In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector Project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

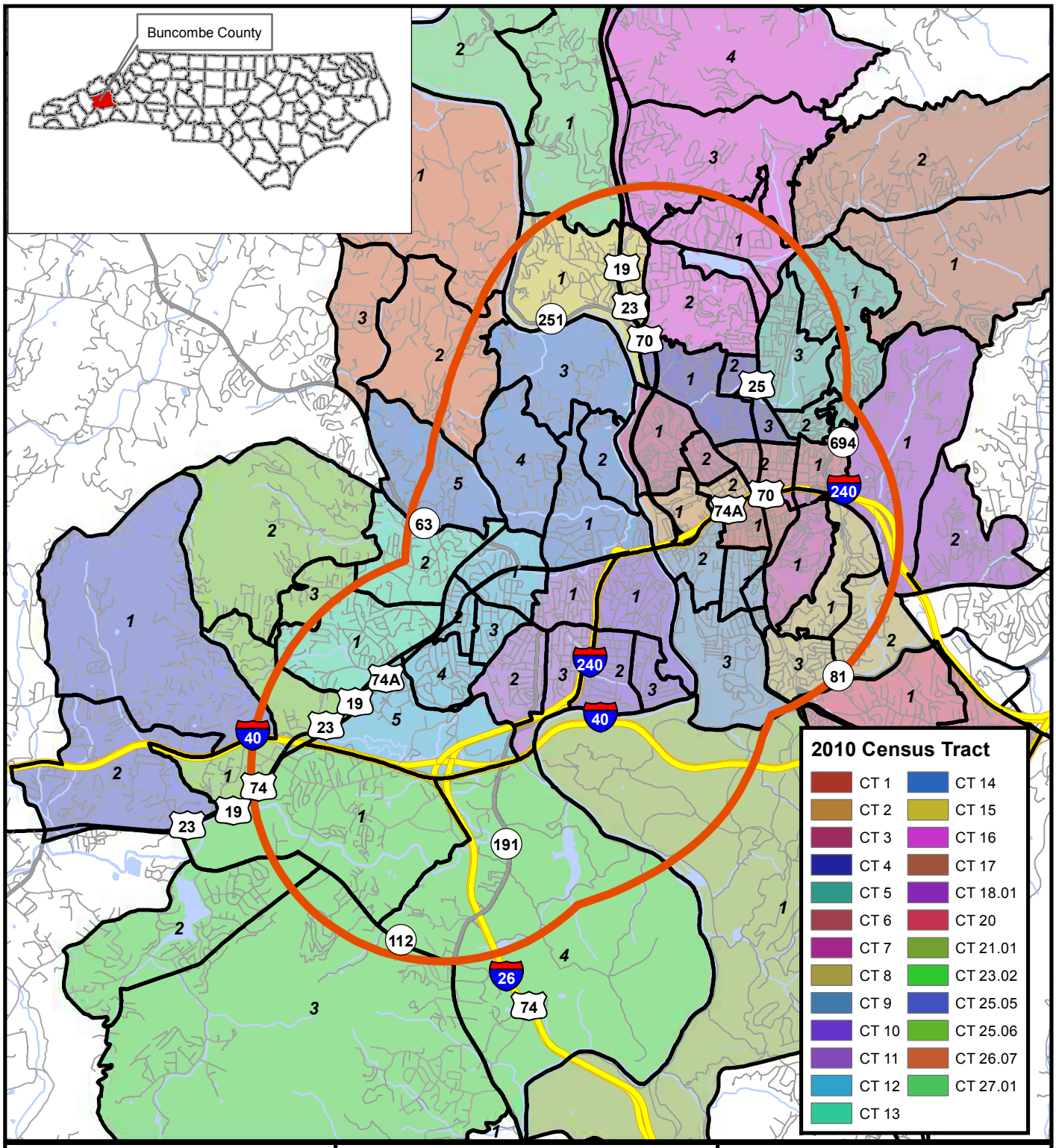
CHAPTER 3. EXISTING ENVIRONMENTS

The existing human, physical, cultural, and natural environments within the project study area are described in Chapter 3 of the DEIS. The inventory and evaluation of the existing environment provides the necessary baseline from which to assess and document potential impacts of the preferred alternative.

3.1 HUMAN CHARACTERISTICS

Characteristics of the human environment in the project study area were examined and reported in several documents: the *Indirect Screening and Land Use Scenario Assessment* (ILUS/LUSA) (URS 2015d), the *Cumulative Effects Study Update* (URS 2015a), and a number of technical sub-reports, including the *Community Impact Evaluation Criteria Technical Memorandum* (URS 2015c), *Local Plans Consistency Assessment* (URS 2015k), *Direct Land Use and Economic Effects Assessment* (URS 2015l), *Non-Census-Based Demographics Employment Characteristics* (URS 2015m), *Historical Context Memorandum* (URS 2015n), *Pedestrian Work Zone Assessment* (URS 2015o), *Protected Populations Methodology* (URS 2015p), *Protected Populations Impacts* (URS 2015q), and *Study Area Methodology* (URS 2015r). Once a preferred alternative was selected, the LUSA and CIA were updated via addenda to describe any updated information regarding existing resources (AECOM 2018a, 2018c).

As part of the ILUS/LUSA, a future land use study area (FLUSA), or the area in which it is expected the project could influence land use, was delineated. The FLUSA is the area surrounding a construction project that could possibly be indirectly affected by the actions of others as a result of the completion of the project and nearby projects. This study area encompasses all the areas examined for potential increases in development pressure as a result of project construction and is shown on Figure 3-1.



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- 2010 Census Block Group (*1* is Block Group Number)

Date: May 2018

0 0.75 1.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-1

Future Land Use Study Area

A Direct Community Impact Area (DCIA) was identified for the purposes of evaluating the effects of the project on the surrounding community. The DCIA identifies the area that is likely to be directly affected in any way during and after project completion. In order to collect US Census data representative of the DCIA, a Demographic Study Area (DSA) was identified that represents all block groups that contain any portion of the DCIA. Both the DCIA and DSA are shown on Figure 3-2. The following 2010 US Census tracts and block groups are included in the DSA:

- Census Tract 2, Block Groups 1 and 2
- Census Tract 3, Block Groups 1 and 2
- Census Tract 4, Block Group 1
- Census Tract 6, Block Group 2
- Census Tract 9, Block Groups 2 and 3
- Census Tract 10, Block Groups 1 and 2
- Census Tract 11, Block Groups 1, 2, and 3
- Census Tract 12, Block Group 5
- Census Tract 14, Block Groups 1 and 2

3.1.1 POPULATION CHARACTERISTICS

Community-based demographic data were gathered from the 2010 US Census and the 2013-2017 ACS and are summarized in the following sections.

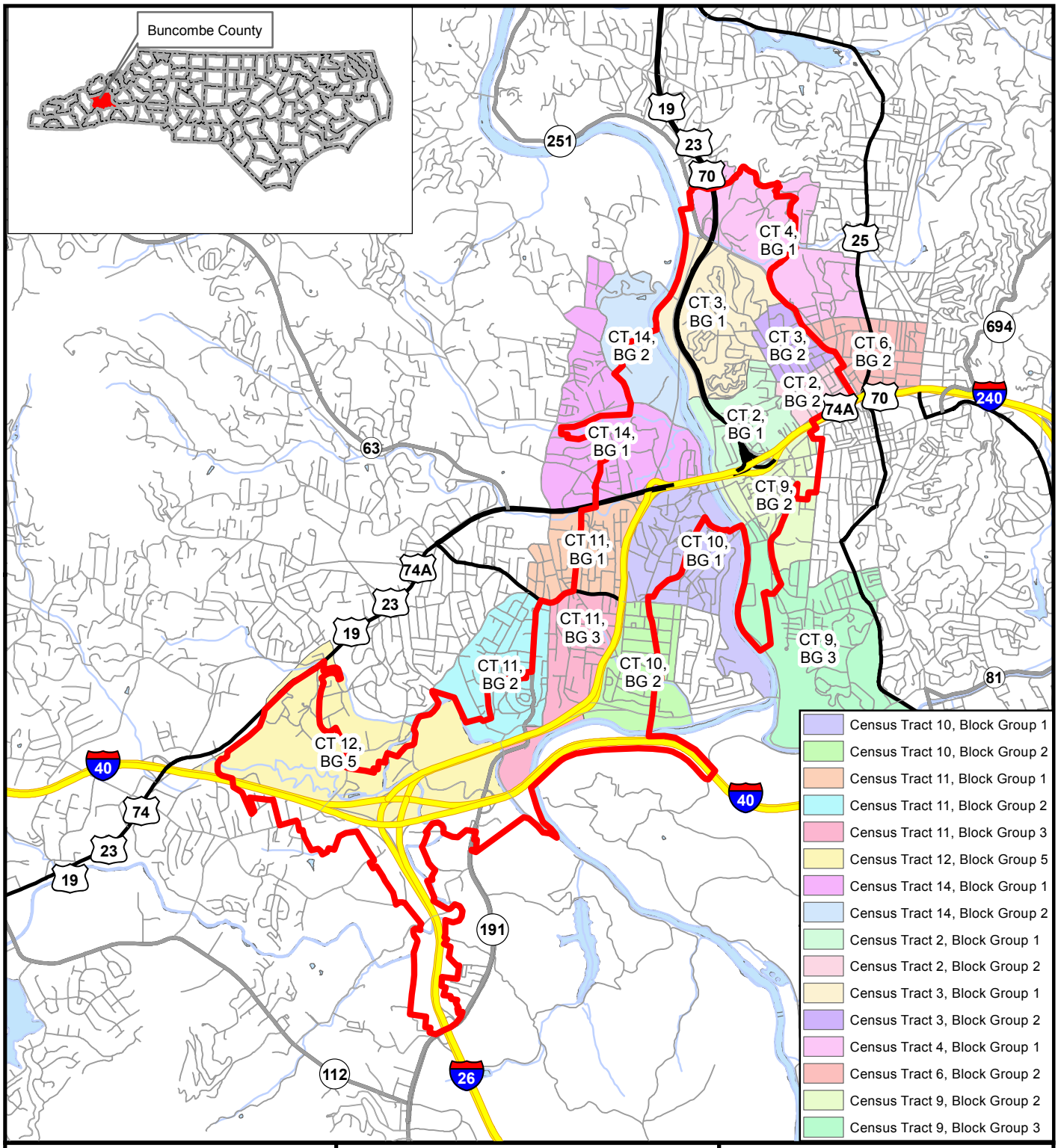
3.1.1.1 Population Growth

Between 2000 and 2010, the DSA experienced population growth of 11.6 percent (see Table 3-1). The population of Asheville grew at a rate of 21.1 percent, while Buncombe County's population increased by 15.5 percent during the same period. In comparison, the population of North Carolina grew by 18.5 percent. Population growth continued between 2010 and 2015 in the DSA, City of Asheville, Buncombe County, and North Carolina, but at a slower rate. The population increased in the DSA by 4.3 percent, in Asheville by 4.1 percent, in Buncombe County by 3.8 percent, and in North Carolina by 3.2 percent.

Table 3-1: Population Trends

Area	Population			Growth (2000-2010)		Growth (2010-2015)	
	2000	2010	2015	Difference	% Change	Difference	% Change
DSA	18,886	21,063	21,960	2,197	11.6%	897	4.3%
Asheville	68,889	83,393	86,789	14,504	21.1%	3,396	4.1%
Buncombe County	206, 315	238,318	247,336	32,003	15.5%	9,018	3.8%
North Carolina	8,049,313	9,535,483	9,845,333	1,486,170	18.5%	309,850	3.2%

Source: Minnesota Population Center. 2016. National Historical Geographic Information System: Version 11.0 [Database]. Census 2000/Census 2010 Time Series Tables Geographically Standardized. Minneapolis: University of Minnesota. http://doi.org/10.18128/D050.V11.0.



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Direct Community Impact Area
- Water

Date: May 2018

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-2

Direct Community Impact Area and Demographic Study Area

Population projections for Buncombe County and the State of North Carolina are shown in Table 3-2. The data indicate that Buncombe County's population should continue to increase with an annualized growth rate of 1.3 percent, which is generally consistent with traffic forecast growth rates in the study area (AECOM 2016).

