities are to take place within this 100-foot wide corridor between IBM Drive and Mallard Creek Road (SR 2467). From an environmental perspective, the APE consists almost entirely of moderately-sloped eroded soils: Cecil sandy clay loam, 2-6% slopes, eroded (CeB2). A small area of Pacolet sandy loam, 15-25% slopes (PaE) may also be encountered by intersection improvements along IBM Drive. That which has not suffered from erosion has been previously surveyed by Fischer (1978) as part of the archaeological impact assessment of the IBM tract. Although Fischer (1978:6) recorded several archaeological sites in the area, those sites were characterized as "unusually small and meager." Past agricultural activity, confined to the upland summits and gentle slopes, has resulted in soil deflation and erosion. In essence, a small portion

of the APE for the new connector road has already been subjected to archaeological investigations. As a result of the Harris Boulevard Extension project (NCDOT TIP# U-609 [CH 79-1284]), the APE for which started directly north of the currently proposed project, it was determined that “there was unusually little prehistoric activity here. This could be because of a lack of significant water resources in this area and the more desirable living space by the Catawba River directly west of the project corridors” (Baroody 1980:12). Overall, the results of previous surveys and the presence of eroded soils throughout the project corridor would suggest that the project’s APE is unlikely to contain significant cultural, archaeological, or historical resources. Based on the information above, there should be no archaeological survey required for this project. If design plans change, then additional consultation regarding archaeology will be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for “unanticipated discoveries,” to include notification of NCDOT’s Archaeology Group.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence
 Photocopy of County Survey Notes Other:

