

**I-26 INTERCHANGE IMPROVEMENTS AT NC 191  
Modification of I-26 / NC 191 (Brevard Road) interchange  
BUNCOMBE COUNTY, NORTH CAROLINA**

WBS Element No. 45552.1.1  
Federal Project No. IMF-26-1(191)47

**STIP PROJECT I-5504**


**ADMINISTRATIVE ACTION  
CATEGORICAL EXCLUSION**

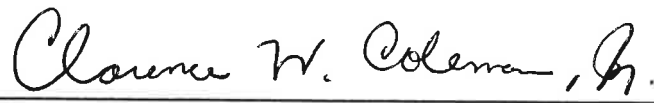
**U. S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
AND  
N. C. DEPARTMENT OF TRANSPORTATION**

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



**APPROVED:**

10-15-15   
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Federal Highway Administration

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October 2015

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## **PROJECT COMMITMENTS**

**I-26 INTERCHANGE IMPROVEMENTS AT NC 191**  
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Buncombe County, North Carolina  
WBS Element No. 45552.1.1  
**STIP PROJECT I-5504**

### **Division 13 / City of Asheville**

The City of Asheville requested sidewalks on both sides of NC 191 (Brevard Road) and concrete bus stop pads be included at all of the existing bus stops within the project limits. In addition, the City requested that the construction phasing include provisions to mitigate and/or limit any adverse impacts to the existing transit service. Approximately one year prior to a construction let date, NCDOT Division 13 will initiate discussions with the City of Asheville to prepare a municipal agreement that considers the appropriate cost-sharing for construction of sidewalk on the north side of NC 191 (Brevard Road) and bus stop pads and municipal maintenance responsibilities.

### **Project Development & Environmental Analysis Unit**

The design-build team will explore opportunities for design modifications to avoid and/or further minimize impacts to jurisdictional streams.

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

Construction authorization will not be requested until Endangered Species Act compliance is satisfied for the Northern long-eared bat (NLEB).

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**I-26 INTERCHANGE IMPROVEMENTS AT NC 191**  
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Buncombe County, North Carolina

**STIP PROJECT I-5504**

**I. DESCRIPTION OF PROPOSED ACTION**

**A. Project Purpose**

The primary purpose of STIP Project I-5504 is to reduce projected traffic congestion at the I-26 / NC 191 (Brevard Road) interchange. Another benefit will be to improve interchange efficiency and maintain safe conditions. Some turning movements on both I-26 exit ramps would operate at LOS F in 2040 during the AM and PM peak hours. Future year vehicle queues are projected to occur on the exit ramps possibly extending near the I-26 mainline, thus creating an unsafe condition. A design-build procurement is anticipated, with right-of-way acquisition and construction let date in 2016 according to the NCDOT 2016 – 2025 STIP.

**B. Project History and Description**

The North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP) Project I-5504 is located in the City of Asheville in Buncombe County (See Figure 1, Appendix A). Buncombe County is located in the western part of the state. The county is bordered on the north by Madison and Yancey counties, on the east by McDowell and Rutherford counties, on the west by Hayward County, and on the south by Henderson County. Buncombe County is bisected by the French Broad River. At the center of Buncombe County lies the City of Asheville.

The interchange of I-26 at NC 191 (Brevard Road) is in a transition area of Buncombe County. Adjacent to the interchange, land use is urban and consists of residences, businesses, hotels, restaurants, car dealerships, and a regional shopping center. Most of these businesses serve customers in the region and the local area. Land immediately adjacent to the interchange in the northeast quadrant is part of the Biltmore Estate which is one of the most visited tourist destinations in the state and the entire property is listed as a National Historic Landmark on the National Register of Historic Places.

STIP Project I-5504 is the proposed modification of the I-26 / NC 191 (Brevard Road) interchange ramps, widening and elevating of the NC 191 (Brevard Road) bridge and approaches through the interchange, reconstruction of the I-26 pavement, paving the median of I-26, and reconfiguration of local roadways. The length of the project along NC 191 (Brevard Road) is approximately 3,600 feet and stretches from the intersection of NC 191 (Brevard Road) with Ingles / Asheville Outlets to the intersection of NC 191 and Old Brevard Road. The length of the project along I-26 is only within the NC 191 interchange area and extending westerly to tie to the I-26 bridge reconstruction over Pond Road / Hominy Creek that is currently under construction.

A Merger Screening Meeting was held October 9, 2014 to review available information and consult with the Federal Highway Administration (FHWA), United States Army Corps of Engineers (USACE) and the North Carolina Department of Environment and Natural Resources Division of Water Resources (NC DENR DWR). The outcome of the Merger Screening Meeting was for NCDOT to share additional information with FHWA, USACE, and NC DENR.

Project I-5504 has independent utility since this section of NC 191 (Brevard Road) can function as a stand alone project that can be built without adding through lanes on I-26. STIP Project I-5504 project will be usable and functional without additional transportation improvements since it is designed to reduce and possibly avoid traffic congestion problems on NC 191 (Brevard Road) in the vicinity of the I-26 interchange. Therefore, the I-5504 project would be a reasonable expenditure in keeping with 23 CFR Section (23) 771.111 (f)(2).

**C. Cost Estimates**

Table 1 illustrates the right-of-way and construction cost estimates for the NCDOT Preferred Alternative, Option-G2, and the other three options, Design Options C, F and G that were presented to the public.

**Table 1: Cost Estimates**

Option	Cost (in \$ millions)		
	Right-Of-Way	Construction	Total Cost
C	\$25.975	\$20.700	\$46.675
F	\$20.625	\$13.400	\$34.025
G	\$18.975	\$18.500	\$37.475
<b>G2</b> (NCDOT Preferred Alternative)	\$9.375	\$53.000	\$62.375

Notes: Figures in Table 1 are expressed in 2015 dollars. Figures do not include escalation for future price increases and right-of-way utility cost. The right-of-way cost estimate for Option-G2 includes proximity damages to the Petco Animal Supplies store, however, it is anticipated that damage can be avoided or minimized through design modifications during the design-build process. The construction cost estimates for Options C, F and G do not include pavement reconstruction or median paving on I-26; only the Option-G2 construction cost estimate includes total reconstruction of the I-26 pavement and median and replacing it with concrete. Also, the Option-G2 construction cost estimate includes adding median barrier along I-26, as well as a noise wall adjacent to Pine Lane and retaining walls elsewhere in the project area.

## II. NEED FOR PROPOSED PROJECT

### A. Description of Existing Facilities

#### 1. Functional Classification

Roadway functional classifications for the primary routes are listed below:

- Interstate 26: interstate
- NC 191 (Brevard Road): minor arterial

#### 2. Roadway

Interstate 26 (I-26) connects Hendersonville, Asheville, and the tri-cities of Tennessee along a general north-south routing; however, I-26 is designated as an east-west interstate. This report uses an east-west orientation for I-26. The freeway carries tourist traffic bound for the mountains year round and doubles as an important truck route southeast to the inland port at Greer, South Carolina and to the maritime ports in Charleston, South Carolina. In Asheville, the I-26 / NC 191 (Brevard Road) interchange is about one mile east of the I-26 interchange with I-40 and I-240. At the I-26 / NC 191 (Brevard Road) interchange, I-26 ranges in width from 110 to 120 feet and has a grass median.

North Carolina Highway 191 (NC 191, Brevard Road) is a state highway in western North Carolina that connects the town of Hendersonville in Henderson County to the city of Asheville in Buncombe County. It is 22 miles in length. In the vicinity of STIP Project I-5504, NC 191 is a four-lane road. NC 191 (Brevard Road) runs north-south.

North of I-26, NC 191 (Brevard Road) is 73.5 feet wide between curbs. There is a sidewalk on the west side, north of the Jim Barkley Toyota driveway. The distance from the face of curb to the back of sidewalk is 10 feet. NC 191 (Brevard Road) has a monolithic concrete median on the portion north of I-26; further north it then transitions to a grass median that is 17 feet wide. In the project study area, NC 191 (Brevard Road) has several local roads intersecting it.

South of I-26, NC 191 (Brevard Road) ranges in width from 70 feet to 100 feet wide between edges of pavement. Where sidewalk exists on both sides of Brevard Road it is about 105 feet wide from back-of-sidewalk to back-of-sidewalk. There is a monolithic concrete median on NC 191 (Brevard Road) that ranges from 5 to 28 feet in width. The median extends from the intersection with Ingles / Asheville Outlets to the intersection with Ridgefield Boulevard / Sardis Road. South of the I-26 overcrossing is an intersection with Rocky Ridge Road. Further south are intersections with Pacoda Street, Ingles / Asheville Outlets, Fern Street / Oak Terrace Drive, and NC 112 (Sardis Road) / Ridgefield Boulevard. There is a mix of commercial and residential uses in the area.



### **3. Structures**

Bridge Number 100171 carries NC 191 (Brevard Road) over I-26. The structure was built in 1967. An April 2012 bridge inspection report indicated a sufficiency rating of 69 out of a possible 100 and was the bridge was rated in fair condition. The bridge length is 216 feet and consists of four spans. The span lengths are: one at 37 feet, two at 69.5 feet, and one at 39 feet. The clear roadway width on the structure deck is 68 feet. The vertical clearance under the bridge varies from 16.08 feet to 16.25 feet above the I-26 pavement. The horizontal clearance under the bridge varies from 8.16 feet to 8.41 feet on the right side and 20.58 feet to 20.70 feet on the left. There is a need for greater vertical and horizontal clearances under the NC 191 (Brevard Road) bridge.

### **4. Right of Way and Access Control**

NCDOT has full control of access along I-26 and partial control of access on NC 191, within the project limits. Additional right-of-way will be required to accommodate the proposed interchange improvements.

### **5. Interchanges**

This project will improve traffic flow at the I-26 / NC 191 (Brevard Road) interchange. There is a need to accommodate growth that is already occurring in the vicinity of the interchange. One example of the growth that is occurring is the recent conversion of the former Biltmore Square Mall into Asheville Outlets – the only outlet mall in the greater Asheville region.

### **6. Railroad Crossings**

There are no railroad crossings within the project limits.

### **7. Greenway, Pedestrian and Bicycle Consideration**

There is a need to complete existing gaps in the pedestrian and bicycle facility networks. There are no City or County parks in the project study area. The “City of Asheville Parks, Recreation, Cultural Arts & Greenways Master Plan”, amended 2013, shows two planned greenways in the vicinity of STIP Project I-5504. These are described as:

- Bent Creek Greenway – A ten-foot wide asphalt path that will connect the Farmers Market with Asheville Outlets, NC Arboretum, Biltmore Park, and the Lake Julian Greenway. Bent Creek Greenway is shown in the project vicinity along the west side of NC 191 (Brevard Road) between WNC Farmers Market and Rocky Ridge Road, then following the southern edge of the I-26 right-of-way to the banks of the French Broad River. During an I-5504 public meeting, City of Asheville and Buncombe County staff approached NCDOT about a different alignment for the future Bent Creek greenway; along the east side of NC 191 (Brevard Road) and the north side of I-26 connecting with an existing undercrossing under I-26. The crossing is believed to have been built for adjacent property owners to move farm equipment under I-26. This concept is under study by NCDOT.
- Hominy Creek Greenway – A ten-foot wide asphalt path that will connect the Farmers Market with Enka Center along Hominy Creek. A spur trail is planned from the main trail south through private property to Rocky Ridge Road, connecting with Bent Creek Greenway on the south side of the I-26 / NC 191 (Brevard Road) interchange. A signalized crossing of NC 191 (Brevard Road) is provided at the intersection of NC 191 (Brevard Road) and the I-26 eastbound on and off- ramps.

## **8. Speed Limits**

The posted speed limit on I-26 is 65 miles per hour (mph) and 45 mph on NC 191 (Brevard Road).

## **9. Intersections and Type of Control**

All major intersections in the project limits are at-grade and controlled by traffic signals.

## **10. Geodetic Markers**

Monument “Shiple” is located within the project limits. Design Option-G2 (NCDOT Preferred Alternative) would require the relocation of monument “Shiple” which is located in the vicinity of the intersection of NC 191 (Brevard Road) and the eastbound I-26 ramps.

### **B. Utilities**

There are above-ground and sub-surface utilities located along the entire project length including utility poles that carry power, telephone and traffic signal cables. Gas, water, sanitary sewer and stormwater lines extend underground in the project study area. Adjacent properties north and south of the interchange are served with municipal water and sewer.

### **C. School Buses**

Interviews with school bus managers with the Asheville City School District and Buncombe County revealed the following:

- Asheville City School District does not operate school bus service along NC 191 (Brevard Road).
- Buncombe County School District (BCSD) operates regular school bus service daily within the area with various routes to and from several elementary, middle, and high schools. BCSD operates twenty daily one-way bus trips using 37-foot long school buses.

### **D. Traffic Volumes**

The 2014 Average Annual Daily Traffic (AADT) map prepared by NCDOT indicates I-26 carries approximately 86,000 vehicles per day and NC 191 carries 22,000 vehicles per day south of the interchange and 13,000 vehicles per day north of the interchange.

In October 2011, the NCDOT Transportation Planning Branch (TPB) developed traffic forecasts for a Base Year 2011 and Horizon Year 2040. Traffic volumes for a no-build I-26 scenario were provided for 2011 and 2040. A traffic forecast for a build scenario assuming six lanes on I-26 was provided for 2040 and a build scenario assuming eight lanes on I-26 was also provided for 2040. A traffic analysis was conducted by NCDOT based on the six-lane build scenario for I-26, since that assumption generated a worse-case (higher) traffic forecast on NC 191 (Brevard Road) in the vicinity of I-26 (see Figure 11, Appendix A). The traffic forecast includes assumptions that the following STIP projects are completed by the year 2040: I-4400, I-4700, I-2513, and U-3601.

The 2040 forecast and one of the 2011 scenarios assumed a “west gate” on NC 191 (Brevard Road) for the Biltmore Estate and a redistribution of traffic to and from this tourist destination, using NC 191 (Brevard Road).

The 2040 traffic forecast was developed using growth rates derived from the French Broad River Regional Travel Demand Model adopted in March 2010, along with historic traffic volume growth rates. The traffic forecast generated by the NCDOT Transportation Planning Branch and used by the Congestion Management Section included annual growth rates that varied from 2.0 to 2.5 percent per year for I-26 and NC 191 (Brevard Road).