Table 3-2: Population Projections (2010-2035)

Area	Population				Annualized Growth Rate
	2010	2020	2030	2035	2010-2035
Buncombe County	238,318	270,935	302,284	317,960	1.3%
North Carolina	9,535,483	10,619,432	11,759,744	12,327,153	1.2%

Source: North Carolina Office of State Budget and Management, https://www.osbm.nc.gov/demog/county-projections

3.1.1.2 Ethnic Composition

The ethnic composition of the DSA, City of Asheville, Buncombe County, and State of North Carolina are compared in Table 3-3.

According to the 2013-2017 ACS estimates, 76.4 percent of the DSA identified themselves as white, 17.1 percent as African American, 1.3 percent as Asian, and less than 1 percent as American Indian/Alaskan Native. Approximately 4 percent of the DSA identified themselves as two or more races.

Table 3-3: Population by Ethnicity

Race	*Demographic Study Area*		*Asheville*		*Buncombe County*		*North Carolina*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*
White	*17,086*	*76.4%*	*74,021*	*82.9%*	*224,099*	*88.8%*	*6,937,466*	*69.0%*
Black or African American	*3,828*	*17.1%*	*10,700*	*12.0%*	*15,871*	*6.3%*	*2,159,427*	*21.5%*
American Indian / Alaska Native	*92*	*0.4%*	*283*	*0.3%*	*999*	*0.4%*	*117,998*	*1.2%*
Asian	*282*	*1.3%*	*1,777*	*2.0%*	*3,152*	*1.2%*	*269,164*	*2.7%*
Native Hawaiian / Pacific Islander	*0*	*0.0%*	*0*	*0.0%*	*251*	*0.1%*	*6,393*	*0.1%*
Other Race	*210*	*0.9%*	*406*	*0.5%*	*2,015*	*0.8%*	*310,920*	*3.1%*
Two or More Races	*879*	*3.9%*	*2,131*	*2.4%*	*5,881*	*2.3%*	*251,196*	*2.5%*
Total	***22,377***	***100.0%***	***89,318***	***100.0%***	***252,268***	***100.0%***	***10,052,564***	***100.0%***

Race	*Demographic Study Area*		*Asheville*		*Buncombe County*		*North Carolina*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*
Total Hispanic	*1,739*	*7.8%*	*5,243*	*5.9%*	*16,254*	*6.4%*	*914,792*	*9.1%*

Source: US Census Bureau, American Community Survey 2013-2017

3.1.1.3 Age Composition

In 2010, the median age within the DSA (34.7) was lower than that of the other geographic areas studied (see Table 3-4).

Table 3-4: Median Age (2010)

	DSA	Asheville	Buncombe County	North Carolina
Median Age	34.7	38.2	40.6	37.4

Source: US Census Bureau, Summary File 1, Tables DP1 (2010).

3.1.1.4 Housing Characteristics

Between 2000 and 2010, the number of households in the DSA increased by 27.1 percent as compared to 17.1 percent in Buncombe County. The higher growth rate could possibly be attributed to the abundance of infill development occurring within the DSA.

In 2013, the median home value in the DSA ($234,064) was higher than that in Buncombe County ($209,800).

The DSA generally has a lower homeownership rate than Buncombe County. In 2013, 46.8 percent of homes in the DSA were occupied by the owner, while 63.7 percent of the homes in Buncombe County were occupied by the owner. Homeownership in the DSA and Buncombe County decreased by 6.5 percent and 4.6 percent, respectively, between 2000 and 2010.

3.1.2 ECONOMIC CHARACTERISTICS

3.1.2.1 Business and Employment

Buncombe County has traditionally had one of the more diverse economies in western North Carolina. Despite the decline of manufacturing, numerous other industries have flourished, creating a net gain of jobs throughout the region.

According to 2013-2017 ACS data, the median commuting time for the Buncombe County workforce was 20.1 minutes. The median commuting time for all North Carolina workers was 24.3 minutes.

According to data from the North Carolina Department of Commerce (2017), 11 companies within Buncombe County employ over 1,000 people each:

- *Memorial Mission Hospital Inc.*

- *Buncombe County Board of Education*
- *Ingles Markets Inc.*
- *Veterans Administration*
- *Biltmore Workforce Management Inc.*
- *County of Buncombe*
- *City of Asheville*
- *Wal-Mart Associates Inc.*
- *Mission Medical Associates Inc.*
- *A-B Tech*
- *Community Carepartners Inc.*

According to the 2013-2017 ACS, employment in Buncombe County increased by 5.0 percent between 2000 and 2010 and increased by 1.4 percent between 2010 and 2015. Buncombe County has experienced employment growth and losses throughout various industry sectors. The largest job loss between 2000 and 2010 in terms of numbers of jobs lost was in the manufacturing sector (5,892 jobs lost). The largest job increases during that time period (in terms of numbers of jobs gained) was experienced in the health care and social assistance sector (4,998 jobs gained). Accommodation and food services experienced the largest percentage growth during this time (32.6 percent), while agriculture, forestry, fishing, and hunting experienced the largest percentage loss (−40.2 percent). Between 2010 and 2015, the largest job loss by industry in Buncombe County was in the public administration sector, while the largest increases were in real estate/rental and leasing, administrative, and accommodation and food services.

The historical unemployment trends for the City of Asheville and Buncombe County are shown in Table 3-5. In general, the unemployment rate of Asheville and Buncombe County has been less than that of North Carolina.

Table 3-5: Unemployment Trends

Area	Unemployment Rate			Unemployment Rate		
	2000	2010	Difference	2010	2015	Difference
City of Asheville	3.5%	8.4%	4.9%	8.4%	6.9%	-1.5%
Buncombe County	3.4%	8.4%	5.0%	8.4%	7.0%	-1.4%
North Carolina	3.7%	10.5%	6.8%	10.5%	9.4%	-1.1%

Source: American Community Survey2013-2017, Table S2301 (Employment Status)

3.1.2.2 Income and Poverty Level

The 2017 median household income for the DSA ($43,370) was lower than in Buncombe County ($48,464). The DSA had a higher percentage of people living below poverty (24.7 percent) than Buncombe County (13.2 percent) in 2017 (see Table 3-8).

Asheville Housing Authority or HUD-insured communities are located within the following block groups:

- Census Tract 2, Block Group 1 (Hillcrest Apartments)

- Census Tract 3, Block Group 1 (Klondyke Apartments)
- Census Tract 10, Block Group 2 (Pisgah View Apartments)
- Census Tract 14, Block Group 2 (Woodridge Apartments)

3.1.2.3 Educational Attainment

In general, the education attained by people in Asheville is higher than in Buncombe County and North Carolina. According to 2013-2017 ACS data, approximately 48 percent of the population in Asheville achieved some sort of college degree (Associates, Bachelors, or Graduate) as compared to 38 percent in Buncombe County and 30 percent in North Carolina.

3.1.3 COMMUNITY FACILITIES AND SERVICES

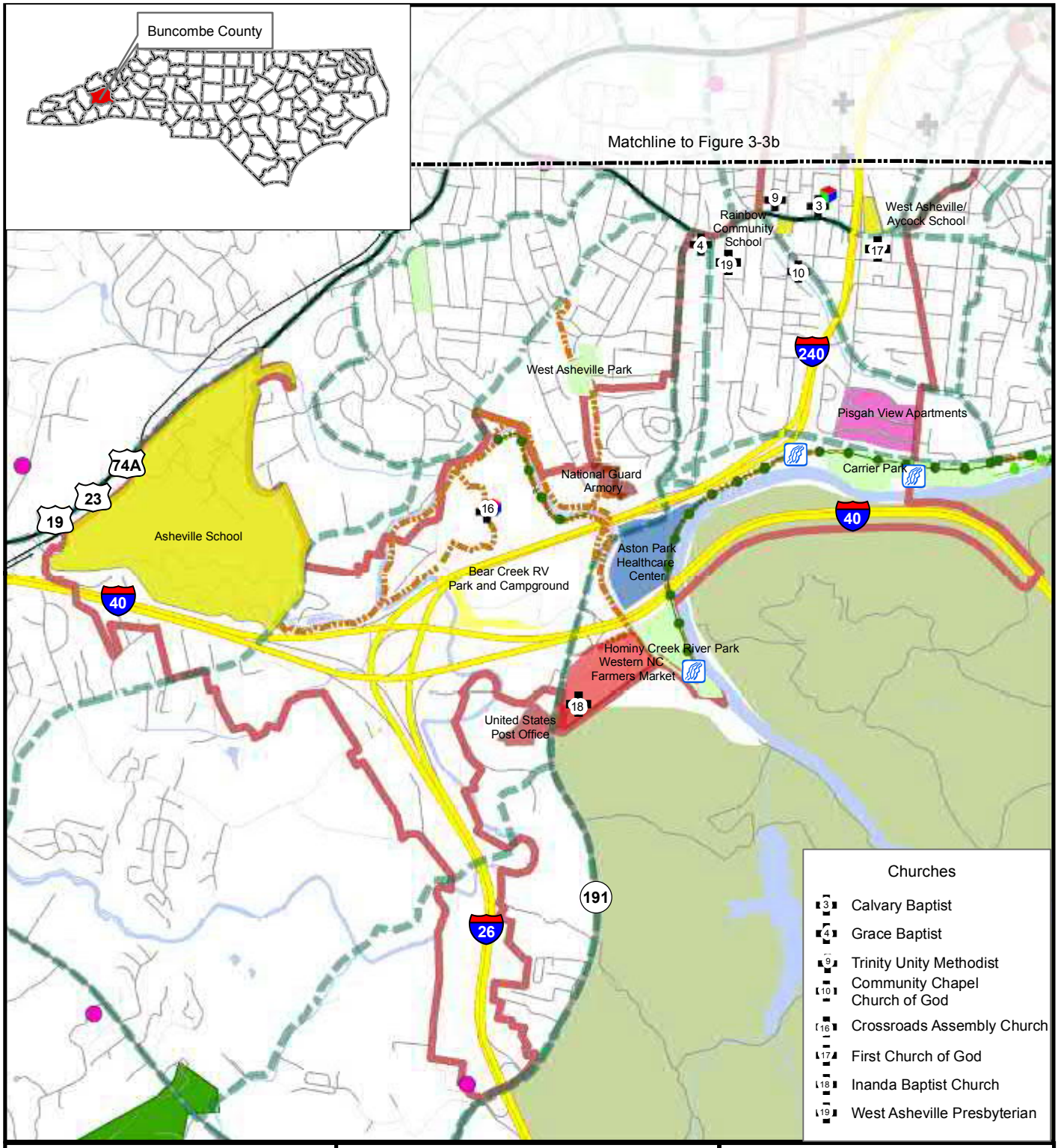
The community facilities described in Section 3.1.3 of the DEIS are summarized in the following sections and shown on Figure 3-3a and Figure 3-3b.

3.1.3.1 Parks and Recreational Facilities

The City of Asheville owns and operates 14 parks in the DCIA. This includes Carrier Park, Hummingbird Park, Burton Street Community Center and Park, Jean Webb Park, Murray Hill Park, Owens-Bell Park, Riverside Cemetery, Southside Center, Aston Park, Magnolia Park, Tempie Avery Montford Community Center, West Asheville Park, the Montford Recreation Complex, and the Food Lion Skate Park. Carrier Park is located adjacent to Amboy Road and the French Broad River and is a Section 4(f) facility. The Buncombe County Parks & Recreation Department owns and operates Hominy Creek River Park at the confluence of Hominy Creek and the French Broad River. The Bear Creek RV Park & Campground is a privately-owned campground and recreational vehicle facility located along South Bear Creek Road.

An existing section of the French Broad River Greenway along Amboy Road (SR 3556) currently connects Carrier Park near the project to the French Broad River Park to the east. The greenway extends west along the French Broad River to Hominy Creek Park at the mouth of Hominy Creek. As planned, the entire greenway will extend on both sides of the French Broad and Swannanoa rivers and will be comprised of greenway corridors and future park destinations. The greenway is owned by the City of Asheville and is accessible to the public for recreation. Facilities include greenspace, the trail, wildflower garden, gazebo, picnic tables and grills, observation deck, playground, parking, and dog park.

The French Broad River Paddle Trail includes eight access points within the DCIA. The paddle trail is a recreational watercraft trail created and operated by Mountain True and RiverLink. The paddle trail facilitates public access to, and camping on, over 140 miles of the French Broad River.