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

Paul J. Mohler

 NCDOT ARCHAEOLOGIST II

November 5, 2013

_____ Date

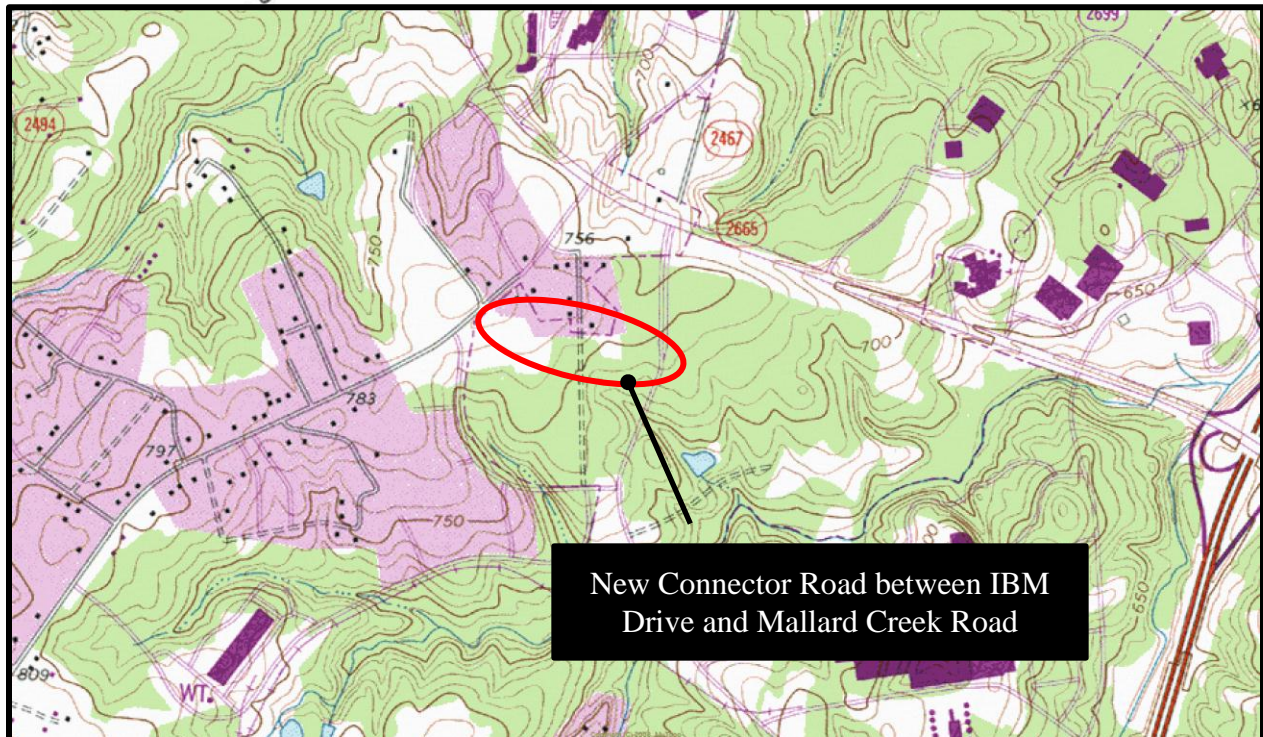
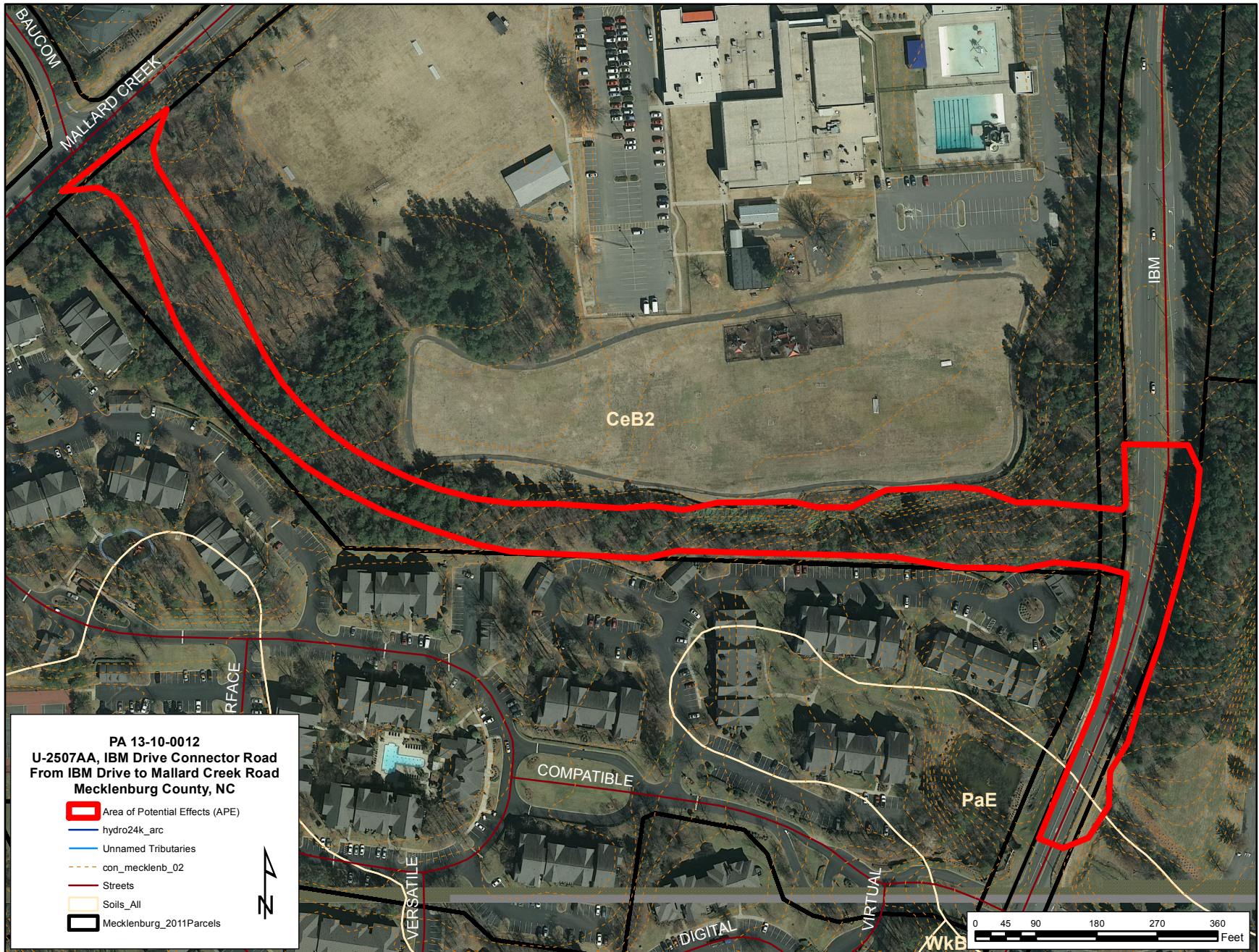


Figure 1: Derita, NC (USGS 1993).