The need for NCDOT STIP Project I-5504 is shown in Table 2. By the year 2040, the No Build alternative will result in Level of Service F traffic conditions on the worst turning movements where the I-26 ramps intersect NC 191 (Brevard Road). With a No Build alternative, the maximum queues would extend between 780 feet to more than 1,000 feet in length from the study intersections which would extend to the I-26 mainline. Average delay for all traffic using the intersections would reach two to three minutes per vehicle. Each existing I-26 off-ramp to NC 191 is 740 feet from the intersection stop-bar to the exit gore. Table 2 shows that in the year 2040 the NCDOT Preferred Alternative Option G2 would reduce traffic congestion to an acceptable overall Level of Service C. Queue lengths would be reduced by approximately 50 percent and average motorist delay would be reduced by 50 percent compared with the year 2040 No Build alternative.

#### **E. Adjacent Projects**

The following are STIP projects that are adjacent to STIP Project I-5504 (see Figure 2, Appendix A).

STIP Project I-5501: the existing I-26 / NC 280 (Airport Road) interchange is a diamond interchange located approximately 11 miles south of downtown Asheville. Project I-5501 is under construction to modify this interchange into a diverging diamond configuration. The project includes adding sidewalks on both sides of NC 280, marked crosswalks, and a central pedestrian path on the bridge over I-26. Estimated completion is in 2016.

STIP Project I-2513: NCDOT proposes to upgrade 4.3 miles of existing I-240 and build 2.6 miles of I-26 on new location from the Patton Avenue interchange to just south of the Broadway interchange with U.S. 19 / 23 / 70. The project is currently in the development phase with right-of-way acquisition scheduled to begin in 2019 and construction in 2021.

STIP Project I-4400 / I-4700: NCDOT proposes to add lanes on I-26 to meet current and future travel demand that are over-capacity (LOS F) on I-26 during peak hours and travel demand is expected to increase. The project is over 22 miles long, extending to the community of East Flat Rock in Henderson County and to I-40 in Buncombe County. I-4400 is the southern section of I-26, between US 25 and NC 280. I-4700 is the northern section of I-26, between NC 280 and I-40. The project is currently in the development phase with right-of-way acquisition expected to begin in 2018 and construction in 2020.

STIP Project A-0010: NCDOT proposes various improvements to US 19 / 23 (the future I-26) including bridge replacements, pavement rehabilitation, and lane additions. The project stretches 12 miles, from just north of I-240 in Asheville to just south of Stockton Road near Mars Hill in Buncombe County. Right-of-way acquisition is expected to begin in 2020 with construction anticipated in 2022.

STIP Project No. I-4759: NCDOT proposes to convert the grade separation at I-40 and SR 1228 (Liberty Road) to an interchange. The project includes construction of a two-lane roadway from US 19 / US 23 / NC 151 to SR 1224. The project is currently in the development phase with right-of-way acquisition beginning in 2019 and construction let in 2021.

STIP Project No. B-5178: NCDOT is replacing bridge numbers 235 and 238 on I-26 just west of STIP Project I-5504 at the I-26 Interchange at NC 191 (Brevard Road). Both bridges span SR 3431 (Pond Road) and Hominy Creek. Both bridge replacements are currently under construction and are expected to be completed in 2016.

Note that dates listed above are based on the 2016 – 2025 State Transportation Improvement Program (STIP) and indicate State fiscal years. All dates and schedules are subject to change.

**Table 2: Comparison of 2040 Levels of Service**

2040 Peak Hour Intersection Analysis Comparisons	I-26 / NC 191 (Brevard Road) Interchange									
	No Build (without Biltmore "West Gate")		Option C (PARCLO-B, 4-Quad)		Option F (DDI: Diverging Diamond Interchange)		Option G (Relocated and Elongated WB I-26 Loop Ramp)		Option G2 (Relocated and Elongated WB I-26 Loop Ramp)	
	EB Ramps AM/PM	WB Ramps AM/PM	EB Ramps AM/PM	WB Ramps AM/PM	EB Ramps AM/PM	WB Ramps AM/PM	EB Ramps AM/PM	WB Ramps AM/PM	EB Ramps AM/PM	WB Ramps AM/PM
<b>Overall Intersection LOS</b>	D/D	D/E	B/B	B/B	C/C	B/B	B/B	C/C	C/B	C/C
<b>Worst Movement LOS</b>	F/F	F/F	C/C	D/C	C/C	C/C	C/D	D/D	D/E	D/E
<b>Worst Movement V/C Ratio</b>	1.06/1.06	1.05/1.13	0.74/0.77	0.78/0.77	0.88/0.94	0.78/0.77	0.77/0.81	0.85/0.84	0.86/0.86	0.82/0.80
<b>Maximum Queue (in feet)</b>	782/1013	880/880	253/394	285/337	535/626	233/314	363/442	395/313	445/277	428/446
<b>Delay (in seconds)</b>	163/166.5	105.8/132	30.0/34.8	36.9/30.6	33.9/29.8	22.6/22.0	26.5/37.5	44.4/42.7	46.8/60.4	49.6/55.7
<b>Number of Lanes on Bridge</b>	5	5	6	6	5*	5*	5	5	5	5
<b>Need to Widen Bridge?</b>	No	No	Yes	Yes	No	No	No	No	Yes	Yes

Biltmore "West Gate" refers to 2011 request from The Biltmore Company to NCDOT to approve a new street connection to NC 191 (Brevard Road).

EB denotes eastbound. WB is westbound. LOS denotes traffic level of service. V/C denotes the volume-to-capacity ratio.

Year 2040 traffic volume forecasts are based on the assumption that I-26 is widened to six lanes. The forecast that assumes eight lanes on I-26 results in lower traffic volume forecasts on NC 191 (Brevard Road) likely due to the effect of motorists choosing between the two facilities based on comparative travel times.

PARCLO denotes a partial cloverleaf interchange configuration. 4-Quad denotes a configuration with ramps in all four quadrants of the interchange

\* denotes the number of lanes in a DDI as four vehicular lane plus a fifth "lane" in the median for pedestrians.

Source: Memorandum from NCDOT CMS to PDEA dated September 13, 2013.

### III. PROPOSED IMPROVEMENTS

Twelve new interchange configurations at I-26 / NC 191 were evaluated. Based on a two-tiered screening analysis and extensive public and stakeholder input, a partial cloverleaf design with relocated and elongated I-26 westbound ramps was identified as the NCDOT Preferred Alternative (Option-G2) to address the purpose and need, minimize business acquisition, and avoid effects on the Biltmore Estate, a National Historic Landmark.

The screening analysis included No-Build and Build scenarios that were developed and evaluated by the NCDOT Congestion Management Section. In November 2011 the NCDOT Congestion Management Section completed a review of seven basic interchange configurations and some additional variations (12 options in all) to assess traffic operational improvements at the I-26 / NC 191 (Brevard Road) interchange.

The interchange options were analyzed and screened in a two-tiered process. Tier 1 of the screening process considered traffic operations for all options using the following criteria:

- Overall intersection traffic level of service
- Worst traffic movement level of service and volume-to-capacity ratio
- Vehicle queue length
- Motorist (vehicle) delay
- Number of traffic lanes on the NC 191 (Brevard Road) bridge over I-26 for motor vehicles
- Functionality with the existing NC 191 (Brevard Road) bridge over I-26

Based on the first screening results, the NCDOT Congestion Management Section recommended further consideration of Options C, F, G, and G2. Functional roadway maps of the options were presented at a public meeting in April of 2013. The following is a description of the four options presented to the public:

1. Option-C: existing configuration with added I-26 off-ramps (partial cloverleaf, 4-quadrant); widen bridge over I-26 to six lanes; and relocate Rocky Ridge Road intersection with NC 191 (Brevard Road).
2. Option-F: diverging diamond interchange using the existing NC 191 bridge over I-26; and relocate Rocky Ridge Road intersection with NC 191 (Brevard Road).
3. Option-G: I-26 westbound ramp loop and westbound on ramp relocated and extended; add new I-26 eastbound off-ramp; use the existing NC 191 bridge over I-26; and relocate Rocky Ridge Road intersection with NC 191 (Brevard Road). Build retaining wall where necessary along the right-of-way to avoid encroachment on Biltmore Estate property.
4. Option-G2: I-26 westbound ramp loop and westbound on ramp relocated and extended; rebuild the NC 191 bridge over I-26, relocate Rocky Ridge Road intersection with NC 191 (Brevard Road); widen the I-26 eastbound loop off-ramp. Avoid encroachment on Biltmore Estate property.

In response to public input, a revised Option-G2 (see Figure 3, Appendix A) was added in June 2013. Option-G2 eliminates the proposed new eastbound off ramp in the southwest quadrant, avoiding several large businesses (Ethan Allen Furniture and Home Furnishings store, Rugs & More store, and the Hampton Inn & Suites). Option-G2 also relocates the Rocky Ridge Road / NC 191 (Brevard Road) intersection to just south of the Petco Animal Supplies store. Further refinements include shifting the alignment of proposed westbound I-26 on- and off-ramps to the north toward Pine Lane. This was to avoid impacts on the access route that Jim Barkley Toyota uses for very large car-carrying twin-trailer trucks. Closing the drive aisle on the north side of the dealership would have required mitigation elsewhere to build a new site entrance and an on-site circulation route for trucks. The Option-G2 revisions reduce the right-of-way costs by 50 percent compared with Option G.

The NCDOT Congestion Management Section prepared a traffic operational analysis of Options C, F, G, and G2 to assess traffic levels of service (see Table 2).

Tier 2 of the screening process looked at Options C, F, G, and G2. The second tier screening criteria included:

- Public input
- Right-of-way acquisition and dislocations
- Geometric design criteria
- Avoidance and minimization of potential environmental impacts (historic property, businesses, streams and wetlands)

Design Options C, F, and G would require the acquisition of existing businesses in the southwest quadrant of the interchange including the Ethan Allen Furniture and Home Furnishings store, Rugs & More store, Petco Animal Supplies store, and the Hampton Inn & Suites. The City of Asheville submitted a concern that the municipality would lose \$10.9 million from their property tax rolls, amounting to more than \$100,000 in annual tax revenue losses for the City.

Design Options C and F would require an approved federal Section 4(f) evaluation in order to acquire land from the Biltmore Estate, which is a National Historic Landmark as recognized by the National Park Service. The Department of Transportation Act (DOT Act) of 1966 includes Section 4(f) which stipulates that the Federal Highway Administration and other DOT agencies cannot approve the use of land from public or private historical sites unless there is no feasible and prudent alternative to the use of the land and the action includes all possible planning to minimize harm to the property resulting from its use.

After the second screening analysis, which included all of the previously mentioned criteria, the partial cloverleaf design Option-G2 was identified as the NCDOT Preferred Alternative to address the traffic operational deficiencies at the interchange, reduce business acquisitions, and avoid impacts to the Biltmore Estate, a National Historic Landmark.

## **A. Capacity Analysis for Interchange Options**

A traffic analysis of the twelve interchange design options was completed and summarized in a technical memorandum from the NCDOT Congestion Management Section dated November 22, 2011. Table 2 highlights the interchange level of service results for Options C, F, G, and G2.

## **B. Option-G2 (NCDOT Preferred Alternative)**

The proposed improvement includes retrofitting the existing ramp configuration to increase the distance along NC 191 (Brevard Road) separating the signalized ramp intersections. Design Option-G2 would result in an increase in the distance between signalized ramp intersections from an existing 850 feet to approximately 1,900 feet. The proposed project includes widening the eastbound I-26 ramp at its intersection with NC 191 (Brevard Road) and closing Rocky Ridge Road at NC 191 (Brevard Road). Access to residences and businesses on Rocky Ridge Road will be relocated to a new road to be built on the south side of the existing PETCO Animal Supplies store. Design Option-G2 includes the proposed relocation of the intersection of NC 191 (Brevard Road) with the westbound I-26 on- and off-ramp to a new location that is approximately 1,150 feet northeast of the existing ramp intersection. The relocated westbound off-ramp will be elongated around the perimeter of the Jim Barkley Toyota dealership, increasing the deceleration distance and vehicle storage space considerably. The relocated on- and off-ramps will intersect NC 191 (Brevard Road) where Pine Lane now intersects. The Pine Lane intersection will be relocated several hundred feet to the northeast to intersect with a right-in / right-out only type of intersection.

The median of I-26 will be paved and median barrier installed as part of STIP Project I-5504 so that traffic can be maintained during construction. The limits of median paving extend in both directions on I-26 to where ramp tapers will match existing pavement. The timing of I-5504 is not long before STIP Project I-4700 is anticipated to begin so the North Carolina Department of Transportation requested approval from the Federal Highway Administration to build full-depth pavement in the median and travel lanes on I-26. The benefit will be cost savings from building pavement that does not have to be ripped out. Another benefit is to reduce the total amount of time of construction on I-26 which will save motorist delays and the associated cost of delay. The median paving on I-26 will be extended westward to match with STIP Project B-5178; the replacement of I-26 bridges over Hominy Creek and Pond Road. That location is approximately 380 feet west of the end of the I-5504 ramp tapers. Extending I-26 improvements to connect the I-5504 and B-5178 improvements will avoid the effect of an hourglass-shaped lane arrangement on the I-26 mainline. The connection will provide lane balance for safer travel on I-26 without as many lane changes. The typical cross-section for I-26 shows a paved median and new traffic lanes, some of which will be striped-out until the full I-26 corridor project is completed. (See Figure 10, Appendix A).



## IV. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

### A. 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 at 36 CFR Part 800. Section 106 required 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 (NRHP) and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

#### 1. Historical Architectural Resources

Based on the North Carolina Department of Cultural Resources' State Historic Preservation Office's (NC-HPO) statewide survey of historic buildings, districts, and landscapes, there is one historic property within the project study area. The Biltmore Estate is listed on the NRHP as a National Historic Landmark and contains 138 contributing resources; comprised of 56 buildings, 31 sites, and 51 structures. An effects assessment among FHWA, NCDOT and NC-HPO was held in July 2014 to review Options C, F, and G2. As a result of this consultation, Option G2 was determined to have "No Adverse Effect" on the Biltmore Estate and a *de minimis* finding was made with regard to Section 4(f) (see Appendix B). Options C and F both were given an "Adverse Effect" call due to their inclusion of proposed highway off-ramps within the boundary of the Biltmore Estate. See Table 3 for a comparison of potential environmental impacts for Options C, F, G, and G2.