North Carolina Department of Transportation

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- French Broad River Paddle Trail Access Points
- Railroad
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Water
- Pisgah National Forest
- DCIA
- Daycares
- Emergency Services
- City of Asheville Greenways
- Trail Network
- Bike Route
- Biltmore Estate
- Parks
- School

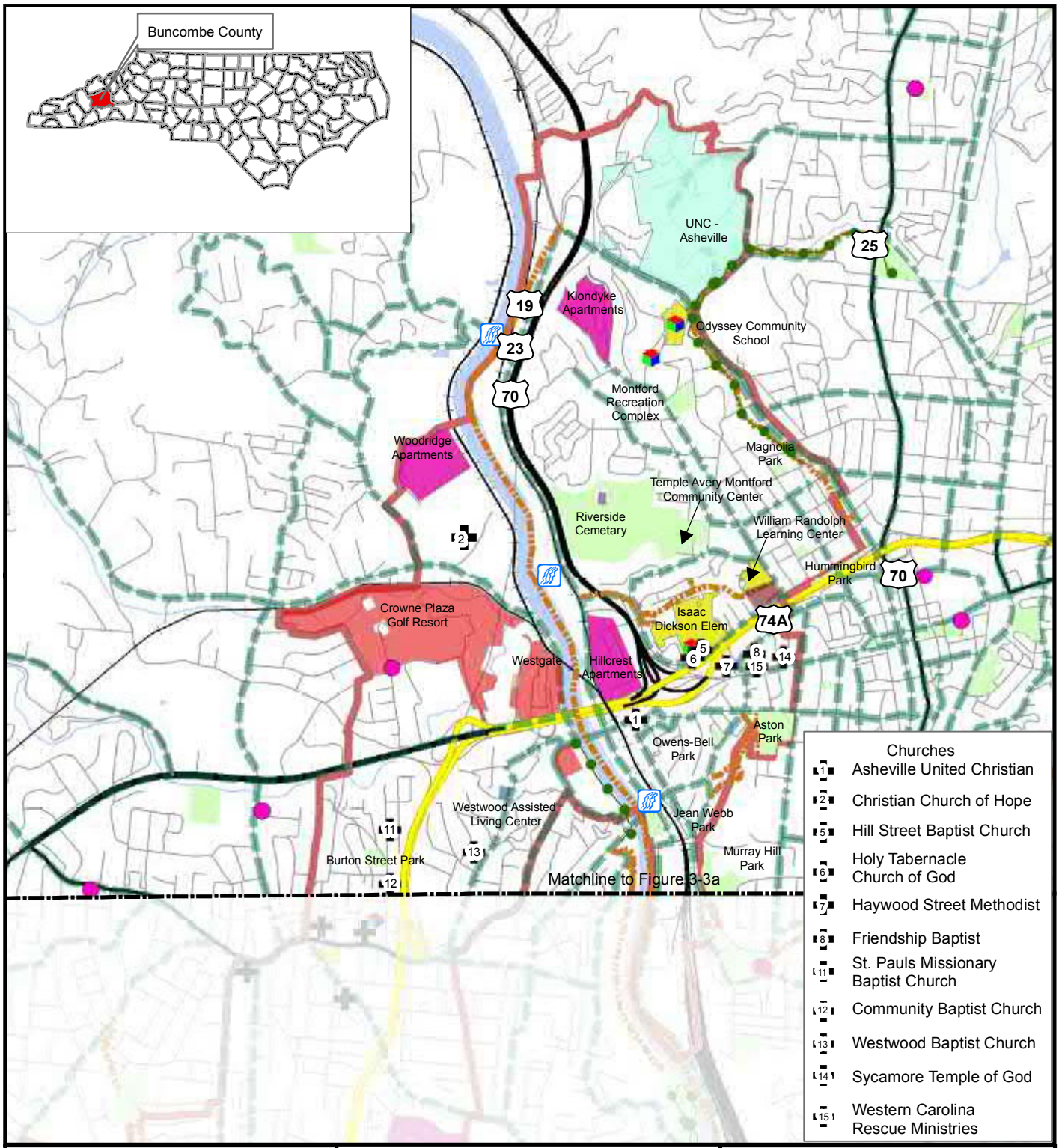
Date: May 2018

N W E S

0 0.25 0.5 Miles

Figure 3-3a

Community Facilities



North Carolina Department of Transportation

Legend

- French Broad River Paddle Trail Access Points
- Railroad
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Water
- DCIA
- Daycares
- Emergency Services
- City of Asheville Greenways
- Trail Network
- Bike Route
- Parks
- Public Housing
- School
- University

Date: May 2018

N W E S

0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-3b

Community Facilities

3.1.3.2 Schools

NCDOT geographic information system (GIS) data (January 2018) and field observations revealed six schools within the DCIA, including Isaac Dickson Elementary, William Randolph Learning Center, Aycock Primary School, Rainbow Community School, Odyssey Community School, and Asheville School. Isaac Dickson Elementary school is a magnet school located on Hill Street and the William Randolph Learning Center is located on Montford Avenue. The Odyssey Community School is located along Zillicoa Street. The Asheville City Schools Pre-School and the Rainbow Mountain School are located on Haywood Road east and west of the project area, respectively. The Asheville School is located between Sand Hill Road and US 19-23 in the southwestern part of the DCIA. The UNC-Asheville campus is also located partially within the DCIA. The campus is located northeast of the proposed northern terminus of the project.

3.1.3.3 Daycare Facilities

Four daycare facilities were identified within the DCIA, including the Odyssey Community School (formerly known as Little Beaver Daycare), Hill Street Baptist Church Daycare on Hill Street, Crossroads Children's Center on Bear Creek Road, and Cavalry Baptist Church Child Enrichment Center on Haywood Road west of the project study area.

3.1.3.4 Churches and Cemeteries

At least 25 churches were identified within the DCIA, several of which are located close to the project alignment.

The only known cemetery adjacent to the project is the City of Asheville's Riverside Cemetery located east of existing US 19-23-70, approximately 1,800 feet north of the Hill Street exit. Established in the 1880s, Riverside Cemetery is still active with more than 13,000 graves, 9,000 monuments, and 12 family mausoleums. This cemetery is part of the Montford Historic District listed in the NRHP (see Section 3.4.1).

3.1.3.5 Commercial Corridors and Nodes

Several key commercial corridors and nodes are located within the DCIA and are described in detail in the DEIS. The primary commercial corridors within the DCIA are located along Haywood Road, Patton Avenue, and Riverside Drive. The Crowne Plaza Resort, Westgate Shopping Center, and several other businesses are concentrated around the I-240/Patton Avenue interchange. Both Westgate Shopping Center and Crowne Plaza Resort have undergone recent renovation and other development enhancements. The Crowne Plaza Resort is a multi-activity resort center with a golf course, tennis facilities, rock wall, zip-lining, and swimming facilities for use by resort guests. The Western North Carolina Farmers Market is a regional farmers market located at the I-40/NC 191 interchange. Numerous light industrial businesses and commercial businesses are located along the French Broad River and near the railroad system. Professional offices and commercial properties are concentrated along Zillicoa Street.

3.1.3.6 Post Offices

No post offices were identified in the DCIA. A post office is located just outside of the DCIA southwest of the I-40/NC 191 interchange.

3.1.3.7 Hospitals

No hospitals were identified in the DCIA. The Aston Park Health Care Center is located on NC 191 in the southern portion of the DCIA. The Westwood Assisted Living Center is located on Westwood Place. According to local officials, there is also a medical clinic (Western North Carolina Community Health Services – Minnie Jones Family Health Center) just outside of the DCIA near the intersection of Haywood Road and Ridgelawn Road. It is likely that this clinic provides medical services to persons residing within the DCIA.

3.1.3.8 Land and Water Conservation Fund Properties

Section 6(f) properties, usually parks that have received any amount of financing from Land and Water Conservation Funds, need to be documented and cleared through the US Department of the Interior. The National Park Service's (NPS) Land and Water Conservation Fund website indicates there are two known Section 6(f) resource in the DCIA (Montford Recreation Complex and French Broad River Park) (NPS 2010).

3.1.3.9 Crime, Safety and Emergency Services

Information on crime, safety, and emergency services was gathered through phone interviews with local officials and field observations. According to local officials, Pisgah View Apartments, Hillcrest Apartments, and Klondyke Apartments experience more crime than the remainder of Asheville. The City of Asheville Police Department provides protection throughout the DCIA.

The Buncombe County Rescue Squad Station #2 is the only emergency services facility identified within the DCIA. It is located along Hansel Avenue north of Patton Avenue (see Figure 3-4). The Buncombe County Rescue Squad, City of Asheville Fire Department, and Buncombe County Emergency Services provide emergency medical services throughout the DCIA using several facilities located outside of the DCIA.

The City of Asheville Fire Department Station #3 is located south of Patton Avenue just west of the DCIA, while Station #11 is located in the southern portion of the DCIA near the I-26/NC 191 interchange. The City of Asheville Fire Department provides fire service throughout the DCIA.

Local officials indicated that the pedestrian bridge for the Hillcrest Apartments was closed due to criminal activity but has since been re-opened due to a number of pedestrian deaths attributed to crossing I-240/Patton Avenue on foot. Residents of the Fairfax/Virginia and Kentucky/Hanover/Pisgah View communities indicated that lighting is a concern at the State Street underpass, which is frequently used by pedestrians and bicyclists to cross under I-240.

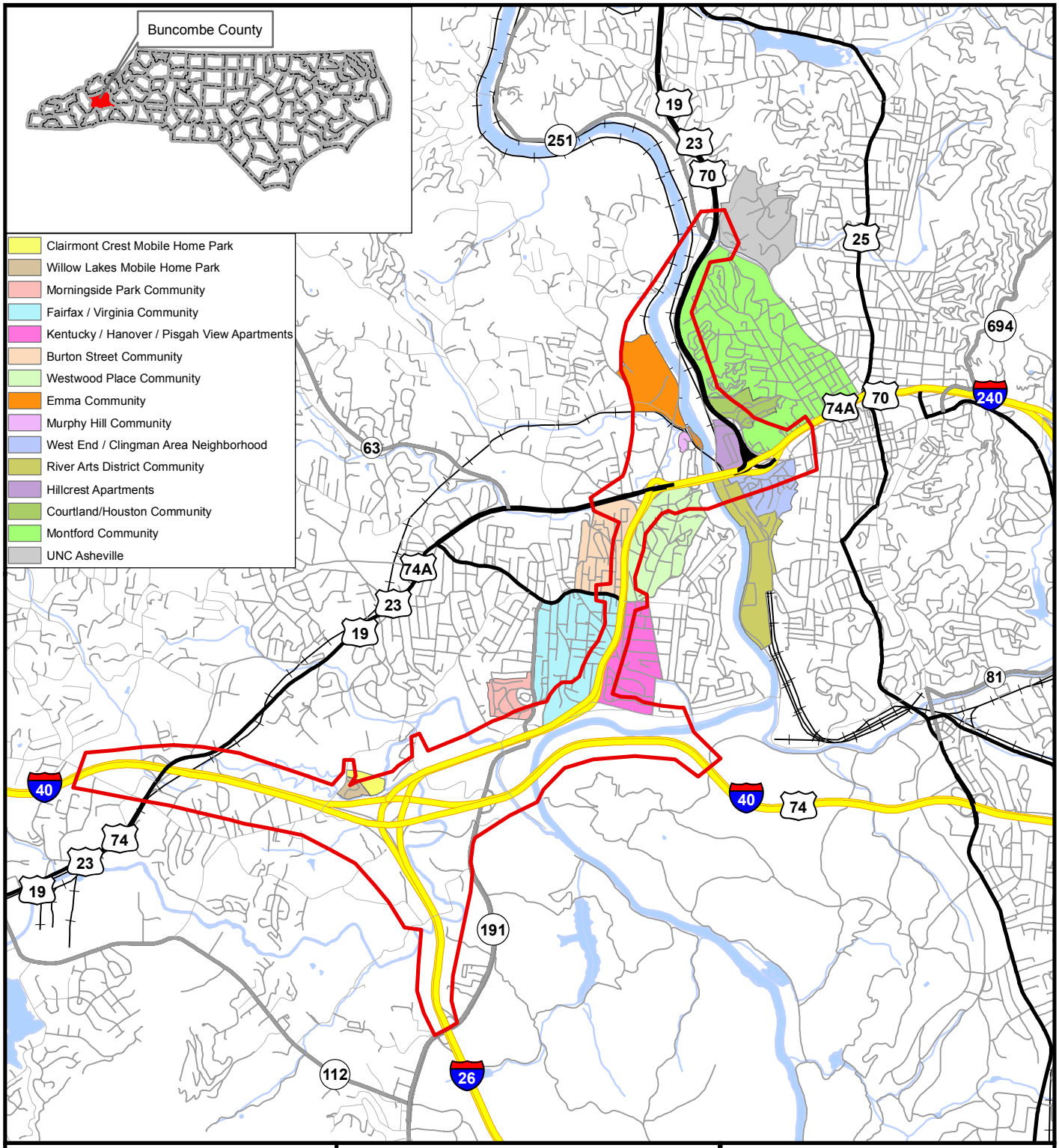
3.1.3.10 Public Housing Units

Approximately 650 public housing units are contained in three Asheville Housing Authority communities located within the DCIA and are operated by the Housing Authority of the City of Asheville. The Pisgah View Apartments are located just north of Amboy Road in the southeastern portion of the DCIA (see Figure 3-3). The Pisgah View Community Center and Head Start Center are also located within the Pisgah View Apartments complex. The Hillcrest Apartments are located between Riverside Drive, US 19-23-70, and I-240. The Carl Johnson Community Center and Head Start Center is also located within the Hillcrest Apartments complex. The Klondyke Apartments public housing complex is located along Montford Avenue in the northern portion of the DCIA. An additional 160 income-restricted units in the Woodridge Apartments located along Bingham Road are operated by the Asheville-Woodridge Limited Partnership.