13-10-0012



HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED 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-2507AA	County:	Mecklenburg
WBS No.:	34811.1.2	Document Type:	CE
Fed. Aid No:	unknown	Funding:	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
Federal Permit(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	NW
<u>Project Description:</u> New connection road from IBM Dr. to Mallard Creek Rd.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

<p><u>Description of review activities, results, and conclusions:</u> Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on November 18, 2013. Based on this review there are no NR, DE, LL, SL, or SS in the project area. There are no properties over 50 years of age in the project area.</p>
<p><u>Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:</u> Using HPO GIS website, Google Streetview website, and the Mecklenburg County Tax GIS website provides reliable information regarding the structures in the APE. These combined utilities are considered valid for the purposes of determining the likelihood of historic resources being present.</p>

SUPPORT DOCUMENTATION

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

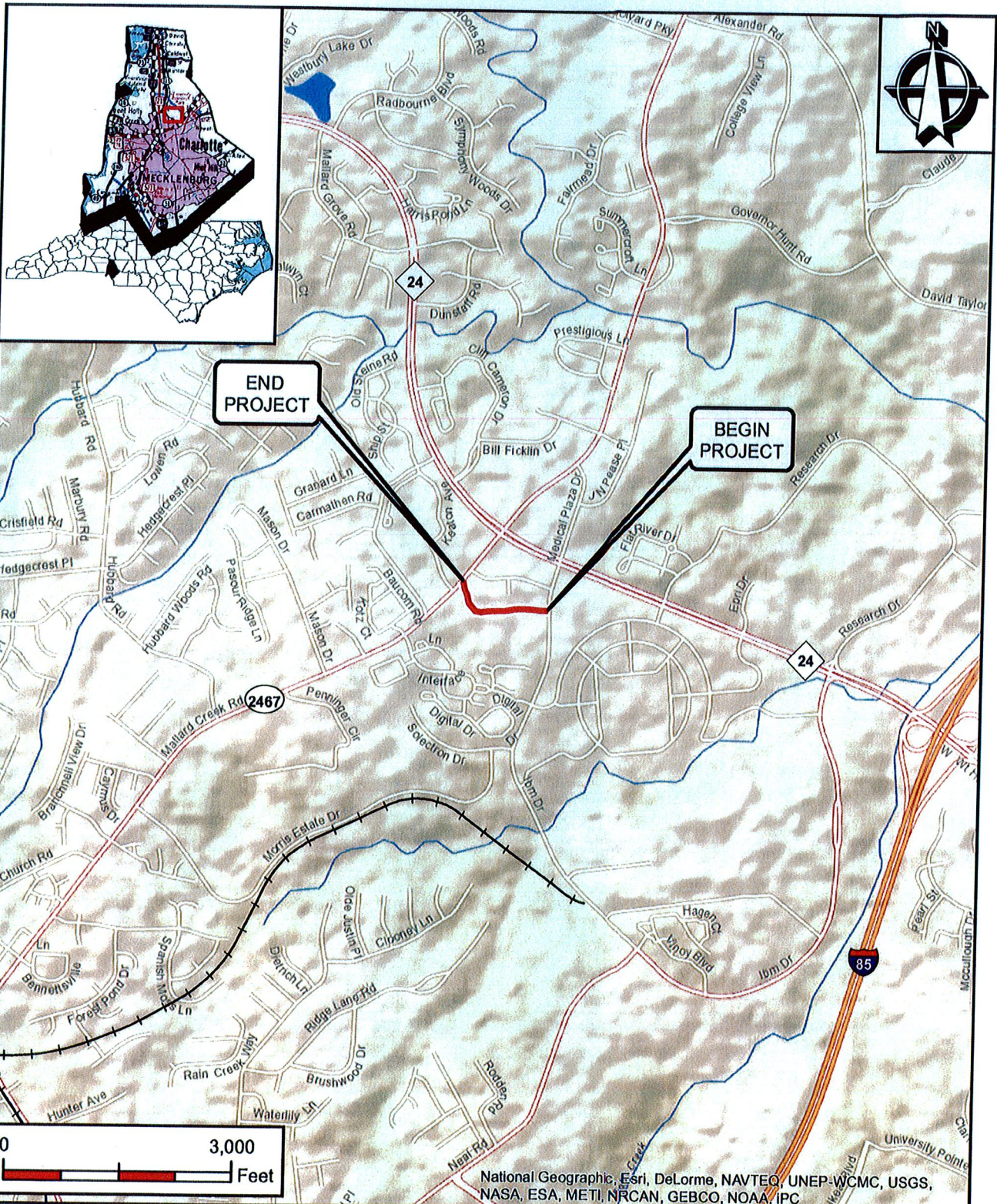
FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