#### 2. Archaeological Resources

In a "Summary of Cultural Resources Review" letter dated April 30, 2014, NC-HPO stated:

"For those areas outside of the Biltmore Estate, no additional archaeological work is recommended, as long as impacts to the subsurface occur within the defined Area of Potential Effect (APE). If work should affect subsurface areas beyond the defined APE, further archaeological consultation will be necessary. While no archaeological investigations are recommended for this project as currently proposed, portions of the APE are within the Biltmore Estate, a designated National Historic Landmark (NHL). It is recommended that the PDEA project manager for I-5504 seek input from the Federal Highway Administration regarding the potential need for consultation with the Advisory Council on Historic Preservation. If it is determined that this undertaking may affect this NHL, the Federal Highway Administration is required to take the action as set forth in 36 CFR Sections 800.6 and 800.10."

**Table 3: Comparison of Potential Environmental Impacts**

<b>Water Resource</b>	<b>NCDOT Preferred Alternative Option-G2</b>	<b>Option C</b>	<b>Option F</b>	<b>Option G</b>
<i>Cultural Resources: Historic</i>	No adverse effect	Adverse effect	Adverse effect	Not reviewed*
<i>Displacements</i>	5 residential 1 business	0 residential 4 business	0 residential 4 business	4 residential 5 business
<i>303(d) waters</i>	None on the 2014 Final List for turbidity or sedimentation.			
<i>Streams (linear feet of impact)</i>	2,344	302	1,318	1,933
<i>Wetlands (acres impacted)</i>	0.07	0.01	0.04	0.04
<i>Ponds (acres of impact)</i>	0.04	0	0.04	0.04
<i>High Quality Waters, Outstanding Resource Waters, Water Supply Watersheds</i>	No High-Quality waters. No Outstanding Resource Waters or water supply watersheds within one mile downstream of the project site.			
<i>Trout / Anadromous Fish</i>	No trout streams / No Anadromous Fish Spawning Areas			
<i>100-year Floodplain</i>	None			
<i>Federally-protected Species' Habitat</i>	None (no effect) for all except Northern long-eared bat (unknown effect).			
<i>Natural Heritage Program Sites</i>	None			
<i>Environmental Justice</i>	None			
<i>Community Cohesion</i>	None			
<i>Local Land Use Character</i>	Cumulative effects include a potential change in land use in the Pine Lane residential neighborhood adjacent to the proposed westbound I-26 ramps, a concern expressed by a City of Asheville planner. Cumulative effects include the possibility that Biltmore Estate may request new access to NC 191 (Brevard Road) in the interchange area. Studies commissioned by the Biltmore Company estimate a Brevard Road "west gate" may attract 40 percent of total site traffic.			
<i>Recurring Impacts</i>	A previous TIP project included a raised median that now precludes twin-tractor trailers entering Jim Barkley Toyota site from the south. STIP Project I-5504 may include widening to facilitate U-turns for trucks.			
<i>Farmland Impacts</i>	Designated "Farmland of Statewide Importance" may be impacted with construction of the proposed new I-26 westbound ramps. The forested land has slopes that are approximately 10 percent and are not currently used for farming. The land is owned by the State of North Carolina as highway right-of-way.			
<i>Schools, churches and cemeteries</i>	None			
<i>Parks and recreational facilities</i>	None			

\*Eliminated prior to NC-HPO review

**B. Natural Resources**

**1. Introduction**

This section summarizes the findings of the Natural Resources Technical Report (NRTR) Addendum (NCDOT PDEA Natural Environment Section (NES), August 20, 2015). This section includes information developed after an Agency [US Army Corps of Engineers (USACE), NC Department of Environment and Natural Resources Division of Water Resources (NCDENR DWR), and NCDOT NES] field visit on May 7, 2014.

**2. Physical Resources**

The study area is located in the Blue Ridge physiographic region of North Carolina. Topography in the project vicinity is generally characterized as moderately steep to very steep side slopes, gently sloping to strongly sloping ridge tops, and narrow, level floodplains along streams. Elevations within the study area range from approximately 2,120 to 2,240 feet above mean sea level. Streams, creeks, tributaries, and wetlands in the project study area are part of the French Broad River basin (USGS Hydrologic Unit 06010105). Land use in the project vicinity consist primarily of forest land interspersed with agricultural land and commercial and residential development primarily along roadways. Streams, ponds and wetlands in the project area are listed in Tables 4, 5 and 6. Jurisdictional features showing the location of streams, ponds and wetlands are in Appendix A (Figures 4, 5, 6, 7 and 8, Appendix A).

**Table 4: Water Resources in the Study Area**

Stream Name	Figure 4 Map ID	NCDWQ Index Number	Best Usage
UT to Long Valley Branch	SA	6-75	C
UT to Hominy Creek	SB	6-76	C
UT to Hominy Creek	SC	6-76	C
UT to Hominy Creek	SD <sup>1/</sup>	6-76	C
UT to Hominy Creek	SE	6-76	C
UT to Long Valley Branch	SF	6-75	C
UT to Long Valley Branch	SG	6-75	C
UT to Long Valley Branch	SH	6-75	C
UT to Long Valley Branch	SI	6-75	C
UT to Long Valley Branch	SJ	6-75	C
UT to Hominy Creek	SK	6-76	C
UT to Hominy Creek	SL	6-76	C
UT to Hominy Creek	SM	6-76	C

<sup>1/</sup> continuation of Stream SB; SD labeling starting at point of egress from pipe on the east side of I-26 and crossing back under, downstream, to the west side of I-26.

Source: Natural Resource Technical Report Addendum, August 20, 2015 by NCDOT PDEA NES

**Table 5: Jurisdictional Characteristics of Water Resources in the Study Area**

Figure 4 Map ID	Length (feet)	Classification	Compensatory Mitigation Required	River Basin Buffer
SA	44	Perennial	Yes	N/A
SB	257	Intermittent	Yes	N/A
	186	Perennial	Yes	N/A
SC	170	Intermittent	Yes	N/A
SD <sup>1/</sup>	2,460	Perennial	Yes	N/A
SE	104	Intermittent	Yes	N/A
SF	80	Intermittent	Yes	N/A
SG	11	Intermittent	Yes	N/A
SH	282	Intermittent	Yes	N/A
SI	414	Intermittent	Yes	N/A
SJ	81	Perennial	Yes	N/A
SK	210	Perennial	Yes	N/A
SL	23	Intermittent	Yes	N/A
SM	117	Perennial	Yes	N/A
<b>Total</b>	<b>4,439</b>			

<sup>1/</sup>a continuation of Stream SB; SD labeling starting at point of egress from pipe on the east side of I-26 and crossing back under, downstream, to the west side of I-26.

Source: Natural Resource Technical Report Addendum, August 20, 2015 by NCDOT PDEA Natural Environment Section.

There are no designated Outstanding Resource Waters (ORW), High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within one mile of the study area. There are no North Carolina Wildlife Resources Commission (NCWRC) trout waters. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. The National Marine Fisheries Service (NMFS) has not identified any Essential Fish Habitat in the study area. There are no streams in the project area on the North Carolina 2014 Final 303(d) list of impaired waters for turbidity or sedimentation.

**Table 6: Jurisdictional Characteristics of Wetlands and Ponds in the Study Area**

<b>Figure 4 Map ID</b>	<b>NCWAM Classification</b>	<b>Hydrologic Classification</b>	<b>NCDWR Wetland Rating</b>	<b>Total Area (acres)</b>
WA	Headwater	Riparian	25	0.01
WB	Headwater	Riparian	37	0.01
WC	Headwater	Riparian	37	0.01
WD	Headwater	Riparian	25	0.01
WE	Headwater	Riparian	25	0.01
WF	Non-Tidal FW	Riparian	47	0.03
WG	Headwater	Riparian	37	0.01
			<b>Total Wetlands</b>	<b>0.09 acres</b>
<b>Ponds</b>				<b>Total Area (acres)</b>
PA	Pond draining to WF			0.03
PB	Pond draining to WF			0.00
PC	Pond draining to WA			0.01
SWA	Stormwater pond adjacent to shopping center parking lot			0.84
			<b>Total Ponds</b>	<b>0.88 acres</b>

Source: Final Natural Resource Technical Report, July 23, 2014, ESI.

### 3. Aquatic Communities

Aquatic habitats within the project study area consist of wetlands, perennial and intermittent streams, and ponds. Perennial streams in the study area could support Rosyside Dace, Golden Shiner, Blacknose Dace, and Creek Chub, as well as common reptiles and amphibians including Bullfrog, Green Frog, Pickerel Frog, and Northern Water Snake.

### 4. Jurisdictional Issues

Thirteen jurisdictional streams (see footnote, Tables 4 and 5), seven wetlands, and four ponds were identified within the project study area. NC DENR DWR and USACE stream and wetland forms are available. All jurisdictional streams in the study area are designated as cool water streams for the purpose of stream mitigation. The impacted jurisdictional wetlands are in the mixed hardwood community. There are four ponds in the project study area, three of which are jurisdictional under Section 404 of the Clean Water Act. One pond was constructed to collect stormwater from upstream parking lots and falls under Section 402 jurisdiction.

For the purpose of this analysis, impacts are reported at 25 feet beyond the preliminary slope stake limit (slope stake + 25 feet). This boundary is based on guidance provided by NCDOT for reporting impacts at the preliminary design level of project development.

An Individual Permit (IP) will be needed. Within the project study area it is estimated that STIP Project I-5504 will impact 2,344 feet of jurisdictional streams (see Table 7), 0.04 acre of jurisdictional ponds, and 0.07 acre of jurisdictional wetlands.

**Table 7: Project Impacts to Water Resources in the Study Area**

Figure 4 Map ID	Stream Name	Classification	Total Length in Study Area (ft)	Estimated Impact <sup>1/</sup> in Study Area (feet)
SA	UT to Long Valley Branch	Perennial	44	44
SB	UT to Hominy Creek	Intermittent	257	0
		Perennial	186	80
SC	UT to Hominy Creek	Intermittent	170	170
SD	UT to Hominy Creek	Perennial	2,460	1,344
SE	UT to Hominy Creek	Intermittent	104	104
SF	UT to Long Valley Branch	Intermittent	80	80
SI	UT to Long Valley Branch	Intermittent	414	414
SJ	UT to Long Valley Branch	Perennial	81	76
SM	UT to Hominy Creek	Perennial	117	32
		<b>Total Stream Length</b>	<b>4,439<sup>3/</sup></b>	<b>2,344</b>
Figure 4 Map ID	Wetland Name	Hydrologic Class	Total Area in Study Area (ac)	Estimated Impact <sup>2/</sup> in Study Area (acres)
WA	Long Valley Branch	Riparian	0.01	0.01
WB	Hominy Creek	Riparian	0.01	0.01
WC	Hominy Creek	Riparian	0.01	0.01
WF	Long Valley Branch	Riparian	0.03	0.03
WG	Hominy Creek	Riparian	0.01	0.01
		<b>Total Wetland Area</b>	<b>0.09<sup>4/</sup></b>	<b>0.07</b>

<sup>1/</sup> Impacts are reported at 25 feet beyond the preliminary slope stake limit (slope stake + 25 feet). Impacts are not anticipated to streams SG, SH, SK, and SL.

<sup>2/</sup> Impacts are reported at 25 feet beyond the preliminary slope stake limit (slope stake + 25 feet). Impacts are not anticipated to wetlands WD and WE.

<sup>3/</sup> Total length of streams in the study area includes Streams SG (11 feet), SH (282 feet), SK (210 feet), and SL (23 feet) that are not anticipated to be impacted by STIP Project I-5504.

<sup>4/</sup> Total area of wetlands in the study area includes Wetlands WD (0.01 acre) and WE (0.01 acre) that are not anticipated to be impacted by STIP Project I-5504.

As of July 24, 2015, the U.S. Fish and Wildlife Service (USFWS) lists eleven federally protected species for Buncombe County (See Table 8). The Biological Conclusion is rendered based on survey results in the study area. Habitat requirements for the species are based on the current best available information from referenced literature and/or USFWS.

**Table 8: Federally Protected Species Listed For Buncombe County**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Clemmys muhlenbergii</i>	Bog turtle	T(S/A)	No	Not Required
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No	No Effect
<i>Myotis grisescens</i>	Gray bat	E	No	No Effect
<i>Myotis septentrionalis</i> <sup>1/</sup>	Northern long-eared bat	T	Unknown	Unresolved
<i>Erimonax monachus</i>	Spotfin chub *	T	No	No Effect
<i>Alasmidonta raveneliana</i>	Appalachian elktoe *	E	No	No Effect
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No	No Effect
<i>Epioblasma florentina walker</i>	Tan riffleshell *	E	No	No Effect
<i>Geum radiatum</i>	Spreading avens	E	No	No Effect
<i>Spiraea virginiana</i>	Virginia spiraea *	T	No	No Effect
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No	No Effect

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

\* - Historic record (the species was last observed in the county more than 50 years ago)

Source: NRTR Addendum, August 20, 2015, NCDOT PDEA Natural Environment Section

Northern long-eared bat

USFWS Recommended Survey Window: June 1 – August 15

Habitat Description: In North Carolina, the Northern long-eared bat (NLEB) occurs in the mountains, with scattered records in the Piedmont and coastal plain. In western North Carolina, NLEB spend winter hibernating in caves and mines. Since this species is not known to be a long-distance migrant, and caves and subterranean mines are extremely rare in eastern North Carolina, it is uncertain whether or where NLEB hibernate in eastern North Carolina. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (typically equal to or greater than 3 inches dbh – diameter at breast height). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, in bridges, and in bat houses. Foraging occurs on forested hillsides and ridges, and occasionally over forest clearings, over water, and along tree-lined corridors. Mature forests may be an important habitat type for foraging.

Biological Conclusion: Unresolved

The NCDOT Biological Surveys Group will be responsible for habitat assessment and, if needed, surveys for the NLEB.