3.1.4 NEIGHBORHOODS AND COMMUNITIES

3.1.4.1 Identified Communities

The DEIS discusses the 15 communities identified within the project study area, based on field reviews and discussions with local planners. Each of the communities was delineated and a community boundary was established to allow for further analysis of each community, as shown on Figure 3-4. A community profile was developed for each of the communities and is described in detail in the DEIS.



North Carolina Department of Transportation

Legend

- Project Study Area
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water

Date: May 2018

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-4

Communities

3.1.4.2 Past Transportation-Related Projects

Communities in the project study area have been affected by past transportation-related projects. As the population of Buncombe County grew from approximately 130,000 in 1960 to 206,000 in 2000, a corresponding increase occurred in the size and scope of the transportation network. The National Interstate and Defense Highways Act of 1956 began the era of connecting population centers with controlled access freeways.

Prior to the 1960s, there were no freeways in the Asheville area. The primary routes in West Asheville, and those connecting West Asheville to downtown, were US 19-23 Bypass along Patton Avenue and US 19-23 Business along Haywood Road. The Patton Avenue crossing of the French Broad River was constructed from 1948 to 1950 and was named the Great Smoky Mountains Park Bridge (also known as the northern Captain Jeff Bowen Bridge) due to it being a "gateway" to tourism and the Great Smoky Mountains National Park. According to the *West End/Clingman Small Area Plan* (City of Asheville 1996), the extension of Patton Avenue to the Captain Jeff Bowen Bridge crossing of the French Broad River in the late 1940s bisected the West End/Clingman Area Neighborhood (WECAN) and required the demolition of many homes within the neighborhood.

During the 1960s, like many parts of the country, the transportation system in Asheville expanded through the development of interstate highways. By 1970, the portions of I-40 and I-26 within the study area had been constructed; however, these highways were constructed in relatively rural settings without major disruption to any communities. In the late 1960s the construction of the "Cross-town Expressway" was completed, which severed several existing neighborhoods within the project study area. The Cross-town Expressway included a second bridge across the French Broad River, parallel to the Captain Jeff Bowen Bridge and had interchanges with US 19-23/Patton Avenue, US 19-23 Business (Haywood Road), Amboy Road, Brevard Road, and I-26/I40. The Cross-town Expressway required further relocations in the West End/Clingman area and severed several local street connections. The construction also bisected several local roadways in West Asheville that are parts of communities identified for the proposed project. The Kentucky/Hanover/Pisgah View Area Community and Fairfax/Virginia Community were once connected by streets that were bisected, including Pennsylvania Avenue, Montana Avenue, Alabama Avenue, New Jersey Avenue, and Stewart Street. The Cross-town Expressway also rerouted Amboy Road onto the expressway, severing connections to Virginia Avenue, Fairfax Avenue, and Brevard Road. Farther north, Wilmington Street was severed, which had connected the Burton Street Community directly to the Westwood Place Community. The Cross-town Expressway was redesignated as I-240 in 1976 and the name eventually faded from common use by the local residents.

During the 1970s, the only major change to the transportation system in the study area was the construction of US 19-23-70 as a freeway from Patton Avenue, northward to Madison County. There was little change in the transportation system during the period from the late 1970s to the late 1990s. In the late 1990s, the only major construction within the proposed project study area was modifying the interchange along I-240 at Brevard Road. The early 2000s saw the completion of the extension of I-26 from Mars Hill to the Tennessee border, north of the project study area.

3.1.5 TITLE VI OF THE 1964 CIVIL RIGHTS ACT AND ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," prohibits discrimination based on race, color, sex, and national origin in the provision of benefits and services resulting from federally-assisted programs and activities.

3.1.5.1 Environmental Justice

Environmental justice refers to the equitable treatment of people of all races, cultures, ages, and incomes with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. This section identifies special populations based on those set forth in Title VI of the Civil Rights Act of 1964 and EO 12898, to ensure that the project does not have a disproportionately high and adverse impact or deny benefits of the project. If special populations are present within the DCIA, community outreach, including meaningful non-traditional methods, will be identified.

The Council on Environmental Quality (CEQ) has oversight of the federal government's compliance with EO 12898. CEQ has developed guidance to further assist agencies with their procedures so that environmental justice concerns are effectively identified and addressed. Based on the CEQ guidance, low-income populations should be identified with the annual statistical poverty thresholds from the US Census Bureau's Current Population Reports (Series P-60 on Income and Poverty). Minority populations, based on the CEQ guidance, should be identified where either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage of the affected area is meaningfully greater than the minority population in the general population or other appropriate unit of geographic analysis. This section assesses environmental justice based on the race and low-income thresholds put forth by CEQ.

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 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, disproportionably high and adverse human health and environmental effects of its program, policies, and activities on minority populations and low-income populations." Special populations may include the elderly, children, the disabled, low-income areas, American Indians, and other minority groups. EO 12898 requires that Environmental Justice principles be incorporated into all transportation studies, programs, policies, and activities. The three environmental principles are (1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process; (2) to avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low-income populations; and (3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities upon low-income and minority populations.

3.1.5.2 Affected Populations

Once the communities were identified, the following thresholds were used to screen for minority and low-income populations that would be considered protected:

- *Community minority population that exceeds 50 percent of the total community/area population*
- *Community minority population that is more than 10 percentage points higher than Buncombe County's minority populations*
- *Community/area low-income population that is more than 5 percentage points greater than Buncombe County's low-income populations*

Using the NCDOT Demographic Analysis Tool, a spatial analysis of non-white populations was conducted for the project. The NCDOT tool utilizes 2013-2017 ACS data at the block group level to identify non-white populations that are 10 percentage points higher than the corresponding non-white population in Buncombe County. The threshold for minority populations was determined to be 26.3 percent and the threshold for low-income populations was determined to be 18.2 percent for below poverty populations, 9.7 percent for very poor populations, and 15.7 percent for near poor populations. Census data indicate 8 block groups exceeding the minority population threshold and 11 block groups exceeding the low-income population threshold (Table 3-6, Table 3-7, Figure 3-5a, and Figure 3-5b).

Since publication of the DEIS, CT 3, BG 2, located in Montford, generally bounded by Broadway Street and Montford Avenue, no longer exceeds the low-income threshold. Block groups no longer exceeding the minority threshold include:

- *CT 11, BG 1: Burton Street Community*
- *CT 6, BG 2: located outside of the DCIA generally bounded by Broadway Street, Hillside Street, and Charlotte Street*

New moderate-sized home construction has been observed in the Burton Street neighborhood attributing to the shift in the demographic makeup of the DSA.

Table 3-6: Block Groups with Minority Populations Above the Threshold

Geography (Community)	Total Population	White, Non-Hispanic		Minority Population (Threshold: 26.3%)	
		#	%	#	%
CT 2, BG 1 (Hillcrest Apartments Community, Houston/Courtland Community, Montford Community)	709	427	60.2%	282	39.8%
CT 2, BG 2 (Montford Community)	765	564	73.7%	201	26.3%
CT 3, BG 1 (Montford Community)	1,447	849	58.7%	598	41.3%
CT 3, BG 2 (Montford Community)	932	753	80.8%	179	19.2%
CT 4, BG 1 (UNC Asheville)	2,851	2,411	84.6%	440	15.4%
CT 6, BG 2	1,341	1,048	78.2%	293	21.8%

Geography (Community)	Total Population	White, Non-Hispanic		Minority Population (Threshold: 26.3%)	
		#	%	#	%
CT 9, BG 2 (West End/Clingman Area Neighborhood, River Arts District Community)	712	406	57.0%	306	43.0%
CT 9, BG 3 (West End/Clingman Area Neighborhood, River Arts District Community)	1,733	828	47.8%	905	52.2%
CT 10, BG 1 (Westwood Place Community)	1,808	1,435	79.4%	373	20.6%
CT 10, BG 2 (Kentucky/Hanover/Pisgah View Apartments)	1,931	1,290	66.8%	641	33.2%
CT 11, BG 1 (Burton Street Community)	1,045	789	75.5%	256	24.5%
CT 11, BG 2 (Morningside Park Community, Fairfax Avenue/Virginia Avenue Community)	1,746	1,670	95.6%	76	4.4%
CT 11, BG 3 (Fairfax Avenue/Virginia Avenue Community)	1,961	1,562	79.7%	399	20.3%
CT 12, BG 5 (Clairmont Crest Mobile Home Park, Willow Lake Mobile Home Park)	820	560	68.3%	260	31.7%
CT 14, BG 1 (Emma Road/Bingham Road Community, Murphy Hill Community)	1,570	593	37.8%	977	62.2%
CT 14, BG 2 (Emma Road/Bingham Road Community)	1,006	688	68.4%	318	31.6%
DSA	**22,377**	**15,873**	**70.9%**	**6,504**	**29.1%**
City of Asheville	**89,318**	**69,549**	**77.9%**	**19,769**	**22.1%**
Buncombe County	**252,268**	**211,110**	**83.7%**	**41,158**	**16.3%**
North Carolina	**10,052,564**	**6,397,460**	**63.6%**	**3,655,104**	**36.4%**

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table B03002, "Hispanic or Latino Origin by Race."
Note: Block Groups shown in bold text indicate minority populations above the threshold.

Based on the information presented in Table 3-6, the block groups and corresponding communities that contain these block groups with minority populations meeting or exceeding the determined threshold include:

- *CT 2, BG 1: Hillcrest Apartments and Houston/Courtland Community*
- *CT 2, BG 2 and CT 3, BG 1: Montford Community*
- *CT 9, BG 2: West End/Clingman Area Neighborhood (WECAN)*
- *CT 9, BG 3: River Arts District (RAD)*
- *CT 10, BG 2: Kentucky/Hanover/Pisgah View Area*
- *CT 12, BG 5: Clairmont Crest Mobile Home Park and Willow Lake Mobile Home Park*
- *CT 14, BG 1: Murphy Hill*
- *CT 14, BG 1 and BG 2: Emma Road/Bingham Road Area*