 NCDOT Architectural Historian

 Date





National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC



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

VICINITY MAP
NEW CONNECTOR ROAD
FROM IBM DRIVE TO
MALLARD CREEK ROAD IN
CHARLOTTE

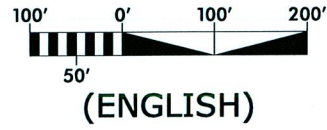
MECKLENBURG COUNTY
 TIP PROJECT U - 2507 AA

County:	Mecklenburg
Div:	10
TIP#	2507 AA
WBS:	34811.1.1
Date:	May 2013

Figure 1

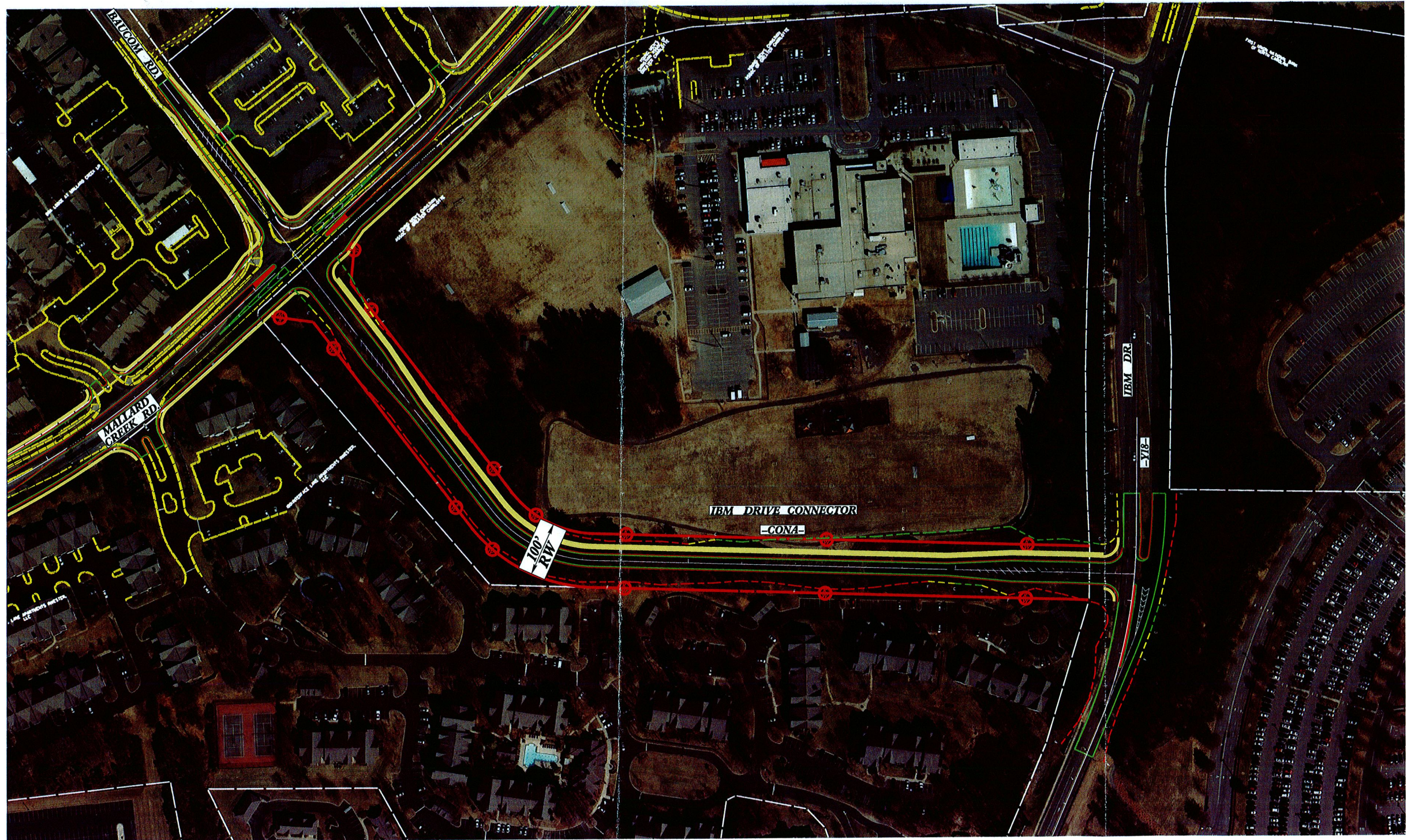
By: J. TORTORELLA

U-2507A IBM Dr. Connector Road Study



DESIGN DATA	
Functional Class.	= LOCAL
Design Speed	= 30 mph
Max. Superelev.	= 0.04

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00

Zimbra

eworkman@rkk.com

RE: [EXTERNAL] U-2507AA IBM Drive Connector - Start of Study

From : Amanda J SAW Fuemmeler <Amanda.Fuemmeler@usace.army.mil> Mon, Feb 03, 2014 05:00 PM
Subject : RE: [EXTERNAL] U-2507AA IBM Drive Connector - Start of Study
To : Elizabeth Workman <eworkman@rkk.com>
Cc : Elmo E Vance <eevance@ncdot.gov>

According to the information submitted, there will be no impacts to jurisdictional waters associated with this project, therefore no Department of the Army permit will be required. Please let know if you have any questions, thanks.