*Construction authorization will not be requested until the Endangered Species Act has been satisfied for the Northern long-eared bat.*

No bald eagle nests were identified in the project study area or observed within 660 feet of the project limits based on vantage points on publicly accessible areas. Additionally, a review of the North Carolina Natural Heritage Program (NCNHP) database, updated October 2013, revealed no known occurrences of bald eagles within one mile of the project study area. Due to lack of nesting sites within the study area, no known occurrences, and minimal impact anticipated for this project, it has been determined that STIP Project I-5504 will not affect this species.

### **C. Relocation of Residences and Business**

Properties along Pine Lane would experience an increase in roadway-related impacts with the NCDOT Preferred Alternative due to new on- and off-ramps serving westbound I-26. Some right-of-way acquisition would be required to build these ramps. According to an NCDOT Relocation Report dated June 23, 2014 (see Appendix C) five residential and one business property, all of them located on Pine Lane, would be displaced by the NCDOT Preferred Alternative. Remaining parcels on the south side of Pine Lane would be reduced in acreage due to right-of-way acquisition.

Properties on adjacent streets including Oak Lodge Road, Old Brevard Road, Fordia Path (also known as Poodle Path), Jeff Drive, Trevor's Trail, and Elaine Eden Drive may experience some increase in road-related noise impacts.

The Farm Bureau Insurance Company, located at 4 Pine Lane, will be acquired to make room for the new on- and off-ramps for westbound I-26. According to the NCDOT Relocation Report dated June 23, 2014 Farm Bureau Insurance employs ten people at this location.

For Jim Barkley Toyota, the driveway access will not change however an employee parking lot in the northwest corner of their property would be acquired to make room for new on- and off-ramps for westbound I-26. The parking lot accommodates approximately 26 vehicles.

Circulation and access to the businesses and residences on Rocky Ridge Road and Holcombe Ridge Drive would be impacted due to changes in access control that are designed to make the interchange operate efficiently. Access to Ethan Allen, Rugs & Home, Hampton Inn & Suites, Holiday Inn Express, Fairfield Inn & Suites, City of Asheville Fire Station Number 11, Buncombe Roofing, Rodeway Inn and Suites, Glen's Auto Glass, Mountain Area Recovery Center, and Petco Animal Supplies would be impacted.

A medical clinic, Mountain Area Recovery Center, located at 18 Wedgefield Drive, may be impacted with construction of a new access road to replace the closure of Rocky Ridge Road. The new access road would align with Wedgefield Drive just north of the Mountain Area Recovery



Center building, resulting in the potential loss of several on-site parking spaces.

One commercial retail business (Petco Animal Supplies store) on the west side of NC 191 (Brevard Road) may need to be acquired or lose some acreage with the re-routing of access from the Rocky Ridge Road / Wedgefield Drive area to NC 191 (Brevard Road). The new access road is proposed to be built on the south side of the Petco Animal Supplies store building. An NCDOT Relocation Report dated June 23, 2014 included proximity damages for the Petco property based on the functional plan showing a new access road on the south side of the building. A new alignment for the road may be developed during the design-build phase to minimize or avoid the proximity damage. A driveway that currently connects the Petco parking lot to Rocky Ridge Road is proposed to be closed to avoid cut-through traffic in the Petco parking area.

The City of Asheville Fire Station Number 11 that houses fire response service and emergency medical service (EMS) first responder units would no longer have direct access to NC 191 (Brevard Road) via Rocky Ridge Road. Emergency responders would travel an additional 1,500 feet to access NC 191 (Brevard Road) via Wedgefield Drive and a new street that would be built adjacent to the south side of the existing Petco Animal Supplies store, intersecting with NC 191 (Brevard Road). The new intersection on NC 191 (Brevard Road) would be signalized. NCDOT personnel continue to discuss EMS and Fire Department-only access at the NC 191 (Brevard Road) and Rocky Ridge Road intersection and traffic signal pre-emption equipment for emergency vehicles at this location.

#### **D. Community Resources**

##### **1. Introduction**

This section summarizes the findings of the “Community Impact Assessment Report” (August 2014, Moffatt & Nichol). All work was conducted in accordance with the NCDOT Human Environment Section Standard Operating Procedures. Field work was conducted by Moffatt & Nichol staff on numerous occasions in 2013 and 2014.

##### **2. Pedestrian Facilities and Activity**

Pedestrians were observed during site visits walking along NC 191 (Brevard Road) in the vicinity of hotels, restaurants, shopping areas, and ART bus stops south of the I-26 interchange.

Sidewalk exists along NC 191 (Brevard Road) south of the I-26 interchange. There is sidewalk along the frontage of McDonald’s Restaurant, on the east side of NC 191 (Brevard Road) immediately north of the Asheville Outlets signalized entry intersection. High-visibility crosswalks are marked at the intersection of NC 191 (Brevard Road) and Ingles / Asheville Outlets. The remainder of both sides of NC 191 (Brevard Road) has paved or gravel shoulders. Pedestrians were observed walking along the paved and gravel shoulders. Sidewalk exists along NC 191 (Brevard Road) north of the I-26 interchange, beginning at the entrance to Jim Barkley Toyota and extending 1.3 miles northeasterly to the intersection of Oakview Road where the WNC Farmers Market entrance is located.

The City of Asheville requested discussions with NCDOT, at the appropriate time, with the intent of developing a Municipal Agreement to build sidewalks within the project limits. A completed sidewalk system with marked crosswalks at signalized intersections will enhance the safety and mobility of pedestrians and transit patrons.

### **3. Bicycle Facilities and Activity**

Bicyclists were observed during site visits riding in both directions on NC 191 (Brevard Road). Wide outside lanes exist in both directions on NC 191 (Brevard Road) from Pine Lane northeast to the WNC Farmers Market entrance at Oakview Road. These were built several years ago by NCDOT. There are no bicycle facilities on NC 191 (Brevard Road) south of Pine Lane. Strong interest was expressed at public meetings in 2013 and 2014 and in written comments by numerous citizens who requested striped bicycle lanes on NC 191 (Brevard Road) as part of STIP Project I-5504. At a February 25, 2014 public meeting, NCDOT presented citizens with an optional typical street section that included striped bicycle lanes. There was universal support for the option with striped bicycle lanes. The City of Asheville and the French Broad River MPO each submitted comments requesting striped bicycle lanes on NC 191 (Brevard Road).

NCDOT plans to include striped bike lanes in both directions of NC 191 (Brevard Road) through the I-5504 project area including the bridge over I-26.

### **4. Transit Facilities**

Bus service is provided by Asheville Redefines Transit (ART). There are four transit stops on southbound NC 191 (Brevard Road) within the project limits; one each at Pine Lane, Rocky Ridge Road, Ingles Market, and Sardis Road / Ridgefield Boulevard. There are two transit stops on northbound NC 191 (Brevard Road); one at Ridgefield Boulevard / Sardis Road and another in front of the Waffle House, adjacent to the entrance to Asheville Outlets.

In a March 25, 2014 letter to NCDOT, the City of Asheville requested that concrete bus stop pads be included at all existing bus stops within the project limits. In addition, the City requested that the construction phasing include provisions to mitigate and/or limit any adverse impacts to existing transit service (Route W2). This request will be resolved at the appropriate time, with the intent of developing a Municipal Agreement that would result in a cost-share arrangement to build concrete bus stop pads.

## **5. 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. The three environmental justice principles are to: (1) ensure the full and fair participation of all potentially affected communities in the transportation decision-making process; (2) 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.

Census data does not indicate a notable presence of populations meeting the criteria for Environmental Justice within the Demographic Study Area (DSA) nor were minority or low income communities observed within the Direct Community Impact Area (DCIA) during site visits. According to the 2010 Census, the DSA had a minority population of 17.4%, compared to 11.3% of Buncombe County. The “Below Poverty Level”, with incomes less than poverty level, number 63 persons or 8 percent of the DSA, compared to 15.4% of Buncombe County. Of these, 33 persons or 4.2% are “Very Poor”, that is, incomes less than 50% of the poverty level, compared to 6.2% of Buncombe County.

No notably adverse community impacts are anticipated with this project and no Environmental Justice populations appear to be affected; thus, impacts to minority and low income populations do not appear to be disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community, and no denial of benefit is expected.

## **6. Recurring Community Impacts**

Jim Barkley Toyota was negatively impacted by a STIP project when NCDOT widened NC 191 (Brevard Road) and installed a raised-curb median in front of the dealership’s driveway. Access to the site from the south (I-26 interchange) now requires a U-turn on northbound NC 191 (Brevard Road), which can be difficult for twin-tractor-trailer trucks that deliver cars to the site. NCDOT staff is evaluating ways to accommodate U-turns for car-carrier trucks accessing the Jim Barkley Toyota site from NC 191 (Brevard Road). There are no other proposed changes in access to Jim Barkley Toyota with the STIP I-5504 preferred alternative.

## **7. Community Cohesion**

NC 191 (Brevard Road) is typically under capacity; however, anticipated traffic increases due to new and revitalized businesses in the immediate vicinity of the interchange are anticipated to create at-capacity or over-capacity conditions in the future. As an interchange ramp replacement project intended to increase capacity and reduce congestion at the existing I-26 / NC 191 (Brevard Road) interchange, the Proposed Action is not expected to impact the overall physical make-up of the surrounding communities or neighborhoods. Additionally, the project would not form a barrier between existing communities.

## **8. Other Adjacent Socio-Economic Resources**

Notable adjacent socio-economic resources are listed below:

- Biltmore Estate – Biltmore Estate forms the eastern edge of NC 191 (Brevard Road) north of the interchange. Several design options for interchange ramp modifications would impact Biltmore Estate property and the owner has provided a letter to NCDOT that clearly indicates they do not support any interchange modification that acquires land from Biltmore Estate property. NCDOT selected a Preferred Alternative that would avoid effects on the Biltmore Estate property.
- WNC Farmers Market – the entrance to WNC Farmers Market is located on NC 191 about 1.1 miles northeast of the I-26 / NC 191 (Brevard Road) interchange. It is a regional destination and a desirable place for people to walk and bicycle to. There is currently a sidewalk on the west side of NC 191 (Brevard Road) from the WNC Farmers Market to just south of Pine Lane.
- NC Arboretum – a regional destination located several miles southwest of the I-26 / NC 191 (Brevard Road) interchange. It covers 434 acres with an arboretum and botanical garden, established by the North Carolina General Assembly in 1986.
- Pisgah National Forest – there are numerous recreational opportunities including camping, hiking, and backpacking. Timber harvesting and wildlife management activities also occur there. The northeastern edge of Pisgah National Forest abuts NC 191 (Brevard Road) south of the Project STIP I-5504.
- Asheville Outlets – opened May 2015 at the site of the former Biltmore Square Mall. Approximately 75 manufacturer and retail outlets are located in 325,000 square feet of building space. Asheville Outlets is anticipated to generate more traffic than the previous shopping center.

## **9. Indirect and Cumulative Effects**

### **Indirect Effects**

It is expected that STIP Project I-5504 will have a moderate effect on the level or pace of development. Development and redevelopment are occurring without transportation projects. For example, in early 2015 the Biltmore Company filed for approval of a new hotel that can operate with or without roadway access to NC 191 (Brevard Road). Furthermore, the recent conversion of Biltmore Square Mall to Asheville Outlets is expected by some business owners in the area to have a positive impact on their sales. Planning efforts in Buncombe County and the French Broad River metropolitan area have anticipated construction of I-26 highway and interchange improvements for a long time. Water and sewer services are currently provided to approximately 49% of the 512 acres in the Future Land Use Study Area (FLUSA). Most of the important environmental features in the FLUSA are protected by local, state, and federal policies or regulations, such as National Pollution Discharge Elimination System Program (NPDES) Phase II Municipal Sphere of Influence (MSI), Section 404 / Section 401; National Historic Preservation Act of 1966, as amended; and City and County zoning ordinances. One concern, however, is the potential effect of relocating the westbound I-26 on and off ramps adjacent to the Pine Lane neighborhood. A city planner speculated that unintended and undesired redevelopment of the Pine Lane neighborhood may occur once interstate highway access is provided nearby.

### **Regional Cumulative Effects Summary**

To consider the broader effects over a larger area, a regional study was prepared that included several NCDOT corridor and interchange improvement projects in the Asheville region, including but not limited to STIP Project I-5504. As discussed in the Asheville Regional Cumulative Effects Study (NCDOT 2014), regional cumulative effects can be expected for notable cultural, community, water quality, and natural habitat features (see Table 8 and Figure 9. Figure 9 is in Appendix A). This is predominantly due to features having minimal incorporation in local planning protections and/or policies. For community, water quality, and natural habitat features, present and future policies do indicate shifts in including these attributes, but they have historically not been prioritized. Recently, NCDOT has produced a draft Indirect and Cumulative Effects Screening Tool aimed at evaluating study areas for the resources listed above. For the purposes of the cumulative effects study an initial analysis was completed, for a set of NCDOT projects that includes STIP Project I-5504, using the tool to rate cumulative impacts to cultural, community, water quality, and natural habitat features from low to high concern (low, medium-low, medium, medium-high, and high concern). A detailed explanation for each group of resources follows.

## **Regional Cumulative Effects**

Despite the large tracts of available land, local officials suggest there are a number of constraints to development in the region, notably natural environmental features and topography. Potential cumulative land use effects as a result of proposed transportation improvements are further tempered by the fact that the transportation improvement projects are not expected to provide a large number of new access points or opportunities for traffic exposure to properties along the major roadways and will generate marginal travel time savings. Local planners have indicated that commercial, industrial, and residential development is anticipated to occur regardless of whether or not the projects advance forward. The extent of potential indirect land use effects as a result of these projects will be largely dependent upon several key variables, including the future local economy and market for development, public infrastructure projects (most notably water and sewer), and the limited supply of developable land.

### Regional Cultural Resource Impacts

Impacts and effects on cultural resources are typically conducted on a project-by-project basis through coordination, as impacts are either typically direct or indirect (through viewshed or proximity). In addition, there are very few resources located within the individual project study areas or close to the transportation corridors. Potential impacts are addressed in three different ways: avoidance, minimization, and mitigation. Avoidance is the first strategy employed, selecting an alternative that avoids a resource. Minimization modifies the design alternatives to reduce the level of impact to a resource. Finally, if no reasonable or prudent alternative exists, mitigation is employed to offset the impact to a resource. Cumulative effects to these resources were determined to be Medium-Low to Low based on relative protection and lack of density along the corridors.