Table 3-7: Block Groups with Poverty Rates Above the Threshold

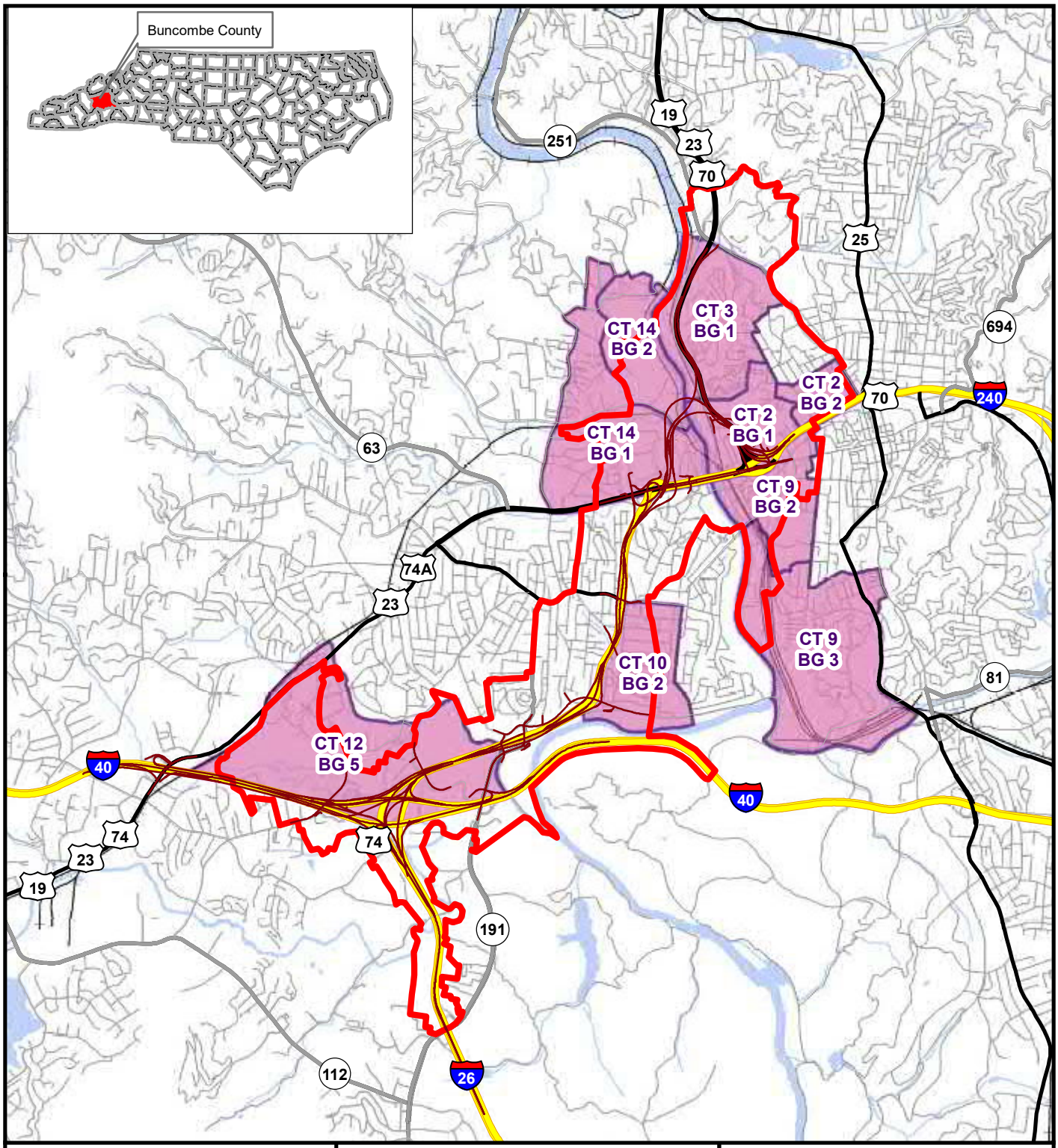
Geography	Total Population	Below Poverty Level (Threshold: 18.2%)		Very Poor: Under 50% of Poverty Level (Threshold: 9.7%)		Near Poor: Between 100% and 149% of Poverty Level (Threshold: 15.7%)	
		#	%	#	%	#	%
CT 2, BG 1 (Hillcrest Apartments Community, Houston/Courtland Community, Montford Community)	709	246	34.7%	116	16.4%	161	22.7%
CT 2, BG 2 (Montford Community)	760	97	12.8%	59	7.8%	79	10.4%
CT 3, BG 1 (Montford Community)	1,417	588	41.5%	226	15.9%	179	12.6%
CT 3, BG 2 (Montford Community)	932	77	8.3%	19	2.0%	20	2.1%
CT 4, BG 1 (UNC Asheville)	1,743	300	17.2%	137	7.9%	223	12.8%
CT 6, BG 2 Montford Community	1,333	227	17.0%	126	9.5%	266	20.0%
CT 9, BG 2 (West End/Clingman Area Neighborhood)	712	396	55.6%	207	29.1%	28	3.9%
CT 9, BG 3 (River Arts District Community)	1,521	842	55.4%	273	17.9%	185	12.2%
CT 10, BG 1 (Westwood Place Community)	1,808	493	27.3%	265	14.7%	249	13.8%
CT 10, BG 2 (Kentucky/Hanover/Pisgah View Apartments)	1,931	726	37.6%	487	25.2%	119	6.2%
CT 11, BG 1 (Burton Street Community)	985	187	19.0%	41	4.2%	61	6.2%
CT 11, BG 2 (Morningside Park Community, Fairfax Avenue/Virginia Avenue Community)	1,746	85	4.9%	8	0.5%	97	5.6%
CT 11, BG 3 (Fairfax Avenue/Virginia Avenue Community)	1,828	163	8.9%	71	3.9%	221	12.1%
CT 12, BG 5 (Clairmont Crest Mobile Home Park, Willow Lake Mobile Home Park)	820	87	10.6%	81	9.9%	179	21.8%
CT 14, BG 1 (Murphy Hill Community)	1,570	529	33.7%	71	4.5%	340	21.7%
CT 14, BG 2 (Emma Road/Bingham Road Community)	1,006	107	10.6%	62	6.2%	656	65.2%
DSA	**20,821**	**5,150**	**24.7%**	**2,249**	**10.8%**	**3,063**	**14.7%**
City of Asheville	**86,339**	**13,042**	**15.1%**	**5,096**	**5.9%**	**9,762**	**11.3%**
Buncombe County	**246,149**	**32,591**	**13.2%**	**11,669**	**4.7%**	**26,430**	**10.7%**

Geography	Total Population	Below Poverty Level (Threshold: 18.2%)		Very Poor: Under 50% of Poverty Level (Threshold: 9.7%)		Near Poor: Between 100% and 149% of Poverty Level (Threshold: 15.7%)	
		#	%	#	%	#	%
North Carolina	**9,783,738**	**1,579,871**	**16.1%**	**688,118**	**7.0%**	**1,016,581**	**10.4%**

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."
Note: Block Groups shown in bold text indicate low-income populations above the threshold.

Based on the information presented in Table 3-7, the block groups and corresponding communities that contain these block groups with low-income populations meeting or exceeding the determined thresholds include:

- *CT 2, BG 1: Hillcrest Apartments, Houston/Courtland Community, and Montford Community*
- *CT 3, BG 1: Montford Community*
- *CT 6, BG 2: Montford Community*
- *CT 9, BG 2: West End/Clingman Area Neighborhood (WECAN)*
- *CT 9, BG 3: River Arts District (RAD)*
- *CT 10, BG 1: Westwood Place*
- *CT 10, BG 2: Kentucky/Hanover/Pisgah View Area*
- *CT 11, BG 1: Burton Street*
- *CT 12, BG 5: Clairmont Crest Mobile Home Park and Willow Lake Mobile Home Park*
- *CT 14, BG 1: Murphy Hill*
- *CT 14, BG 2: Emma Road/Bingham Road Area*



North Carolina
Department of Transportation

Legend

- Preferred
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Direct Community Impact
- Block Groups with minority populations above the threshold
- Streams (non-delineated)
- Water

Date: August 2019

N W E S

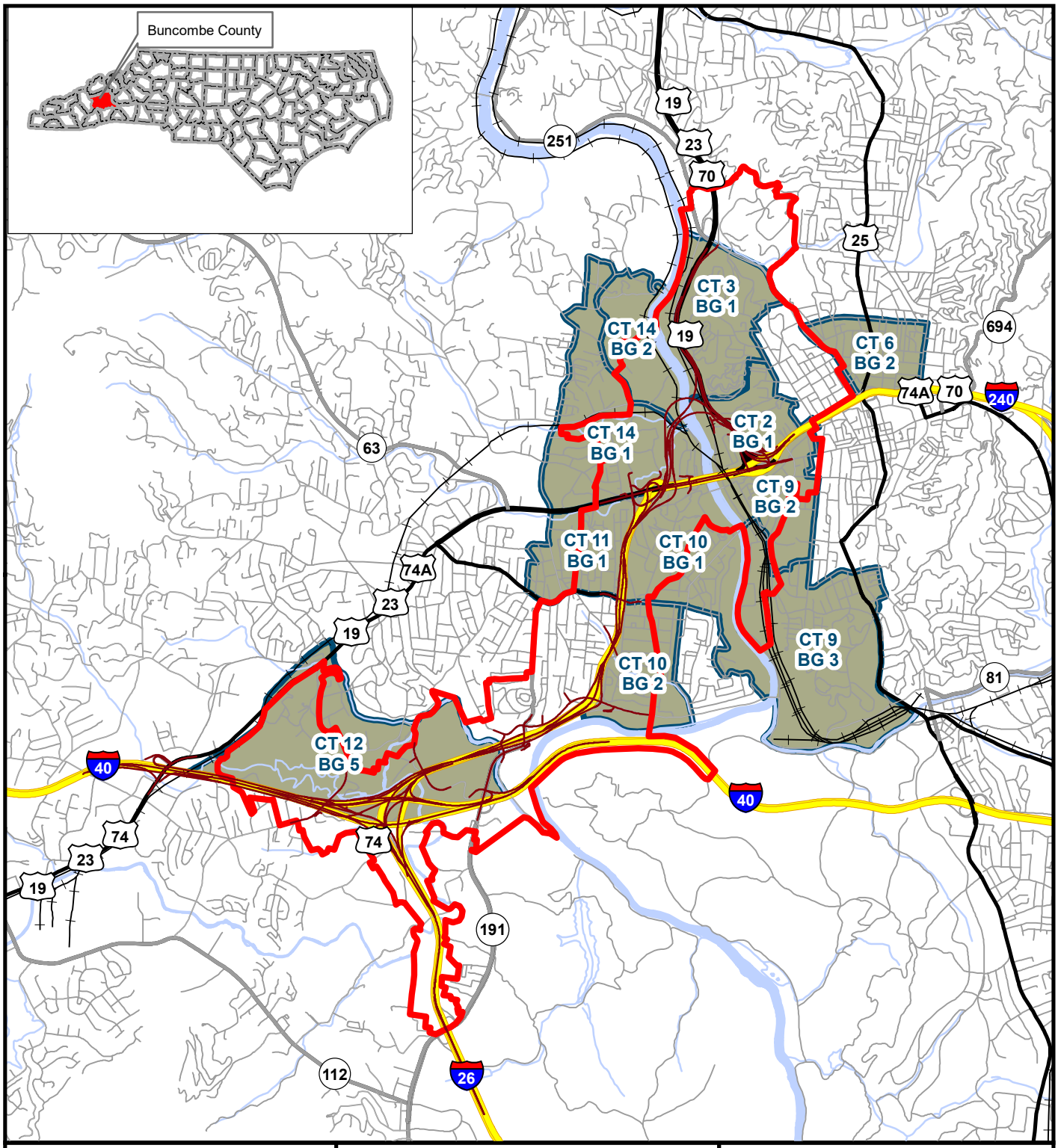
0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-5a

Block Groups with Minority Populations Above the Threshold



North Carolina Department of Transportation

Legend

- Preferred Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Direct Community Impact
- Streams (non-delineated)
- Water

Date: August 2019

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-5b

Block Groups with Poverty Rates Above the Threshold

3.1.5.3 Limited English Proficiency

Most individuals living in the United States read, write, speak, and understand English. There are many individuals, however, for whom English is not their primary language. The 2010 Census shows that 26 million individuals speak Spanish and almost 7 million individuals speak an Asian or Pacific Island language at home. If these individuals have a limited ability to read, write, speak, or understand English, they are limited English proficient (LEP).

Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition against national origin discrimination under Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d) and the USDOT Title VI regulations at 49 CFR 21.

To clarify existing requirements for LEP persons under Title VI, on August 11, 2000, President Clinton issued Executive Order (EO) 13166, "Improving Access to Services for Persons with Limited English Proficiency." The EO requires each federal agency to examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency.

The US Department of Justice (DOJ) is responsible for coordinating government-wide implementation of the EO. To assist agencies in fulfilling the mandates of the order, DOJ published a general LEP policy guidance document on August 16, 2000, and issued revised guidance on June 18, 2002. The EO states that agencies' LEP plans and guidance must be consistent with the DOJ LEP guidance.

In accordance with the EO, the USDOT issued *Policy Guidance Concerning Recipient's Responsibilities to Limited English Proficient (LEP) Persons* (USDOT 2005), which is modeled after DOJ's guidance. As described in the guidance, USDOT recipients are required to take reasonable steps to ensure meaningful access to their programs and activities by LEP persons. LEP data from the 2013-2017 ACS data were compiled for the project study area and are summarized in Table 3-8.

As shown in Table 3-8, Census data indicate three block groups (CT 12, BG 5; CT 14, BG 1 and CT 14, BG 2) with the presence of a Spanish-speaking population, and one block group (CT 11, BG 3) with an Asian/Pacific-speaking population that may require language assistance. More than 50 persons in each of these block groups speak English "less than very well."