Amanda Fuemmeler
Asheville Regulatory Field Office

-----Original Message-----

From: Elizabeth Workman [mailto:eworkman@rkk.com]
Sent: Thursday, January 30, 2014 2:57 PM
To: Hair, Sarah E SAW
Cc: Elmo E Vance
Subject: [EXTERNAL] U-2507AA IBM Drive Connector - Start of Study

Dear Ms. Liz Hair,
Attached are the Start of Study letter, scoping information sheets, vicinity map and STIP information for the subject project. Please let us know if you have any questions or need additional information.
Thanks!
Elizabeth Workman-Maurer

Elizabeth Workman-Maurer
Senior Planner

RK&K
900 Ridgefield Dr., Suite 350
Raleigh, NC 27609

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919.790.8382 F

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LinkedIn <<http://www.linkedin.com/company/rk&k-engineers-llp?trk=prof-following-company-logo>>

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APPENDIX B:
Public Involvement Materials



IBM Drive Connector

Transportation Improvement Program Project No. U-2507AA



THIS ISSUE

- Meeting p. 1
- Studies/Schedule p. 2
- Figure of roadway p. 3
- Contact information p. 4

Why Is This Project Needed?

Due to access being altered near local shopping areas by the Mallard Creek Road improvements (TIP Project U-2507), NCDOT will provide a one-mile connection adjacent to the YMCA property, connecting IBM Drive and Mallard Creek at Baucom Drive. The connection is to improve vehicular and pedestrian interconnectivity with the local street network and to relieve congestion at the adjacent intersections of IBM Drive and Harris Boulevard, and Mallard Creek Road and Harris Boulevard.

Project Assistance Hotline!

For Project
U-2507AA
Call 1-888-521-4455

In compliance with the Americans with Disabilities Act (ADA), persons with disabilities who wish to participate may contact Mr. Jamille Robbins at 919-707-6085 or by email at jarobbins@ncdot.gov as early as possible.

Upcoming Public Meeting

October 28, 2013

4:00pm to 7:00pm

Morehead Elementary School (cafeteria)

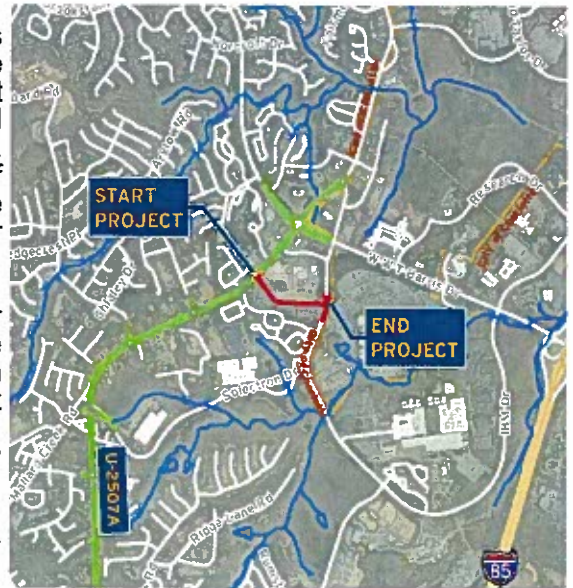
7810 Neal Road

Charlotte, NC 28262

The North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) invites you to attend a Public Meeting about the proposed connection of IBM Drive to Mallard Creek at Baucom Drive in Mecklenburg County.

The purpose of the meeting is to inform the community of the proposed connector. Project maps and other information will be displayed at the meeting. Agency and consultant staff will be there to discuss the project and answer your questions.

NCDOT wants to hear your thoughts about the project. The meeting will be in an open house format and will not include a formal presentation. We encourage you to drop by any time to ask questions and provide comments. Comments will be incorporated into the final design plans where feasible.