### Regional Community Resource Impacts

As the proposed projects have been appropriately planned for and expected over the past several years, many of the updated plans, policies and local projects have incorporated elements of the projects. As such, many of the new parks and recreational facilities have been constructed outside of the immediate vicinity of the study areas and as such, are not expected to experience major impacts as a result of the projects. In addition, many of the churches, cemeteries, and schools have either relocated after the original construction, or are located at a sufficient distance from the projects to be avoided. The potential for recurring impacts to a number of communities and resources along both the I-26 and I-40 corridors, including some minority and low-income communities, exists. Close coordination with local, state, and federal agencies as well as potential avoidance, minimization, or mitigation should be considered in any such cases.

Potential cumulative effects to the Montford community and the Biltmore Estate in Asheville as a result of these projects should continue to be closely coordinated as the design options and environmental documents are completed, as these two resources are major features and establishments within the City of Asheville.

While the travel time savings for any individual project is minimal, collectively the group of projects may benefit the region's community resources by increasing regional mobility and generally relieving congestion. Decreases in congestion could enhance some of the user benefit of community resources, depending on the type of resource. For regional community resources such as the national forests in the area, increasing regional mobility could result in an increase in usage as more residents of the area are willing to travel to the forests to recreate. Locally, community resources could be enhanced by the diversion of traffic away from the community resources (i.e. church or community center). This could enhance the user experience by decreasing noise and improving local air quality around the resource. Benefits to regional mobility may extend to the region's agricultural industry which includes, among other types of farming, Christmas tree and berry farming. Increased regional mobility would allow farmers in the region to more easily access markets within the region, as well as outside the region.

Relocations and other direct impacts may result in additional stress to low income and minority communities that had been previously impacted by the original construction of the highways. Although one project may not have notable effects on these communities, cumulatively the projects could result in additional stress to regional low-income and minority populations. Cumulative effects to these resources were determined to be Medium-High to Medium-Low based on the previous impacts to communities and potential positive community benefit.

#### Regional Water Quality Resource Impacts

There are very few large areas of undeveloped land within the project study area. The few areas of large, undeveloped land that are available are located in rural areas, such as northwestern Buncombe County and western Madison County. The projects included in this study will not provide additional access to these areas and, given the distance of these areas from the projects, any increases in mobility associated with the projects will not influence development of these areas. All of the projects will address increases in impervious surfaces in the individual project design through the use of BMP's. It is possible that these projects could have cumulative impacts when combined with the on-going urbanization and suburbanization of the region. The increases in impervious surfaces associated with the construction of buildings, homes and parking areas could lead to a deterioration of water quality in the absence of BMP's.

Cumulative effects to these resources were determined to be Medium to Medium-Low due to the lack of comprehensive protection standards and ordinances, potential of urbanization and suburbanization, and presence of BMPs.

**Table 8: Cumulative Impacts Table**

Alternatives screening matrix for cumulative effects													
Rating	Cultural Features			Community Features			Water Quality Features			Natural Habitat Features			Result
More Concern	Unique Resources Not Protected / Recognized			Unique Resources Not Protected / Recognized			Unique Resources Not Protected / Recognized			Unique Resources Not Protected / Recognized			
	Past Actions	Current Activities	Future Development	Past Actions	Current Activities	Future Development	Past Actions	Current Activities	Future Development	Past Actions	Current Activities	Future Development	
High													
Medium - High				X									
Medium							X	X		X			Possible Cumulative Effects
Medium - Low	X	X			X	X			X		X		
Low			X									X	
Less Concern	Features Incorporated in Local Planning and Protection			Features Incorporated in Local Planning and Protection			Features Incorporated in Local Planning and Protection			Features Incorporated in Local Planning and Protection			

Source: AECOM, Inc. June 2014 Final Report entitled "Asheville Regional Cumulative Impacts Study Report, for the North Carolina Department of Transportation.



## Regional Natural Resource Impacts

Most of the regional study area in the vicinity of the projects has been previously developed and is located in the low sensitive areas of the region. Through county regulations, steep slopes and other natural features, conservation efforts and lack of development are located on the periphery of the study area. In addition, those sensitive areas located adjacent to the projects are protected as part of the Pisgah National Forest, the Blue Ridge Parkway and under Conservation agreements. It is unlikely that the currently identified projects will have a cumulative impact on any of these resources.

There are several tracts and areas of agricultural lands located along and within the project study areas that do have the potential to be impacted/redeveloped as growth occurs along the corridors. These areas are afforded some level of protection through the VAD and EVAD system as well addressed as goals and objectives through comprehensive and small-area, community plans.

Cumulative effects to these resources were determined to be Medium to Low based on the previous impacts to natural areas and efforts to protect lands through steep slope ordinances, national/state park designations and efforts to purchase conservation lands.

### **E. Traffic Noise**

A noise impact analysis was prepared (Final Report, April 2015, HNTB). The unabridged version of the full technical report entitled "Traffic Noise Analysis: I-26 Interchange Improvements at NC 191 / Modification of I-26 / NC 191 (Brevard Road) Interchange" can be viewed at the NCDOT Project Development and Environmental Analysis Unit office at Century Center Building A, 1000 Birch Ridge Drive, Raleigh, North Carolina. In the report, the consultant identifies possible noise abatement measures in one location for the benefit of 10 homes along Pine Lane. In accordance with the 2011 NCDOT Traffic Noise Abatement Policy, based on available information, the recommended noise wall for the Preferred Alternative preliminarily meets the tested need. A final decision on feasibility and reasonableness of the noise barriers will be made upon completion of the project design and balloting to determine public preference for or against the proposed wall construction. Changes may occur as more detailed information on mapping and final design become available. Any changes in noise abatement measures detailed in the design noise report must be approved by the FHWA prior to implementation.

### **F. Air Quality Analysis**

This project is not anticipated to create any adverse effects on the air quality of this attainment area. Ozone levels could be a concern in the future and will be monitored to ensure continued compliance. A project-level qualitative air quality analysis was prepared for this project. The unabridged version of the full technical report entitled "Air Quality Analysis", dated June 24, 2014, can be viewed at the Project Development and Environmental Analysis Unit office at Century Center Building A, 1000 Birch Ridge Drive, Building A, Raleigh, North Carolina.

## **G. Hazardous Material**

A database search for known hazardous waste sites identified the following locations:

- Dillard's: (former) Biltmore Square Mall, 800 Brevard Rd, Asheville. Hazardous Waste Generator. The generator is likely located more than 500 feet (southeast) of the centerline of the intersection of NC 191 (Brevard Road) / Petco Animal Supplies store (southernmost) driveway.
- Jim Barkley Toyota, 777 Brevard Rd, Asheville. Hazardous Waste Generator. Adjacent to proposed ramps for westbound I-26.
- 1154 Brevard Rd, Asheville (closed). Solid Waste Facility/Landfill. Address cannot be found in Google Earth online maps.
- Database listing of the "Venable School", however an online search did not produce that name; may now be the Sand Hill – Venable Elementary School at 154 Sand Hill School Road in Asheville, approximately 2.3 miles northwest of STIP Project I-5504. Database notes the "Leaking Underground Storage Tank (removed)".
- Smoky Mountain Machine, 80 McIntosh Road, Asheville. Hazardous Waste Site. Located more than 0.5 miles north of STIP Project I-5504 and north of Pond Road.

## **V. COMMENTS AND COORDINATION**

### **A. Public Involvement**

A public meeting was held at the North Carolina Arboretum on February 25, 2014. The purpose of the meeting was to present Design Option-G2 to solicit public input and feedback. There were 88 people signed-in at the meeting, plus 14 who were NCDOT employees or their consultants. Meeting announcements were mailed to 240 addresses including all residents of Pine Lane, Old Brevard Road, Wedgefield Drive, Wedgefield Place, Terraine Lane, and Rocky Ridge Road. Written comments were received from 34 people. In general, most respondents are supportive of the design changes developed by NCDOT. In particular, many comments referenced the minimization of business impacts (acquisitions) and the addition of striped bicycle lanes and sidewalks on NC 191 (Brevard Road) as positive changes.

A public meeting was held on April 18, 2013 at the North Carolina Arboretum in Asheville. It was attended by 80 people plus another 15 who were either NCDOT employees or their consultants. Workshop announcements were mailed to 112 addresses. The purpose of the 2013 public meeting was to present Design Options C, F, and G to solicit public input and feedback. Written comments were received from 22 people. There was a mass email sent to the North Carolina Secretary of Transportation requesting striped bicycle lanes and sidewalks.

Neighborhood Meeting - a neighborhood meeting hosted by NCDOT was held on August 11, 2014 for residents and owners in the residential neighborhood that includes Pine Lane, Oak Lodge Road, Old Brevard Road, Fordia Path (also known as Poodle Path), and Elaine Eden Drive. Postcard invitations were sent to 65 addresses. There were 27 people signed-in at the meeting, plus another 10 who were NCDOT employees or their consultant. A representative of the City of Asheville Planning Department also attended.

Small group meetings were held; once with representatives of the Farm Bureau Insurance Company and twice with representatives of Jim Barkley Toyota. The NCDOT Preferred Alternative would require acquisition of the Farm Bureau property and a 26-space parking lot from Jim Barkley Toyota.

### **B. Agency Coordination**

Input from federal, state, and local agencies concerning potential effects of the Proposed Action on the environment was requested in a scoping letter dated November 14, 2012. The agencies to which the scoping letter was sent are listed on page 31. The scoping letter was also sent to the North Carolina Environmental Review Clearinghouse in Raleigh.

Written comments were received from agencies listed below with an asterisk (\*). Comments received have been taken into consideration in the planning of this project and the preparation of this document.

- NC Agricultural Development & Farmland Preservation Fund (\*)
- NC Department of Crime Control & Public Safety, Division of Emergency Management, Floodplain Management Program (\*)
- NC Department of Cultural Resources State Historic Preservation Office (\*)
- NC Department of Environmental and Natural Resources, Division of Water Quality (\*)
- NC DENR – Division of Energy, Mineral, and Land Resources
- NC Department of Environment and Natural Resources, Wildlife Resources Commission
- Tennessee Valley Authority NEPA Program Manager
- U.S. Army Corps of Engineering
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- Eastern Band of the Cherokee Indians, Tribal Historic Preservation Officer
- Federal Highway Administration
- Land of Sky Regional Council
- National Oceanic and Atmospheric Administration National Marine Fisheries Habitat Conservation Division
- NC Department of Environmental and Natural Resources – Division of Air Quality
- NC Department of Environmental and Natural Resources – Division of Parks and Recreation
- NC Department of Environmental and Natural Resources, Division of Marine Fisheries
- NC Department of Environmental and Natural Resources, Division of Coastal Management
- NC DENR – Conservation, National Heritage Program, Office of Conservation, Planning, and Community Affairs
- North Carolina Department of Environmental and Natural Resources, Division of Health

## **VI. 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 CFR 771.117, is appropriate.

The preferred alternative Option-G2 was developed with several design elements that avoid and minimize potential environmental impacts. Option-G2 avoids impacts to the Biltmore Estate, a National Historic Landmark. Option-G2 also avoids economic impacts to three businesses in the southwest quadrant of the interchange; these are the Hampton Inn and Suites, Ethan Allen, and Rugs & More. The preferred alternative minimizes business impacts on Jim Barkley Toyota and the Petco Animal Supplies store by shifting the alignment of proposed new roads and ramps further from existing buildings and important internal site circulation lanes.

The design-build team will consider design modifications to avoid and/or minimize impacts to jurisdictional streams. Some of the ideas to consider include changing side slopes to avoid streams along I-26 and using guardrail, barrier, and retaining walls on the westbound I-26 on and off ramps to daylight sections of stream in the northwest quadrant of the interchange.