Table 3-8: Limited English Proficiency Data by Block Group

Geography	Total Adult Population, 18 years and older	Primary Language of Group of Persons Who Speak English Less than Very Well							
		Spanish		Other Indo-Euro		Asian/Pacific		Other	
		#	%	#	%	#	%	#	%
CT 2, BG 1	523	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 2, BG 2	631	6	1.0%	-	0.0%	-	0.0%	-	0.0%

Geography	Total Adult Population, 18 years and older	Primary Language of Group of Persons Who Speak English Less than Very Well							
		Spanish		Other Indo-Euro		Asian/Pacific		Other	
		#	%	#	%	#	%	#	%
CT 3, BG 1	1,090	-	0.0%	-	0.0%	12	1.1%	-	0.0%
CT 3, BG 2	738	5	0.7%	-	0.0%	-	0.0%	-	0.0%
CT 4, BG 1	2,585	-	0.0%	-	0.0%	8	0.3%	-	0.0%
CT 6, BG 2	1,133	16	1.4%	-	0.0%	-	0.0%	-	0.0%
CT 9, BG 2	694	3	0.4%	-	0.0%	-	0.0%	-	0.0%
CT 9, BG 3	1,233	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 10, BG 1	1,531	10	0.7%	-	0.0%	-	0.0%	-	0.0%
CT 10, BG 2	1,202	23	1.9%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 1	897	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 2	1,332	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 3	1,620	14	0.9%	-	0.0%	112	6.9%	-	0.0%
CT 12, BG 5	581	96	16.5%	-	0.0%	-	0.0%	-	0.0%
CT 14, BG 1	1,273	482	37.9%	-	0.0%	9	0.7%	-	0.0%
CT 14, BG 2	779	79	10.1%	-	0.0%	-	0.0%	-	0.0%
DSA	**17,842**	**734**	**4.1%**	**-**	**0.0%**	**141**	**0.8%**	**-**	**0.0%**

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table B16004, "Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over."

3.2 LAND USE AND TRANSPORTATION PLANNING

Plans that have been adopted by the City of Asheville, Buncombe County, and NCDOT since the 2015 DEIS are described in this section. Plans discussed in the 2015 DEIS are still valid, unless otherwise noted here.

3.2.1 LAND USE PLANS

3.2.1.1 Existing Land Use

Existing land use in the FLUSA is depicted on Figures 3-6a and 3-6b. As shown, the majority of the FLUSA is residential, commercial, institutional, or recreational in nature.

Residential development is the dominant form of land use throughout the urbanized areas of Asheville, which includes most of the FLUSA north of I-40. Most residential land use within the FLUSA is single family in nature, with minimal amounts of multi-family housing. Large amounts of land are also utilized for commercial purposes, including downtown Asheville, the US 70 corridor, the US 19-23 corridor, along the French Broad River (including the RiverLink area), and several interchanges throughout the FLUSA (including the I-240 interchanges at Haywood Road, Patton Avenue, and Biltmore Avenue and the I-26 interchange at Brevard Road).

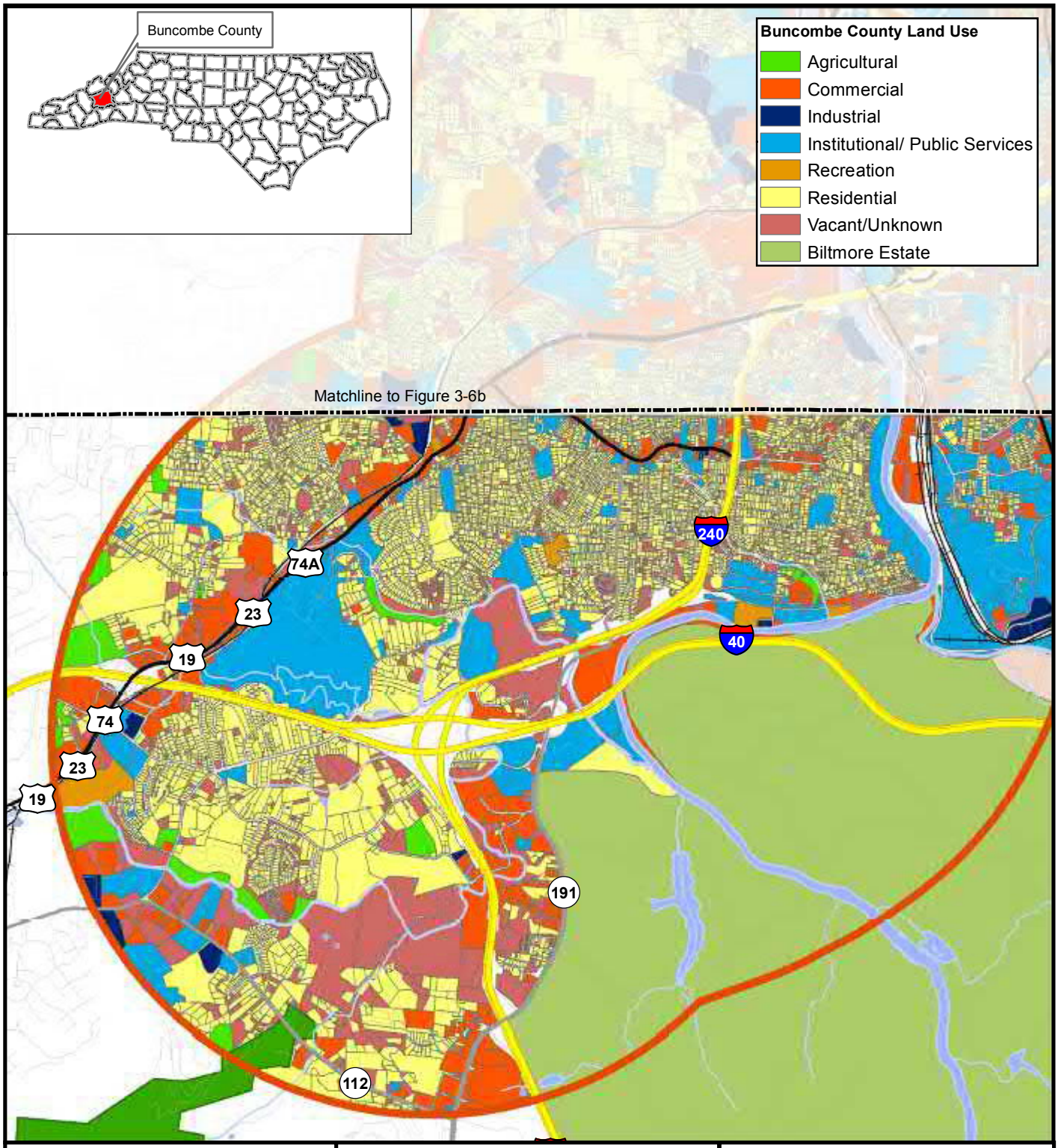
Most of the undeveloped land within the FLUSA is limited to its southwestern portion along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad

River in the northern portion of the FLUSA. Tracts of land utilized for institutional and recreational activities, including government offices, parks, schools, and churches, are also scattered throughout the FLUSA, primarily throughout the downtown area. The Biltmore Estate is a popular tourist destination located in the southeastern portion of the FLUSA.

3.2.1.2 Zoning Characteristics

Zoning applicable to the FLUSA, as identified in the ILUS/LUSA, is shown on Figure 3-7. The zoning predominant throughout the FLUSA is residential, including multi-family residential, high density, single family residential, and lesser amounts of low and medium density residential. Commercial zoning is concentrated along US 25, US 19-23, US 19-23 Business, Brevard Road, the French Broad River, and throughout downtown Asheville. Much of this zoning includes typical strip commercial development along major corridors, nodal development at major interchanges (such as the Brevard Road interchange on I-26), and the central business district of Asheville.

Industrial zoning is concentrated along Pond Road and Hominy Creek in the southern portion of the FLUSA, with isolated tracts of industrial zoning scattered throughout the remainder of the FLUSA. Several tracts of land zoned for institutional purposes also exist within the FLUSA, including the Asheville School (centered on the now drained Lake Ashnoca), UNC-Asheville (along Broadway north of downtown), and along US 25 south of downtown.



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Pisgah National Forest
- Future Land Use Study Area
- Biltmore Forest
- Biltmore Estate

Date: May 2018

N W E S

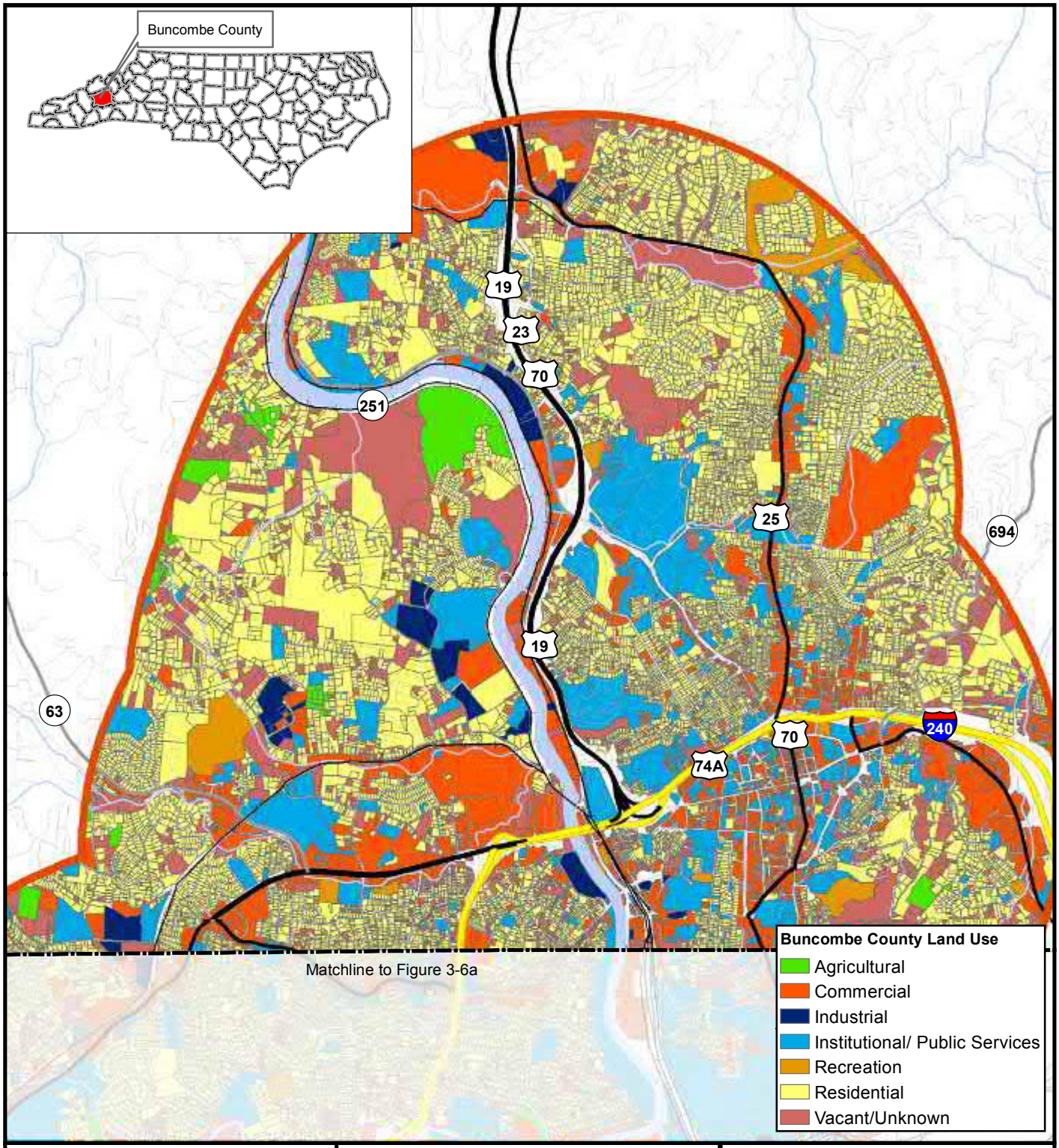
0 2,000 4,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-6a