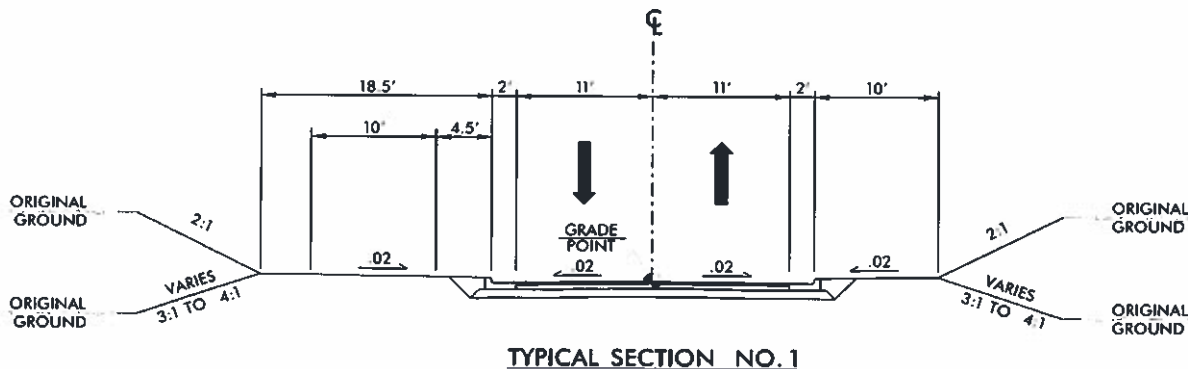
Environmental Studies

The project development, preliminary engineering, and environmental studies for this project are being conducted in compliance with the National Environmental Policy Act (NEPA) and other applicable laws and regulations. A Categorical Exclusion document is being prepared to document any notable findings. Right-of-way acquisition and construction are anticipated to begin in 2014.

September 2013	Begin NEPA studies
September 2013	Develop a preliminary design
October 2013	Hold Public Meeting/ Begin NEPA document
February 2014	Begin Right-of-Way Acquisition
June 2014	Begin Construction

What will the connector look like?

The IBM Drive Connector will be a one mile roadway that extends from IBM Drive, through YMCA property, and terminates at Mallard Creek Road at Baucom Drive. It will be a two-lane curb and gutter road, with 11-foot lane widths and a ten-foot multi-use path on the YMCA side. There will be a retaining wall on the north end of the project to avoid impacts to the YMCA walking path. The road will have a posted speed limit of 35 miles per hour. Turn lanes at IBM Drive and Mallard Creek Road are being evaluated and may be needed. According to traffic studies, approximately 4,400 vehicles per day are anticipated to use this connector by design year 2035.







IBM Drive Connector

North Carolina Department of Transportation
Project Development and Environmental Analysis Unit
Attn: Elmo Vance
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Contact Us

For questions or comments about this project, please call the following project managers:

Elmo Vance, Jr.

NCDOT—PD&EA Unit
1548 Mail Service Center
Raleigh, NC 27699-1548
Phone: 919-707-6048
Email: eevance@ncdot.gov

Frank Vick, PE or

Elizabeth Workman-Maurer
RK&K Consulting Firm
900 Ridgefield Drive, Ste. 350
Raleigh, NC 27609
Phone: 919-878-9560
Email: fvick@rkk.com or
eworkman@rkk.com



IBM Drive Connector

Transportation Improvement Program Project No. U-2507AA



Handout

- Meeting/Schedule p. 1
- Vicinity Map p. 2
- Typical Section p. 3
- Project Meeting Map p. 4