# APPENDIX A

## FIGURES

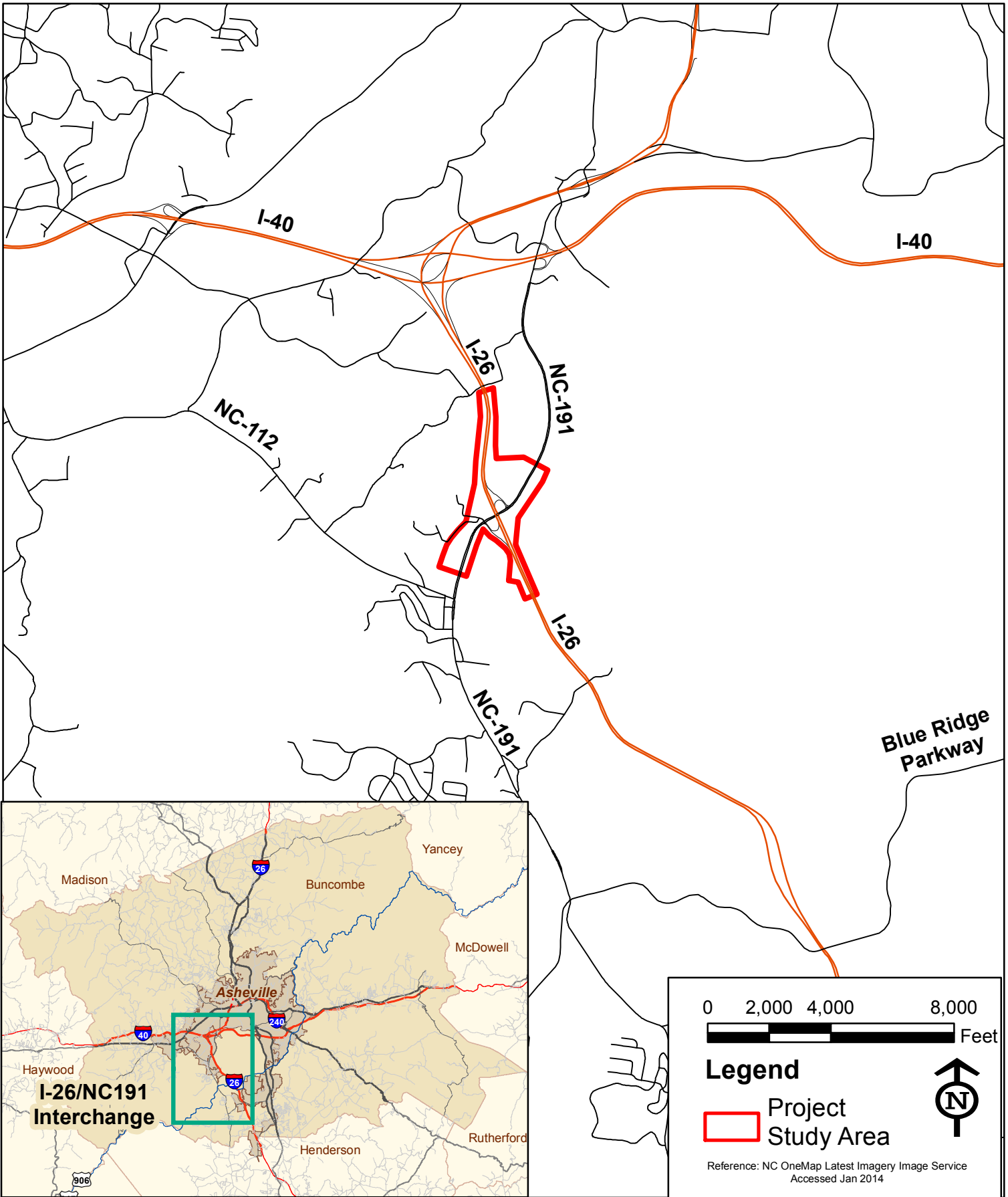
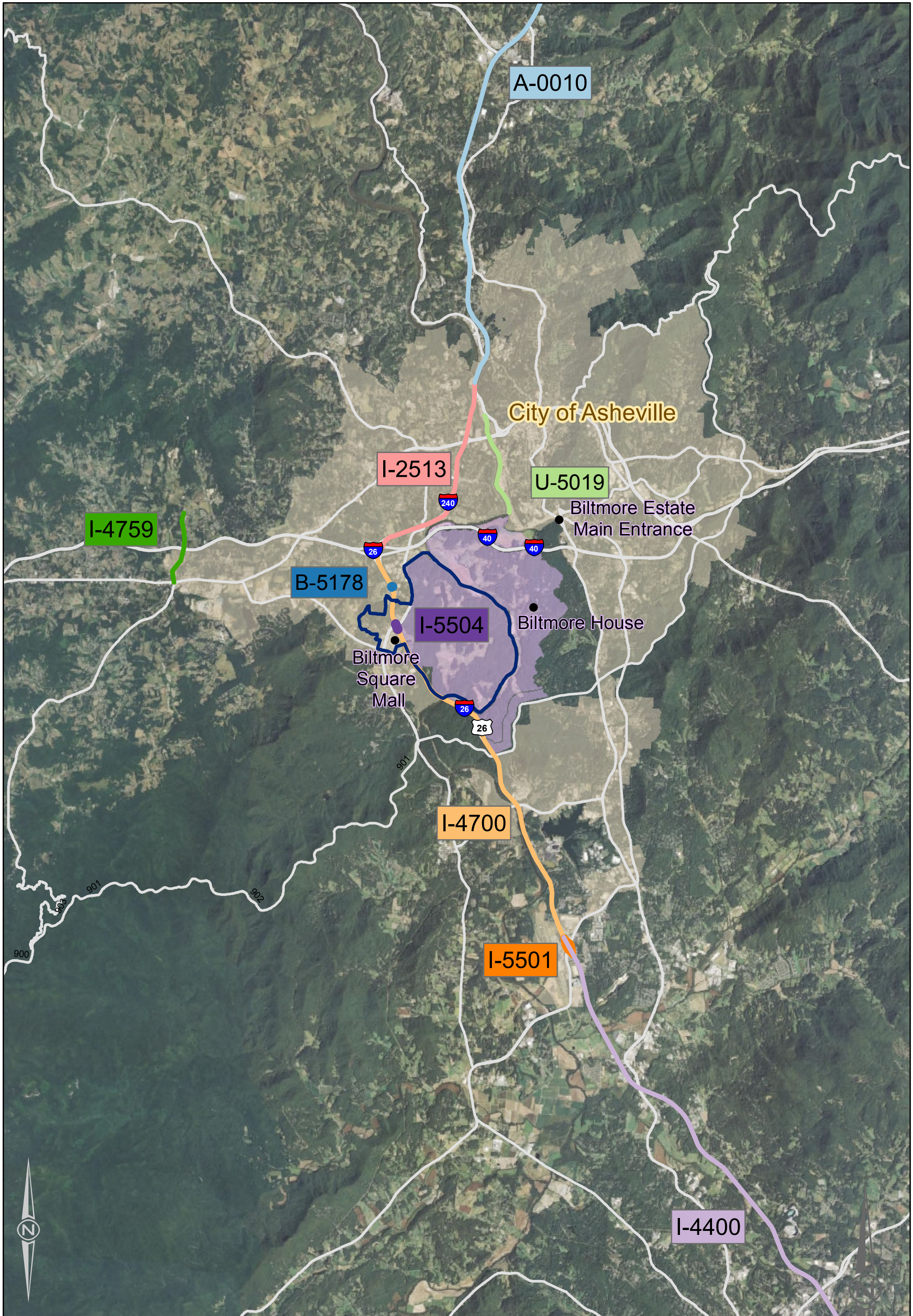


Figure 1: Vicinity Map  
**I-26/NC191 Interchange Improvements**  
 Buncombe County, North Carolina





A-0010

City of Asheville

I-2513

U-5019

Biltmore Estate  
Main Entrance

I-4759

B-5178

I-5504

Biltmore House

Biltmore  
Square  
Mall

I-4700

I-5501

I-4400



0 1 2 Miles

DCIA



Figure 2: Area Projects  
**I-26/NC191 Interchange Improvements**  
 Buncombe County, North Carolina  
 March 2014

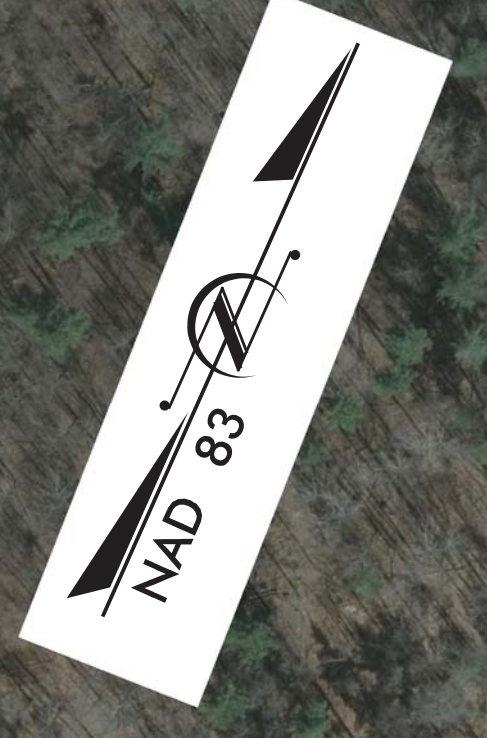
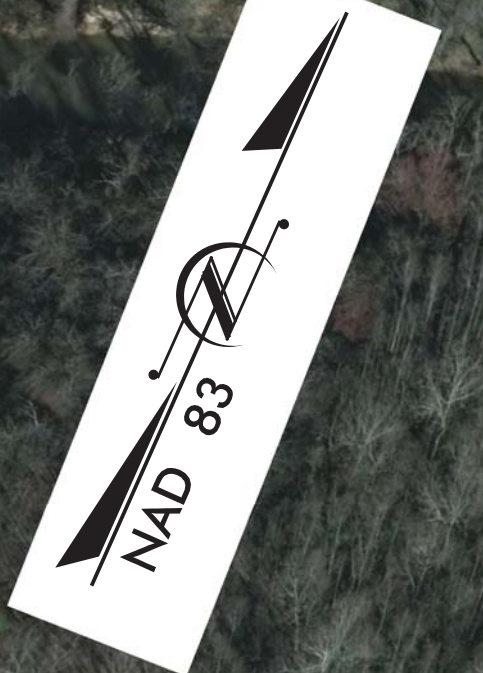
Map Sources: NC OneMap Orthoimagery WMS, Buncombe County GIS, Open Data Asheville







# I-5504 PUBLIC MEETING MAP I-26 AND NC 191 (BREVARD ROAD) INTERCHANGE MODIFICATION BUNCOMBE COUNTY OPTION 'G2' UPDATE FIGURE 3



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

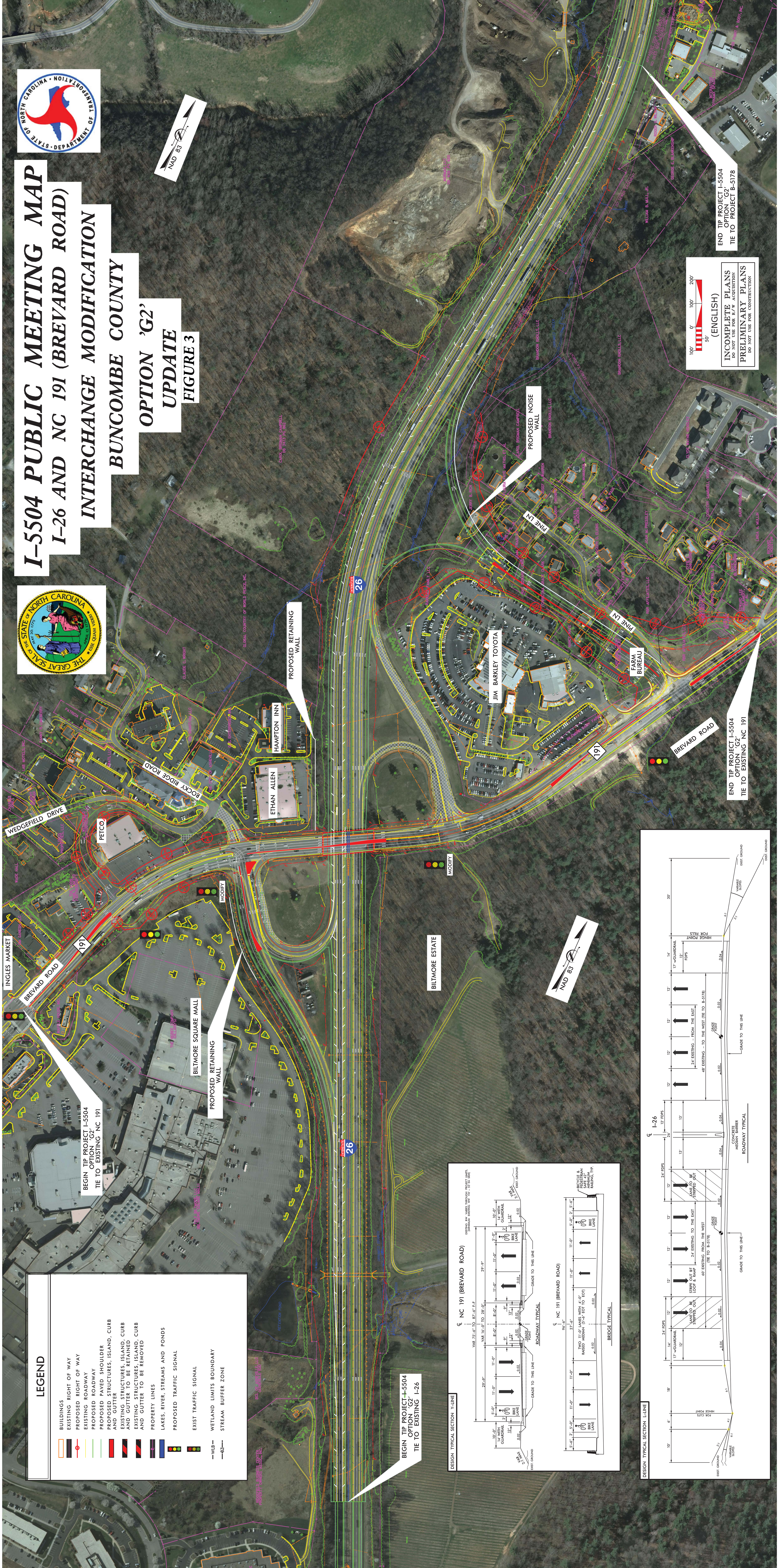
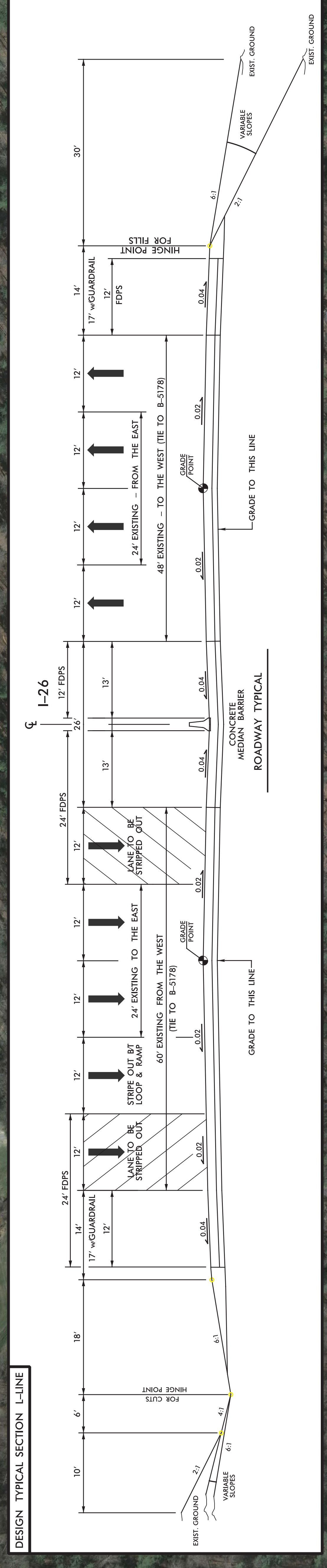
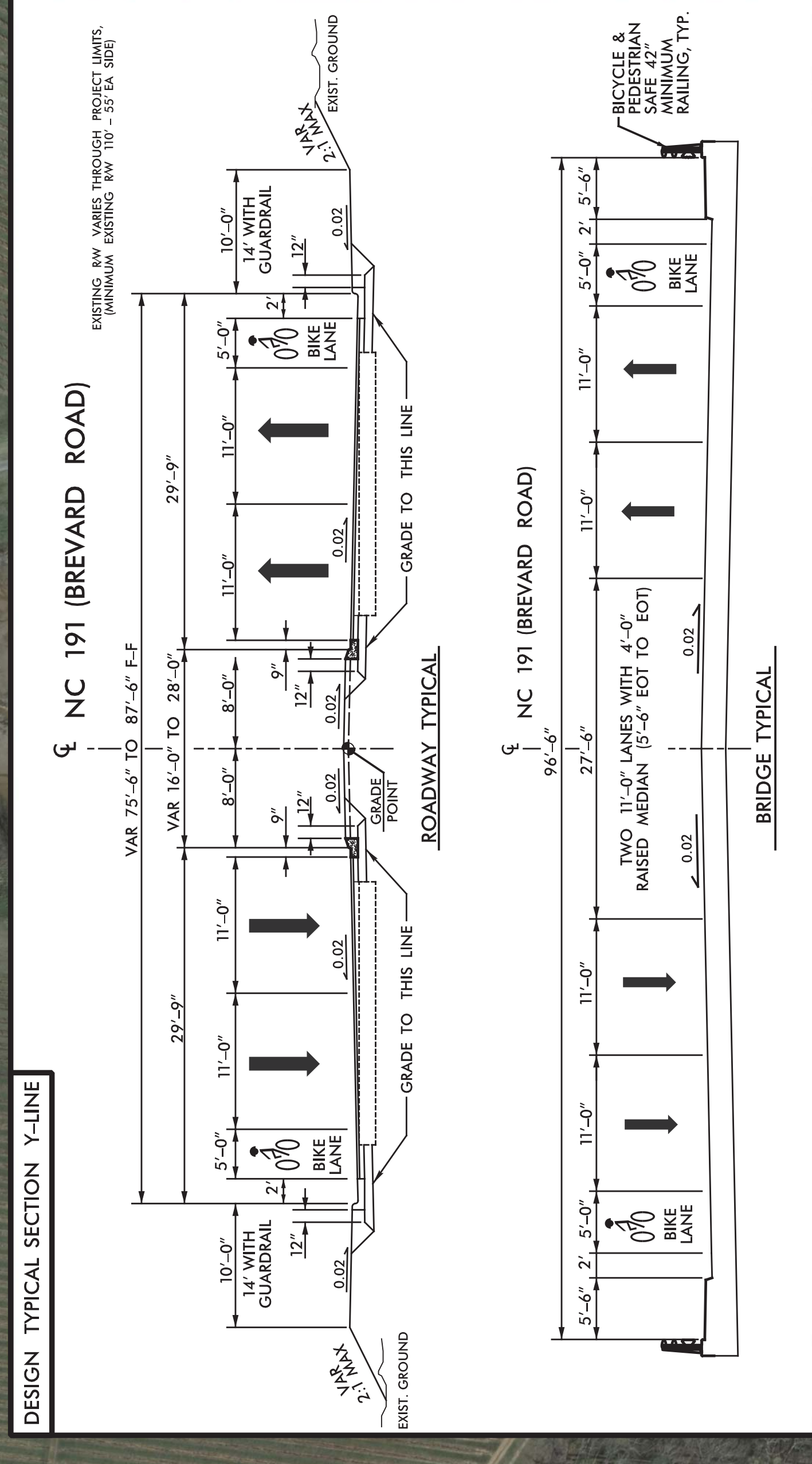
END TIP PROJECT I-5504  
OPTION 'G2'  
TIE TO PROJECT B-5178