Existing Land Use



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest

Date: May 2018

N W E S

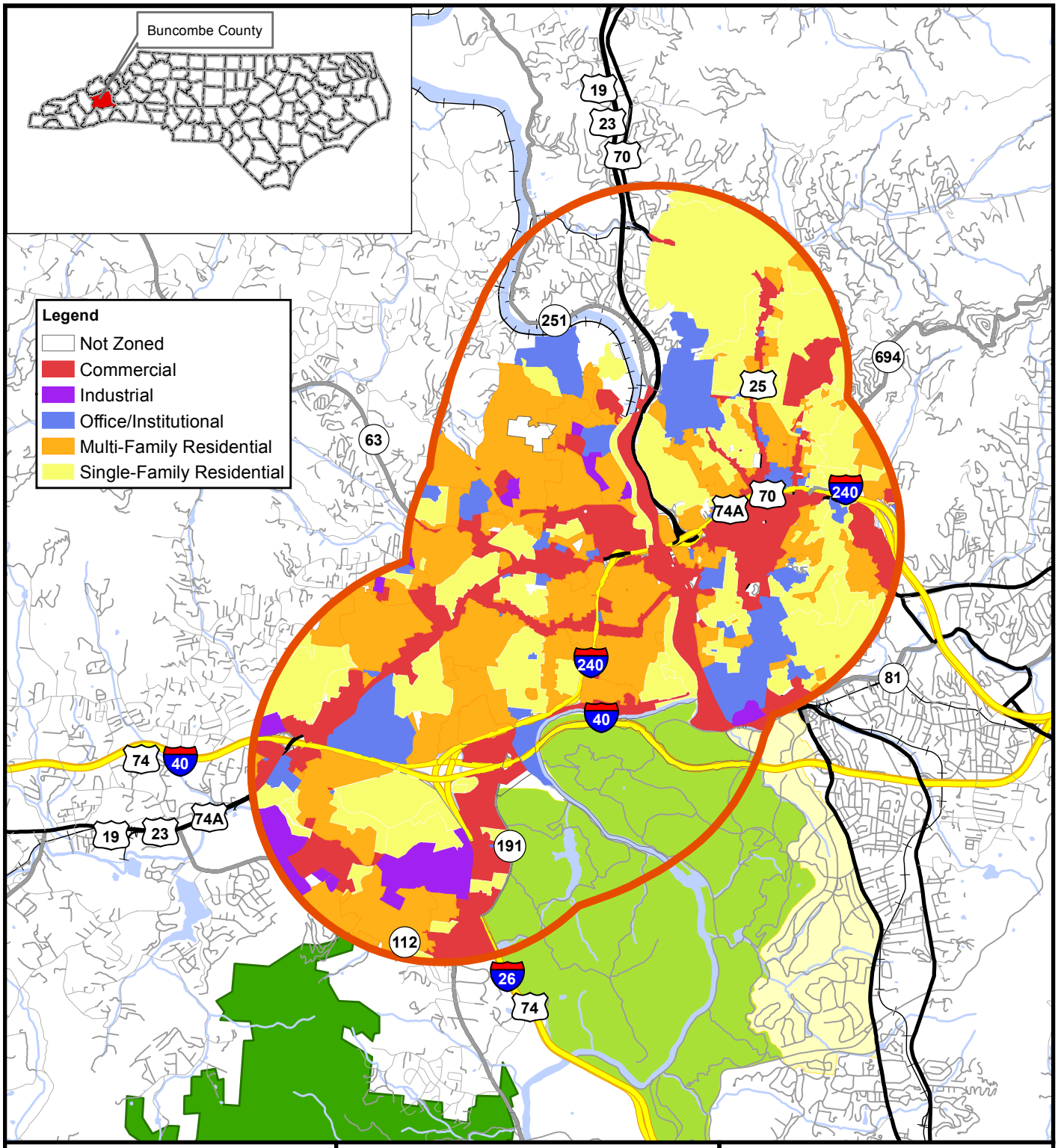
0 2,000 4,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-6b

Existing Land Use



North Carolina Department of Transportation

Legend

- Local Road
- Interstate
- US Highway
- State Highway
- State Route
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest
- Municipal Boundaries
- Biltmore Estate

Date: May 2018

N W E S

0 0.75 1.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-7

Zoning

3.2.1.3 Future Land Use

A region's land use plans and recent development activity are indicators of future land use. Both of these indicators were considered in the ILUS/LUSA. The findings of that assessment are reproduced in this section (HNTB North Carolina, PC 2010, AECOM 2018a).

Land Use Plans

Land use plans applicable to the project study area:

- *Haywood Road Form District* (*City of Asheville 2017c)*
- *A Strategic Plan for the Sustainable Economic Development of the City of Asheville, North Carolina* (City of Asheville 2004)
- *Broadway Corridor Action Plan* (City of Asheville 2002b)
- *Asheville City Development Plan 2025* (City of Asheville 2002a)
- *Wilma Dykeman RiverWay Master Plan* (RiverLink 2004)
- *Brevard Road Corridor Study* (City of Asheville 2005a)
- *Living Asheville: A Comprehensive Plan for our Future (City of Asheville, 2018)*
- *Consolidated Strategic Housing and Community Development Plan* (City of Asheville 2010a)
- *Buncombe County Comprehensive Land Use Plan Update* (Buncombe County 2013)
- *West End/Clingman Small Area Plan* (City of Asheville 1996)
- *Asheville Downtown Master Plan* (City of Asheville 2009a)
- *Asheville Unified Development Ordinance (City of Asheville 2017a)*
- *Buncombe County Zoning Ordinance (Buncombe County 2017)*
- *GroWNC Regional Plan (GroWNC 2017)*
- *Burton Street Neighborhood Plan (Public Participation Partners for the Burton Street Community Association 2018)*

Available Land

There are 22,563 acres of land within the FLUSA. Approximately 4,889 acres (22 percent) of the land within the FLUSA is considered developable land that does not contain parks, Significant Natural Heritage Areas, National Register districts, or steep slopes greater than 15 percent. However, because many of the registered Natural Heritage Program Natural Areas remain under private ownership; it should be noted that protection of the land contained within them is not guaranteed. The 2015 DEIS estimated approximately 8,216 acres in the FLUSA (or 36 percent) could be considered available for development.

Most of the undeveloped land within the FLUSA is along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad River in the northern portion of the FLUSA.

Current Development Pressures

The 2015 ISLUSA and 2018 LUSA Addendum noted commercial and residential growth was expected to occur within the project study area in the form of infill, redevelopment, and new

development. According to Census data, BG 3, CT 1 (Montford community) experienced a 51.7 percent increase in population between 2000 and 2010, CT 12, BG 5 (located north of I-26 between Smoky Park Highway and Brevard Road) experienced a 41.8 percent increase. These block groups experienced a 4 percent and 38 percent increase, respectively, since the 2015 DEIS. The Houston/Courtland area (CT 3, BG 2) experienced a 32 percent increase in population since the 2015 ISLUSA. The areas along the French Broad River south of I-240 are areas with new development and the potential for additional development. New Belgium Brewery, a 133,000 square-foot brewery, opened in the spring of 2016 on the west side of the French Broad River. On the east side of French Broad River, the Riverside Arts District (RAD) continues to develop improvement plans in anticipation for growth. The RADTIP is a major construction plan to rebuild 2.2 miles of road along the east side of the river. The improvements include parking, wide sidewalks, and bicycle lanes. Construction on these improvements is projected to start spring 2018. The RADTIP would also develop 2.2 miles of the 17-mile Wilma Dykeman Greenway (RiverLink 2004). Outside of road improvements, RAD Lofts, a mixed-use development that would contain over 200 apartment units and other commercial space, was scheduled to begin construction in March 2018.

Through coordination with local officials since the publication of the DEIS, trends identified in the 2015 ISLUSA are anticipated to continue.

As discussed in Section 3.1.2.1, according to the 2013-2017 ACS, both Buncombe County and the City of Asheville had a lower unemployment rate than the state in 2000, 2010, and 2013. In general, the unemployment rate of Asheville and Buncombe County has been less than that of North Carolina.

The City of Asheville maintains a GIS database of Technical Review Committee project submittals from 2015 to the present (City of Asheville 2018). The database includes information on rezoning, site plans under review, and subdivisions. Information from the database can provide a visual representation of where and what type of development is occurring within the city and its extra territorial jurisdiction. The database includes 59 private development projects under review within the FLUSA, many of which are concentrated around downtown Asheville.

3.2.2 TRANSPORTATION PLANS

Several transportation plans relate to the study area for the proposed project, including highway plans, transit plans, and bicycle, pedestrian, and greenway plans. The DEIS includes a detailed summary of the various transportation plans that pertain to the project study area. This section only includes those plans adopted after publication of the DEIS.

3.2.2.1 Highway Plans

French Broad River MPO 2040 Metropolitan Transportation Plan (2015)

At the time of publication of the 2015 DEIS, the proposed project was included in the FBRMPO's 2035 Long Range Transportation Plan (2035 LRTP) adopted on September 23, 2012 (FBRMPO 2012). This plan was retired by the FBRMPO's 2040 Metropolitan Transportation Plan (2040 MTP)

adopted on September 24, 2015 (FBRMPO 2015). The main goals of this plan are to develop and maintain a safe and efficient system for transportation and to enhance the environment and livability of the area by providing an optimum level of service, choice, mobility, convenience, and energy efficiency. Furthermore, the plan calls for the promotion of aesthetic treatments and improvements along the I-26 Corridor through Asheville and modeled proposed widening to eight lanes and the identification of other transportation projects with a direct relationship to the I-26 Corridor. The project is consistent with the long-range transportation goals and objectives of the FBRMPO (FBRMPO 2015).

The 2040 MTP also includes several other projects within the study area of the proposed project, including:

- *Bent Creek Greenway-Phase I -- the I-26 Interchange at NC 191 Brevard Road to I-26 Interchange at NC 146 Long Shoals Road*
- *Bent Creek Greenway Phase II -- Hominy Creek River Park to I-26 Interchange at NC 191*
- *I-240 to SR 3214 (Biltmore Avenue) -- Lyman St/Meadow to I-240/reconnection from I-2513C (U 4739)*
- *Clingman Forest and Town Branch Greenways (U-5019A)*
- *Broadway Street Road Diet-- NC 251 Riverside Dr to I-240*
- *Riverside Drive SR 1477 (Wilma Dykeman Riverway PH 4)- NC 251 to Hill Street (U-5868)*
- *NC 251 Multi-use Path -- Broadway to Elk Mountain Road*

3.2.2.2 Bicycle, Pedestrian, and Greenway Plans

Blue Ridge Bike Plan (2013)

The Blue Ridge Bike Plan covers seven western counties: Buncombe, Haywood, Henderson, Jackson, Madison, Swain, and Transylvania counties. It is a joint plan among NCDOT-Division of Bicycle and Pedestrian Transportation, Land of Sky Regional Council, and Southwestern Commission. The purpose of the bike plan is to identify and define improvements needed to help foster a regional bicycle route system in western North Carolina. The plan identifies priority corridors by region and by county. Two regional priority routes and two county priority routes are located within the project study area (NCDOT 2013).

Asheville in Motion Mobility Plan (2016)

The Asheville in Motion: City of Asheville Mobility Plan, adopted in 2016, is an expression of the local mobility strategy as opposed to the regional focus of the FBRMPO and the state focus of NCDOT. The mobility plan outlines need exclusive to the Asheville area and aligns itself with other Asheville policies and goals from local plans. One such plan is the Wilma Dykeman RiverWay Plan, which recommends constructing the I-26 Connector to provide a connection between downtown and the River Arts District (RiverLink 2004).

The goal of the Asheville in Motion: City of Asheville Mobility Plan is to identify the multi-modal needs of Asheville and create strategies for addressing those needs. Within this plan are four plan frameworks highlighting pedestrian, bicycle, greenway, and transit issues. The recommendations

that resulted include requiring multi-modal on new development, using a variety of bicycle facilities to promote connectivity, focusing transit efforts in town so that frequency is increased and more user friendly during peak hours, and connecting more residential neighborhoods to greenway facilities. Within the study area, the Haywood Road corridor is noted as a priority corridor to increase bicycle facilities to enhance community vibrancy and increase vehicular activity (City of Asheville 2016).

3.2.2.3 Other Local Plans

In addition to the plans described above, several local plans relate to the proposed project. Additional plans are discussed in greater detail throughout the document and include the following:

- 2015-2019 Comprehensive Economic Development Strategy (Land of Sky Regional Council 2015)
- Asheville City Council Resolution 00-168 – Resolution Supporting the Report and Recommendations of the Community Coordinating Committee Regarding the I-26 Connector Project (2000)
- *Sustainability Management Plan* (City of Asheville 2009d)

3.3 PHYSICAL ENVIRONMENT CHARACTERISTICS

3.3.1 NOISE

This section is based on the draft *Traffic Noise Analysis for the I-26 Connector* prepared in August 2019 (NCDOT 2019a). Traffic noise impacts were determined from the procedures for the abatement of highway traffic noise and construction noise appearing in 23 CFR 772, as well as the *NCDOT Traffic Noise Abatement Policy* (NCDOT 2011). The analysis was conducted using FHWA's Traffic Noise Model version 2.5.