Public Meeting Handout

October 28, 2013

4:00pm to 7:00pm

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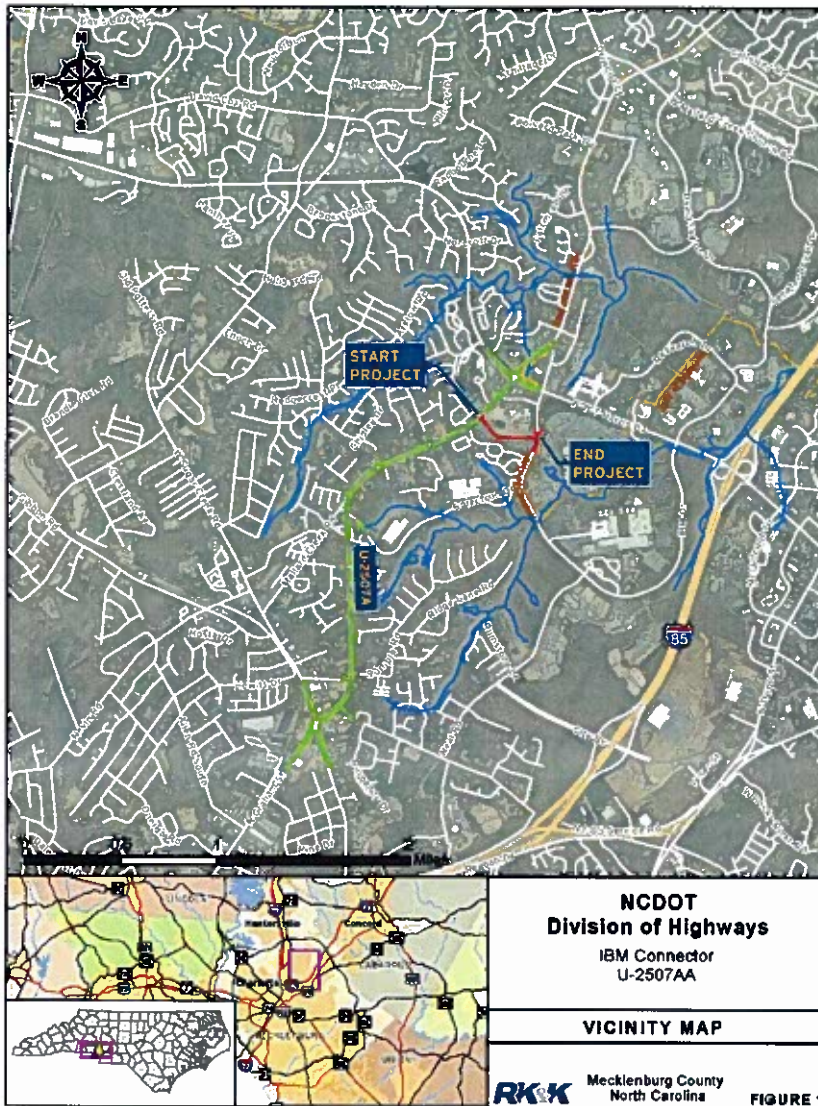
The North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) welcome you to this Public Meeting about the proposed connection of IBM Drive to Mallard Creek at Baucom Drive in Mecklenburg County. The purpose of the meeting is to inform the community of the proposed connector. Project maps and other information are displayed for your information. NCDOT and consultant staff are available to discuss the project and answer any questions.

Due to access being altered near local shopping areas by the Mallard Creek Road improvements (TIP Project U-2507A), NCDOT will provide a one-mile connection adjacent to the YMCA property, connecting IBM Drive and Mallard Creek at Baucom Drive. The connection is to improve vehicular and pedestrian interconnectivity with the local street network and to relieve congestion at the adjacent intersections of IBM Drive and Harris Boulevard, and Mallard Creek Road and Harris Boulevard.

Project Schedule

September 2013	Begin NEPA studies
September 2013	Develop a preliminary design
October 2013	Hold Public Meeting/ Begin NEPA document
February 2014	Begin Right-of-Way Acquisition
June 2014	Begin Construction

Project Assistance Hotline! For Project U-2507AA
Call 1-888-521-4455



Location of U-2507AA and U-2507A

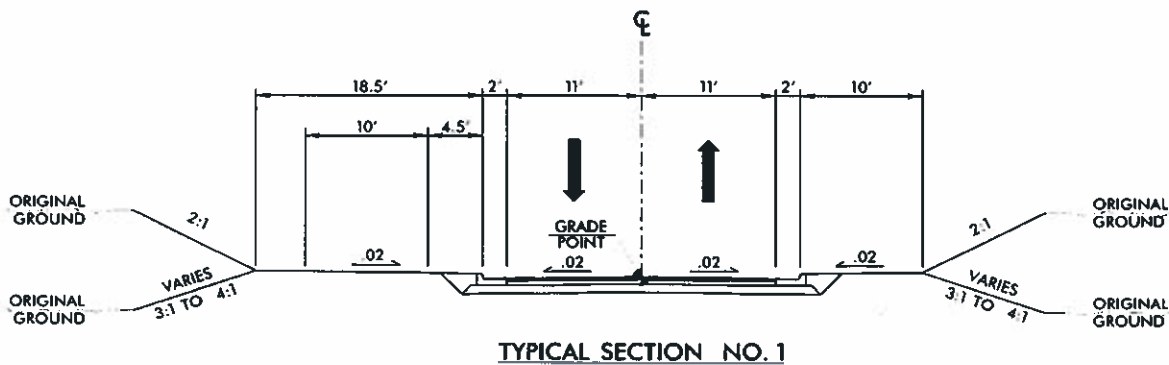
In order to improve vehicular and pedestrian interconnectivity with the local street network and to relieve congestion at the adjacent intersections, NCDOT will provide a one-mile connection adjacent to the YMCA property, connecting IBM Drive and Mallard Creek at Baucom Drive. Access will be altered near local shopping areas by the Mallard Creek Road improvements (TIP Project U-2507A).