END TIP PROJECT I-5504  
OPTION 'G2'  
TIE TO EXISTING NC 191

BEGIN TIP PROJECT I-5504  
OPTION 'G2'  
TIE TO EXISTING NC 191

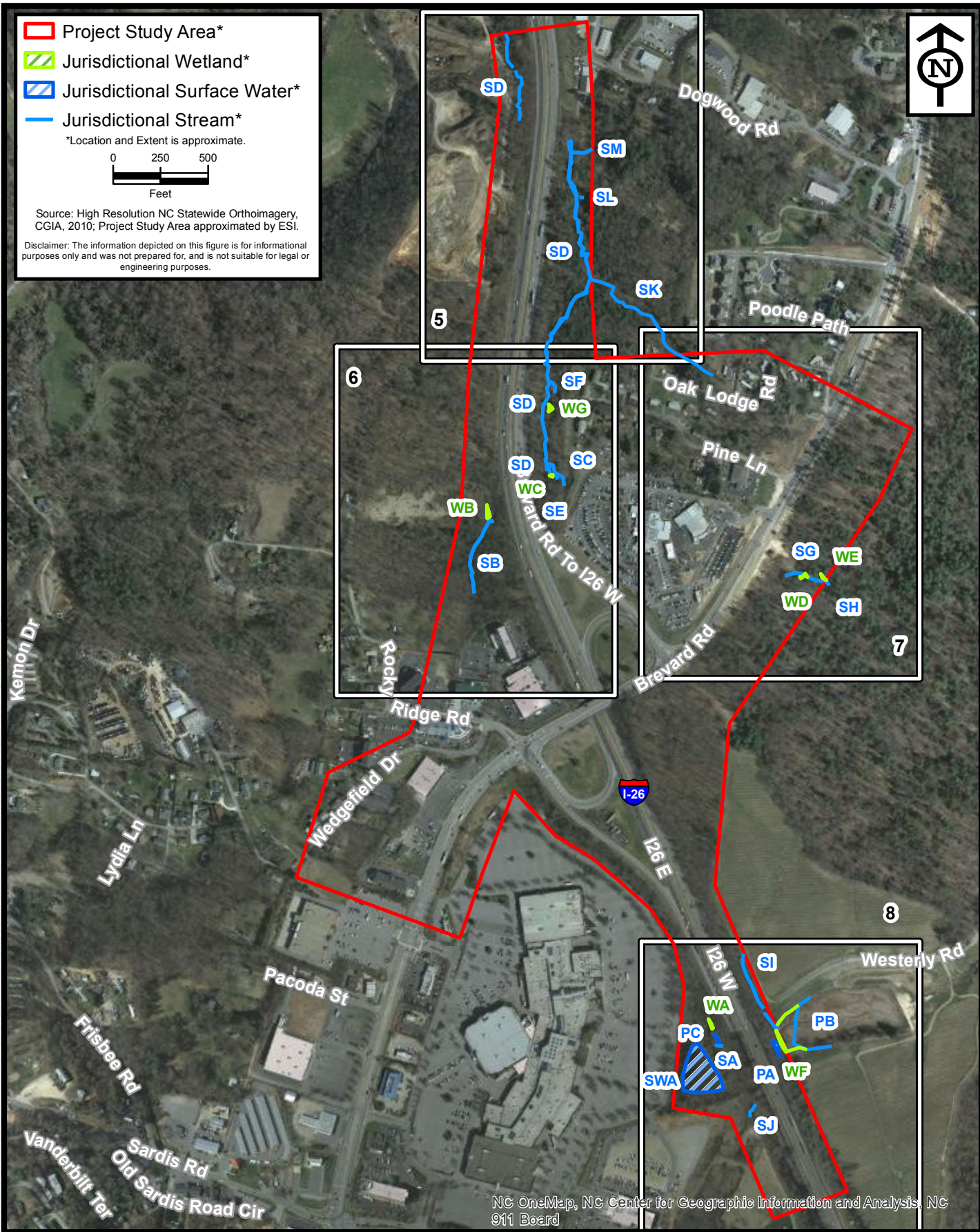
BEGIN TIP PROJECT I-5504  
OPTION 'G2'  
TIE TO EXISTING I-26

- LEGEND**
- BUILDINGS
  - EXISTING RIGHT OF WAY
  - PROPOSED RIGHT OF WAY
  - EXISTING ROADWAY
  - PROPOSED ROADWAY
  - PROPOSED PAVED SHOULDER
  - PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER
  - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
  - EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
  - PROPERTY LINES
  - LAKES, RIVER, STREAMS AND PONDS
  - PROPOSED TRAFFIC SIGNAL
  - EXIST TRAFFIC SIGNAL
  - WETLAND LIMITS BOUNDARY
  - STREAM BUFFER ZONE



▭ Project Study Area\*  
▨ Jurisdictional Wetland\*  
▨ Jurisdictional Surface Water\*  
— Jurisdictional Stream\*  
\*Location and Extent is approximate.

Source: High Resolution NC Statewide Orthoimagery, CGIA, 2010; Project Study Area approximated by ESI.  
 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.



NC OneMap, NC Center for Geographic Information and Analysis, NC 911 Board



**Jurisdictional Features Map**  
**I-26 / NC 191 Interchange Improvements**  
 Buncombe County, North Carolina  
 T.I.P. No. I-5504

Project:	ER13082.00
Date:	Aug 2015
Drwn/Chkd:	KT/RT
Figure:	4



**Project Study Area\***

**Jurisdictional Wetland\***

**Jurisdictional Surface Water\***

**Jurisdictional Stream\***

\*Location and Extent is approximate.

0 100 200  
Feet

Source: High Resolution NC Statewide Orthoimagery, CGIA, 2010; Project Study Area approximated by ESI.

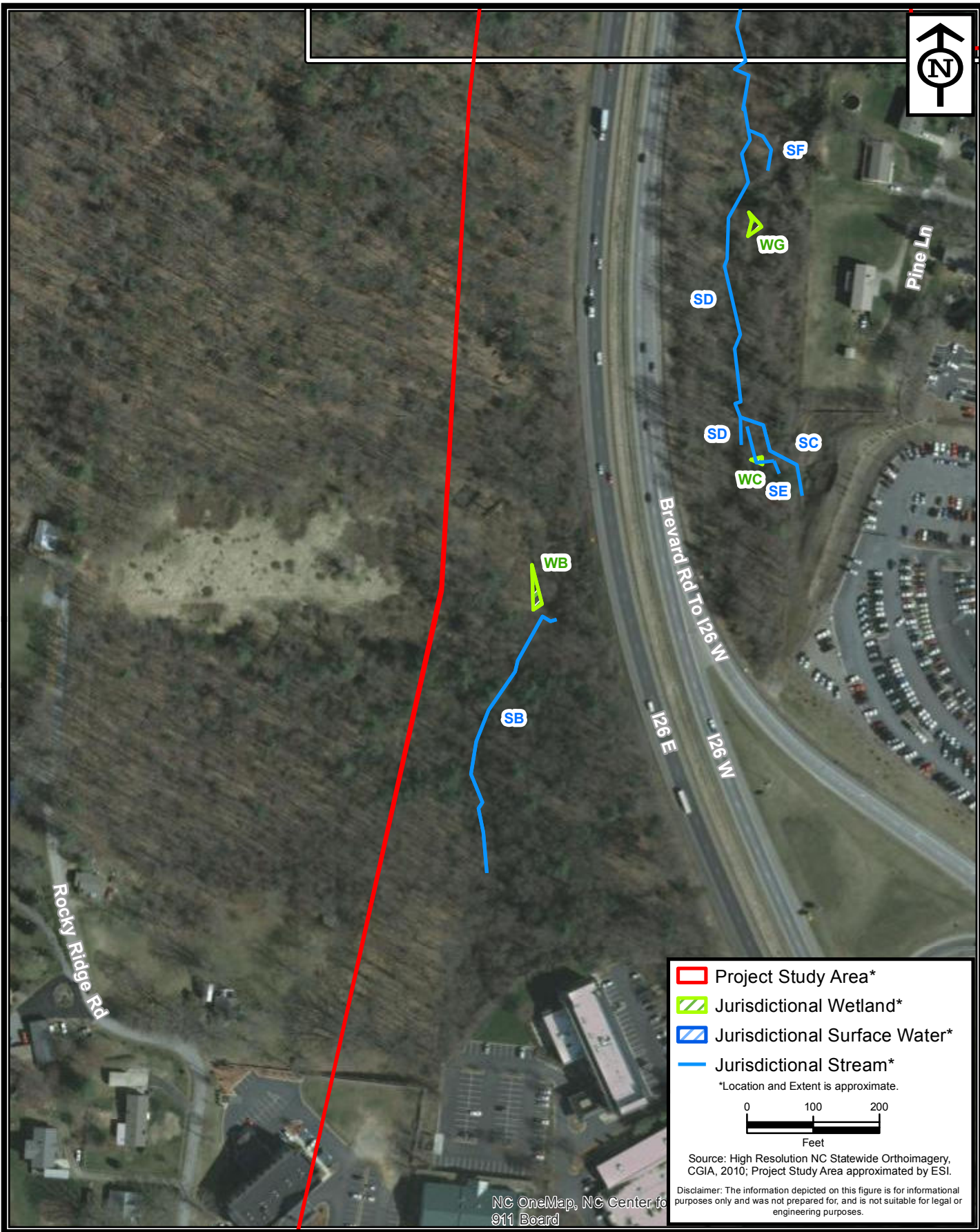
Disclaimer: The information depicted on this figure is for informational purposes only and was not prepared for, and is not suitable for legal or engineering purposes.

NC OneMap, NC Center for Geographic Information and Analysis, NC 911 Board



Jurisdictional Features Map  
**I-26 / NC 191 Interchange Improvements**  
 Buncombe County, North Carolina  
 T.I.P. No. I-5504

Project:	ER13082.00
Date:	Aug 2015
Drwn/Chkd:	KT/RT
Figure:	5



**Project Study Area\***

**Jurisdictional Wetland\***

**Jurisdictional Surface Water\***

**Jurisdictional Stream\***

\*Location and Extent is approximate.

0 100 200  
Feet

Source: High Resolution NC Statewide Orthoimagery, CGIA, 2010; Project Study Area approximated by ESI.

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.

NC OneMap, NC Center for  
911 Board



Jurisdictional Features Map  
**I-26 / NC 191 Interchange Improvements**  
 Buncombe County, North Carolina  
 T.I.P. No. I-5504

Project:	ER13082.00
Date:	Aug 2015
Drwn/Chkd:	KT/RT
Figure:	6



NC OneMap, NC Center for  
911 Board



Jurisdictional Features Map  
**I-26 / NC 191 Interchange Improvements**  
 Buncombe County, North Carolina  
 T.I.P. No. I-5504

Project:	ER13082.00
Date:	Aug 2015
Drwn/Chkd:	KT/RT
Figure:	7



▭ Project Study Area\*  
▨ Jurisdictional Wetland\*  
▨ Jurisdictional Surface Water\*  
— Jurisdictional Stream\*

\*Location and Extent is approximate.