Project U-2507A is scheduled to begin construction in November 2013. This project improves Mallard Creek Road between Sugar Creek Road and Mallard Creek Church Road. A four-lane divided, curb and gutter roadway with a 20-foot raised median is proposed on new alignment from the Sugar Creek Road/Graham Street intersection to the existing Mallard Creek Road alignment near the Garrison Avenue intersection. The remainder of the project involves widening existing Mallard Creek Road from a two-lane roadway to a five-lane undivided, curb and gutter facility.

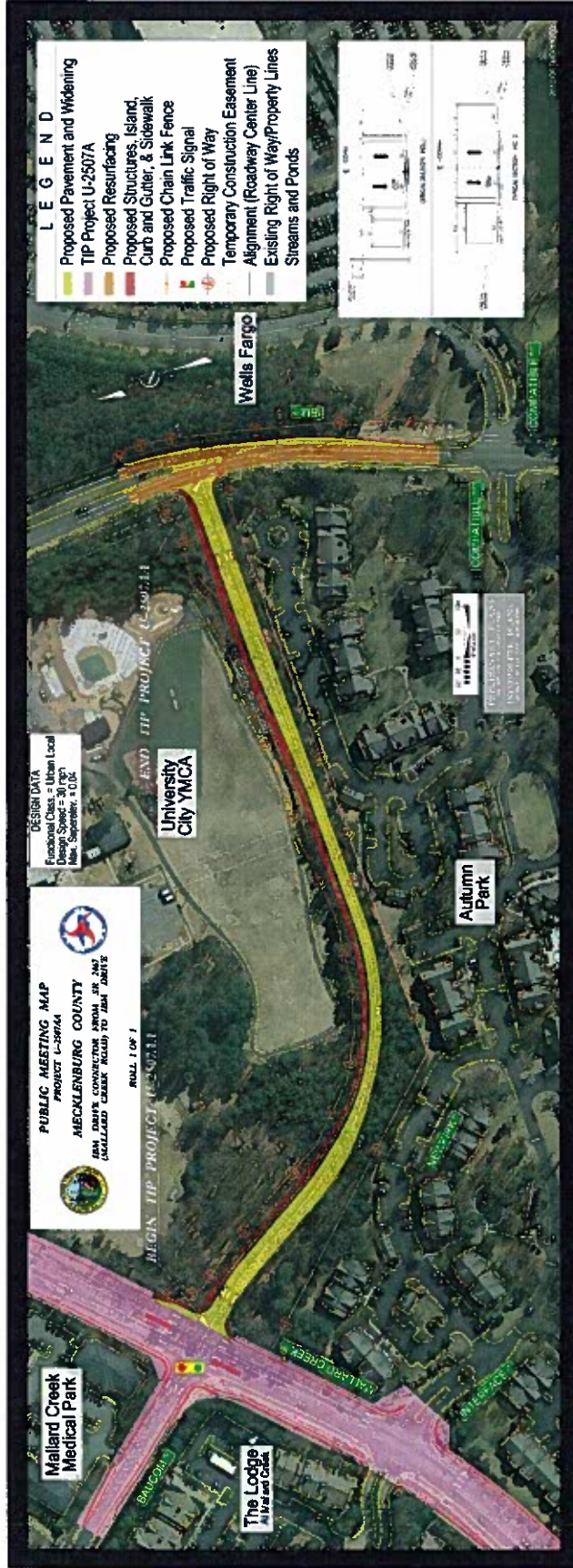
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IBM Drive Connector Typical Section



Project Meeting Map





IBM Drive Connector

North Carolina Department of Transportation
Project Development and Environmental Analysis Unit
Attn: Elmo Vance
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Comment Sheet

To submit comments about this project, please fill out the above comment section and submit it at the public meeting or mail it to the following project managers:

Elmo Vance, Jr.
NCDOT—PD&EA Unit
1548 Mail Service Center
Raleigh, NC 27699-1548
Phone: 919-707-6048
Email: eevance@ncdot.gov

**Frank Vick, PE or
Elizabeth Workman-Maurer**
RK&K Consulting Firm
900 Ridgefield Drive, Ste. 350
Raleigh, NC 27609
Phone: 919-878-9560
Email: fvick@rkk.com or
eworkman@rkk.com