0 100 200  
Feet

Source: High Resolution NC Statewide Orthoimagery, CGIA, 2010; Project Study Area approximated by ESI.

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.

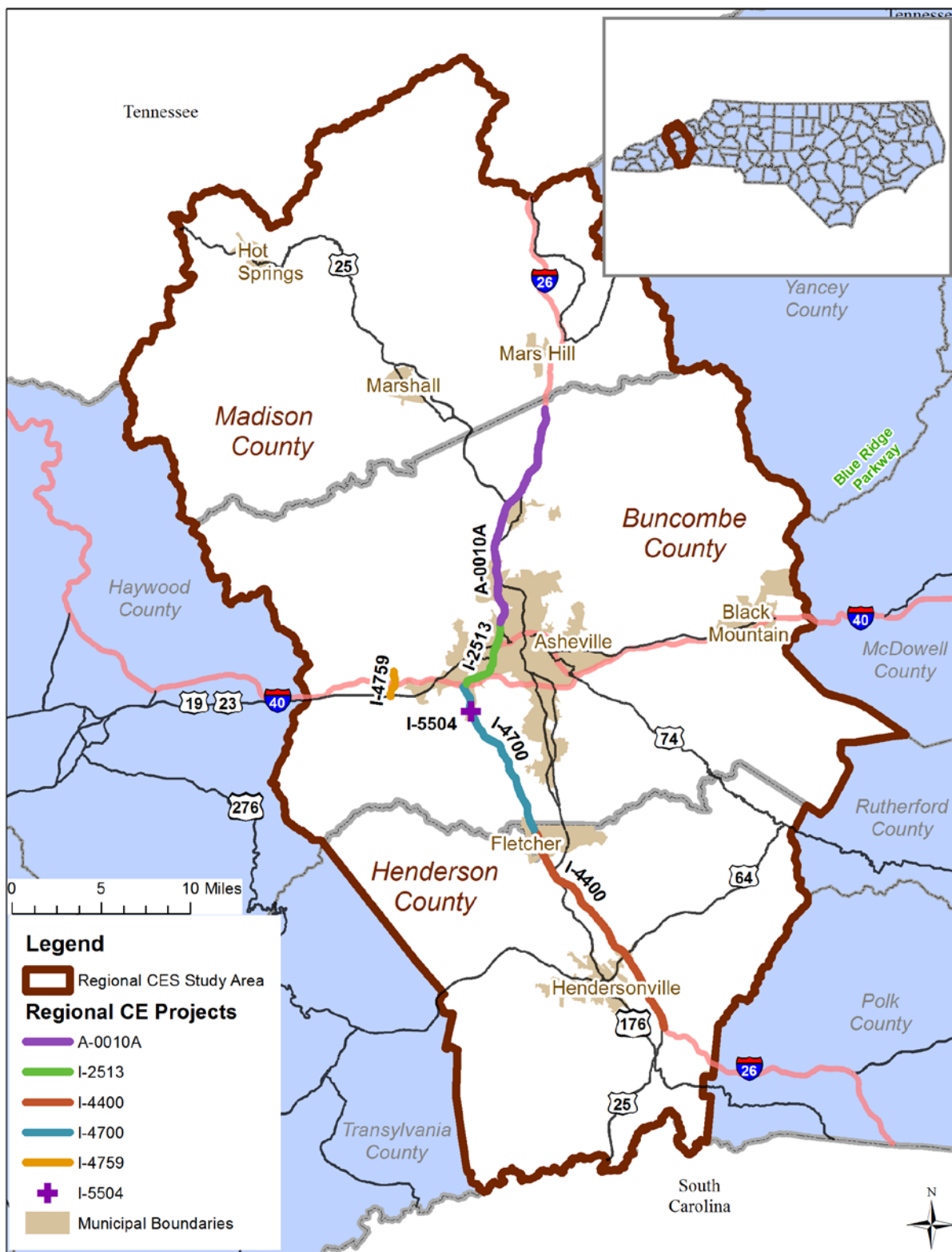
NC OneMap, NC Center for  
911 Board



Jurisdictional Features Map  
**I-26 / NC 191 Interchange Improvements**  
 Buncombe County, North Carolina  
 T.I.P. No. I-5504

Project:	ER13082.00
Date:	Aug 2015
Drwn/Chkd:	KT/RT
Figure:	8

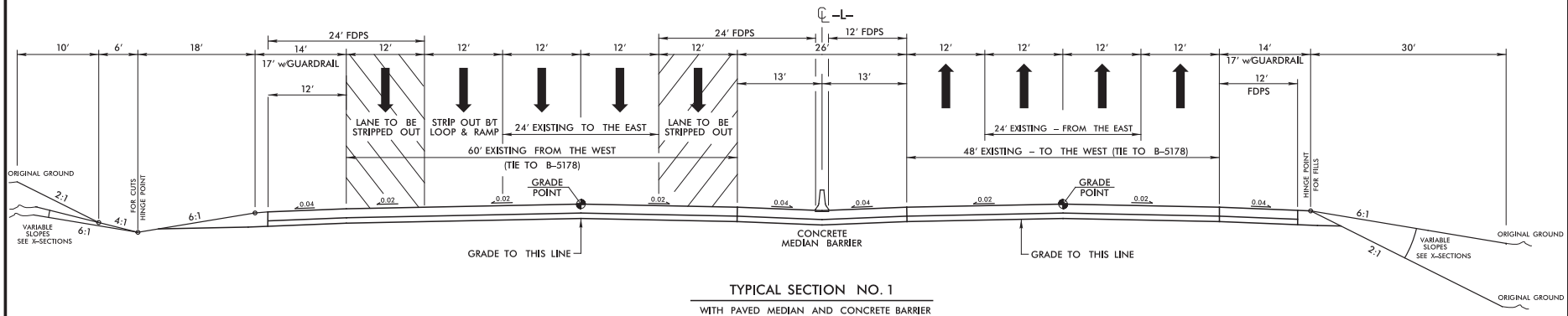
**Figure 9. Regional Cumulative Effects Study Area and Transportation Projects**



Source: Final Asheville Regional Cumulative Effects Study Report, June 2014, AECOM, for NCDOT.

8/2/04

PROJECT REFERENCE NO. I-5504	SHEET NO.
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ALLOCATION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



**TYPICAL SECTION NO. 1**  
 WITH PAVED MEDIAN AND CONCRETE BARRIER

**FIGURE 10**

P:\Projects\I-5504\Roadway\I-5504\_Roadway\Fig 10.dgn  
 8/2/04



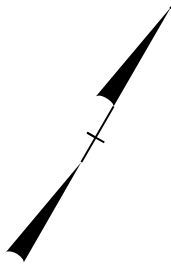
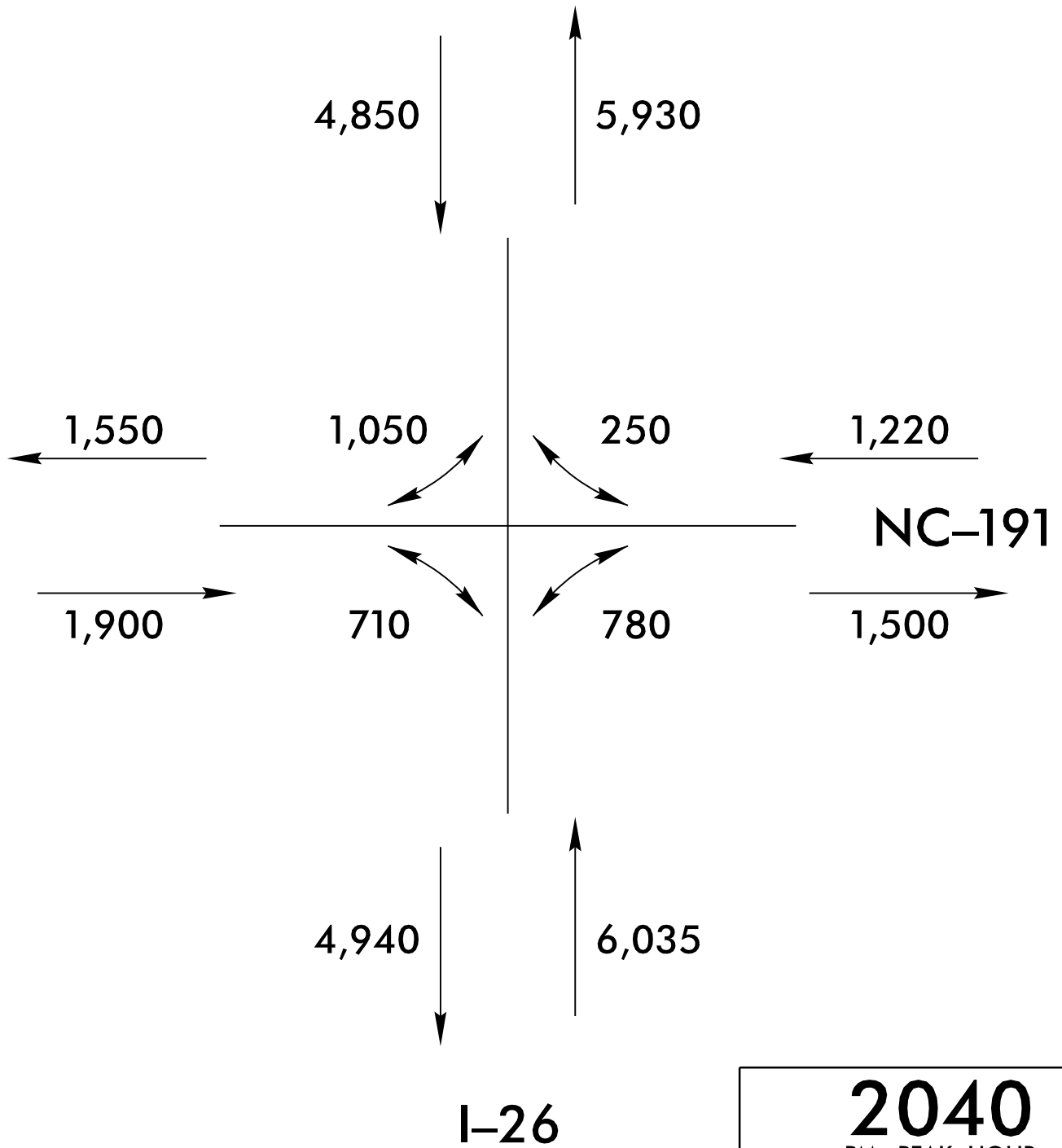


FIGURE 11

# **APPENDIX B**

## **Section 106 Effects Assessment**

14-04-0001



## 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

<b>Project No:</b>	I-5504	<b>County:</b>	Buncombe
<b>WBS No.:</b>	45552.1.1	<b>Document Type:</b>	CE
<b>Fed. Aid No:</b>	IMF-0261(191)47	<b>Funding:</b>	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
<b>Federal Permit(s):</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Permit Type(s):</b>	USACE
<b><u>Project Description:</u></b> Interchange modification at Interstate I-26/NC 191 (Brevard Rd) in Asheville			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

<p><b><u>Description of review activities, results, and conclusions:</u></b> Review of HPO maps conducted on 5/1/2014 which identified one property, Biltmore Estate (BN 0004, NHL) within the APE. No survey recommended since the area was extensively surveyed for the U-3601 project in 2000. Project engineer notified of presence of NHL and requirement for effects assessment and possible ACHP and Department of Interior involvement.</p>
---

### ASSESSMENT OF EFFECTS

<b>Property Name:</b>	Biltmore Estate	<b>Status:</b>	NR, NHL
<b>Survey Site No.:</b>	BN 0004	<b>PIN:</b>	963647977000000
<b>Effects</b>			
<input type="checkbox"/> No Effect <input checked="" type="checkbox"/> No Adverse Effect <input checked="" type="checkbox"/> Adverse Effect			



# **APPENDIX C**

## **Relocation Report**

# EIS RELOCATION REPORT

**North Carolina Department of Transportation  
RELOCATION ASSISTANCE PROGRAM**

E.I.S.       CORRIDOR       DESIGN

WBS ELEMENT:	45552.1.1	COUNTY	BUNCOMBE	Alternate	G2	of	Alternate
T.I.P. No.:	I-5504						
DESCRIPTION OF PROJECT:	NC 191 (Brevard Road) & I-26 Interchange Modification						

ESTIMATED DISPLACEDS					INCOME LEVEL							
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP			
Residential	3	2	5	0	0	0	3	2	0			
Businesses	1	0	1	0	VALUE OF DWELLING		DSS DWELLING AVAILABLE					
Farms	0	0	0	0	Owners		For Sale		For Rent			
Non-Profit	0	0	0	0	0-20M	-	\$ 0-150	-	0-20M	-	\$ 0-150	-
					20-40M	-	150-250	-	20-40M	6	150-250	-
					40-70M	-	250-400	-	40-70M	17	250-400	17
					70-100M	-	400-600	2	70-100M	30	400-600	26
					100 UP	3	600 UP	-	100 UP	100+	600 UP	30+
					<b>TOTAL</b>	<b>3</b>	<b>2</b>	<b>100+</b>	<b>73+</b>			

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? <span style="float: right; border: 1px solid black; padding: 2px;">18</span>

REMARKS (Respond by Number)	
3.	Will not be disrupted due to the project.
4.	Farm Bureau, 3000 SF, 10 employees, 4 minorities
6.	MLS listing service, Beverly-Hanks Realtors, local newspapers and real estate publications.
8.	As necessary in accordance with State Law.
11.	HUD housing
12.	Given the Last Resort Housing Program and proper lead time, it is believed that DSS housing will be available.
14.	Suitable business/commercial sites will be available during the relocation period. Sources are the same as those listed in No. 6
<p><i>NOTE: You may note a difference between the number of displacees on the Relocation EIS Report and the Appraisal Cost Estimate. This is due to proximity damage being a factor on the Appraisal Cost Estimate (improvements not physically in the proposed take but considered damaged to the point of no value), as well as potential loss of access due to the controlled access. Only those residences/businesses physically located within the proposed take are considered on this report.</i></p>	

<p>Daryl C. Roberts Right of Way Agent</p>	<p>6-23-2014</p> <p>Date</p>	<p>Relocation Coordinator</p>	<p>6/24/14</p> <p>Date</p>
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