Noise can be defined as any sound that is undesirable. The magnitude of noise is defined by its sound pressure level (SPL), which is related to the ratio of the measured sound pressure over a reference sound pressure. The reference pressure is the pressure of the weakest sound audible to a healthy human hearing system. The resulting quantities from the ratio equation are expressed in terms of decibels (dB) on the SPL scale. A dB is an interval on the SPL scale, with 0 dB as the threshold of hearing and 130 dB as the level that causes pain.

A-weighted sound level quantities often correlate well with the subjective response of people to the magnitude of a sound level. For example, A-weighting takes into account the fact that humans are more sensitive to higher frequency sounds than lower frequency sounds. The term decibel is often abbreviated as dBA, meaning the sound, or noise, levels are A weighted.

Noise descriptors have been developed to more fully describe the noise environment and its effects on human activities. The most commonly used descriptor for vehicular traffic noise is the equivalent sound level (Leq), which is defined as the steady state sound level that contains the

same acoustic energy as the actual time varying sound level occurring over the same time period. Sound levels in this section are given as Leq for a one-hour time period.

3.3.1.1 Ambient Noise Measurements for Alternatives

Existing and ambient background noise measurements were taken in the vicinity of the project to determine existing noise levels for the identified land uses. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a basis for assessing the impact of noise level increases. There are 13 traffic noise measurement sites, 12 ambient background noise measurement sites, and 4 long-term noise measurement sites.

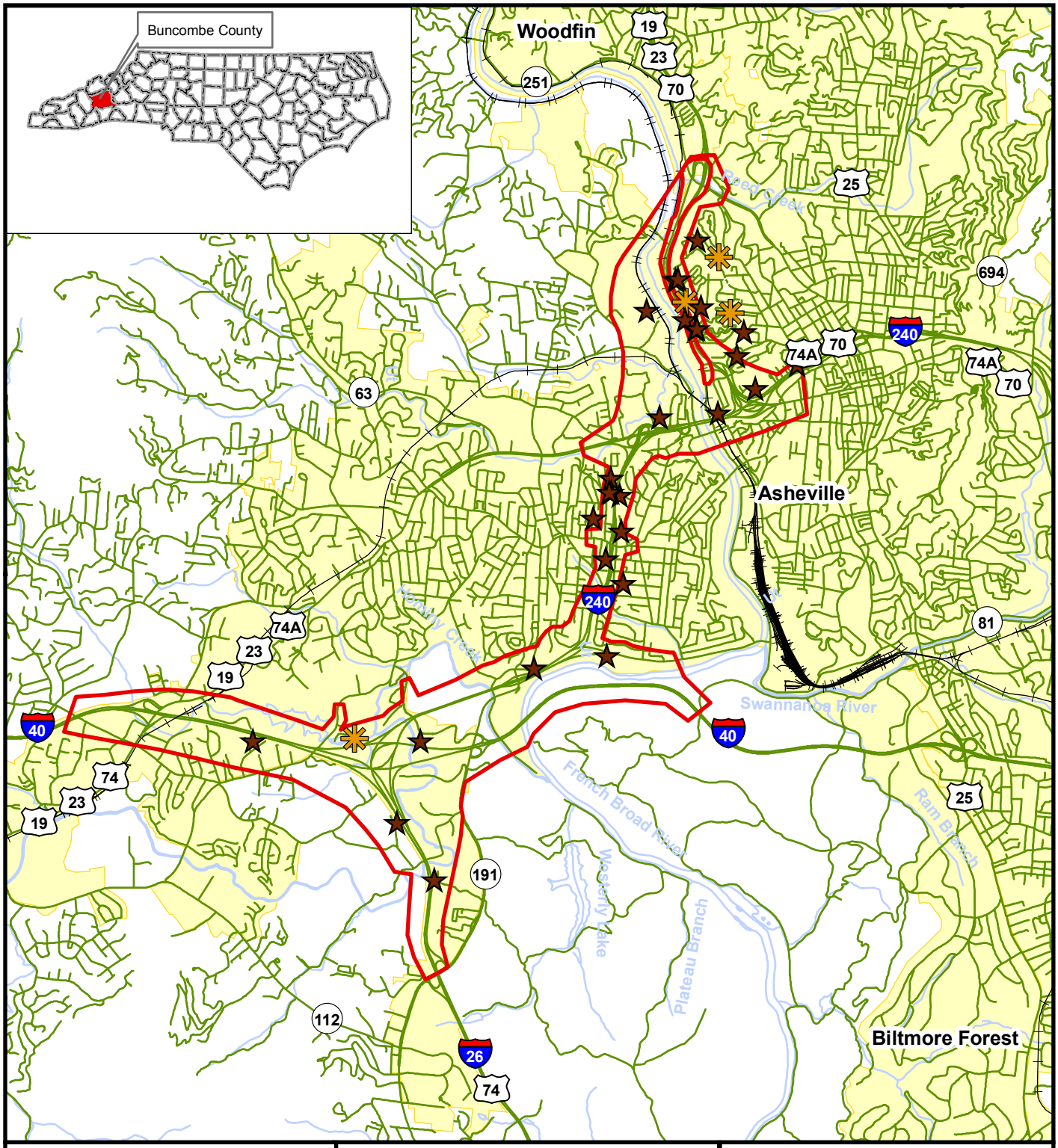
Table 3-9 provides a description of each short-term noise measurement site and the noise measure results. As shown in the table, measured Leq noise levels ranged from 48.2 dBA to 59.7 dBA for the ambient measurements. The noise measurement sites are shown on Figure 3-8.

Table 3-9: Ambient Noise Levels (Leq)

Site	Location	Site Type	Noise Level (dBA)
ST 1	556 Riverside Drive	Traffic	67.5 65.5
ST 2	Crowne Plaza Resort Tennis Courts	Ambient	48.2
ST 3	Amboy Road/ French Broad River Greenway	Ambient	58.8
ST 4	Hillcrest Apartments	Traffic	67.3 62.1 64.1
ST 5	Near St. Paul's Missionary Baptist Church	Traffic	71.7 57.0 52.6
ST 6	Wilmington Street	Traffic	66.5 63.1 64.2
ST 7	Hanover Street/Alabama Avenue	Traffic	65.4 60.9 58.8
ST 8	Fairfax Avenue	Traffic	60.5 58.6 59.6
ST 9	Asheville Primary School	Traffic	68.3 57.4 56.8
ST 10	Pennsylvania Avenue	Traffic	54.6 51.2 48.0

Site	Location	Site Type	Noise Level (dBA)
ST 11	Edwards Road	Traffic	53.8 50.8
ST 12	3 Selwyn Place	Ambient	58.5
ST 13	Schumacher Homes	Traffic	64.9 63.7
ST 14	24 Hazelnut Drive	Ambient	58.7
ST 15	Bear Creek RV Park	Ambient	59.7
ST 16	Riverside Cemetery	Traffic	68.8 62.9
ST 17	Amphitheater/Baseball Field at Montford Park Players	Ambient	50.1
ST 18	Asheville Community Center	Ambient	56.0
ST 19	Isaac Dickson Elementary School	Ambient	48.0
ST 20	Courtland Avenue	Ambient	46.2
ST 21	Westover Drive South	Ambient	52.0
ST 22	Westover Drive North	Traffic	62.4 58.7
ST 23	Hibriten Drive	Ambient	48.5
ST 24	Fayetteville Street	Traffic	62.8 55.8
ST 25	Baker Avenue	Ambient	46.9

Source: Traffic Noise Analysis for I-26 Connector (NCDOT 2019a).



North Carolina Department of Transportation

Legend

- Ambient Noise Reading Location
- Traffic Noise Reading Location
- Highways
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: November 2018

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-8

Noise Measurement Locations

3.3.2 AIR QUALITY

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

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The NAAQS contain criteria for SO2, particulate matter (PM10, 10-micron and smaller, PM2.5, 2.5-micron and smaller), CO, nitrogen dioxide (NO2), ozone (O3), and lead (Pb).

The primary pollutants from motor vehicles are unburned HC, NOx, CO, and particulates. HC and NOx can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as O3 and NO2. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems. This section is based on the *Air Quality Report, I-26 Asheville Connector from I-40 to US-19-23-70 North of Asheville, Buncombe County* (NCDOT 2018a).

The Federal Clean Air Act of 1970, as amended (42 U.S.C. 7401) was enacted for the purpose of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity.

Air pollution is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility, damaging property, reducing the productivity or vigor of crops or natural vegetation, and/or harming human or animal health.

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide, nitrogen oxide, hydrocarbons, particulate matter, sulfur dioxide, and lead (listed in order of decreasing emission rate).

3.3.2.1 Attainment Status

The I-26 Connector project is located in Buncombe County, which has been determined to comply with the National Ambient Air Quality Standards (NAAQS); therefore, 40 CFR 51 and 93 are not applicable.

3.3.2.2 Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The

EPA assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 2011 National Air Toxics Assessment (NATA). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority MSAT, the list is subject to change and may be adjusted in consideration of future EPA rules.

According to EPA, the latest model MOVES2014 is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010. These new emissions data are for light- and heavy- duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data.

MOVES2014 incorporates the effects of three new Federal emissions standard rules not included in MOVES2010. These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344). Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015 MOVES2014a Questions and Answers Guide, EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

Using EPA's MOVES2014a model, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a

emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth compared to historical trends.

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

3.3.3 FARMLANDS

Criteria for identifying and considering the effects of federal programs on the conversion of farmland to nonagricultural uses are established in the Farmland Protection Policy Act (FPPA) (7 CFR 658). For the purposes of the FPPA, important farmland is divided into three categories: prime, unique, or of local or statewide importance (Public Law 97-98, Subtitle 1, Section 1540).

The project location is in the urbanized area of Asheville. The land in the vicinity of the project is sufficiently planned and actively being used for urban purposes. Thus, further analysis of prime and unique soils is not required in accordance with FPPA guidance.

3.3.4 UTILITIES

Electric service to local residents and businesses is provided by Progress Energy. Progress Energy has electric transmission lines within the project study area that run east-west, south of the I-26/I-40/I-240 interchange. The electric transmission lines then cross NC 191 (Brevard Road) south of I-40 before turning north paralleling the French Broad River on the west bank. These transmission lines continue to parallel the French Broad River northward until SR 3548 (Haywood Road) where they proceed northwest over I-240 and the Crowne Plaza Resort before exiting the project study area.

Water service within the project study area is provided by the Regional Water Authority of Asheville-Buncombe-Henderson. Water service is widespread in urbanized portions of Asheville and Woodfin, as well as Sardis Road, West Oakview Road, and Gorman Bridge Road areas in unincorporated Buncombe County (HNTB North Carolina, PC 2010).

Wastewater within the project study area is provided by the Metropolitan Sewer District of Buncombe County. Sewer lines are located throughout the project study area. Service areas within the project study area include most incorporated portions of Asheville and Woodfin and the Hominy Creek area in the southern portion of the project study area. The locations of water and sewer lines are shown on Figures 3-9a and 3-9b.

Natural gas is distributed and serviced throughout the project study area by the Public Service Company of North Carolina.

Telephone service is provided to the project study area by Bell South and AT&T. Bell South and AT&T have telephone and fiber optic cable along the major roads (including Patton Avenue) crossing the project. Overhead telephone lines and buried cable supported by Bell South are present on the northwest side of the project study area, near Brevard Road.

3.3.5 VISUAL QUALITY

Located in the mountainous regional landscape of North Carolina, the visual background of the project study area is comprised of changes in elevation punctuated by peaks, ridge lines, and valleys, and the winding course of the French Broad River. The city of Asheville is generally situated on a hill crest on a mountainous plateau along the French Broad River. The project study area runs in a north-south direction just west of the Asheville downtown area.

The visual features in the project study area consist of a variety of manmade and natural landscapes that include residential neighborhoods, industrial development, scattered homes, transportation (streets and highways) features, wooded uplands, streams, and the French Broad River. The project study area is comprised of three sections from south to north (Sections C, A, and B). Each of the three sections has a corresponding viewshed, the features and attributes of which are described in the DEIS.

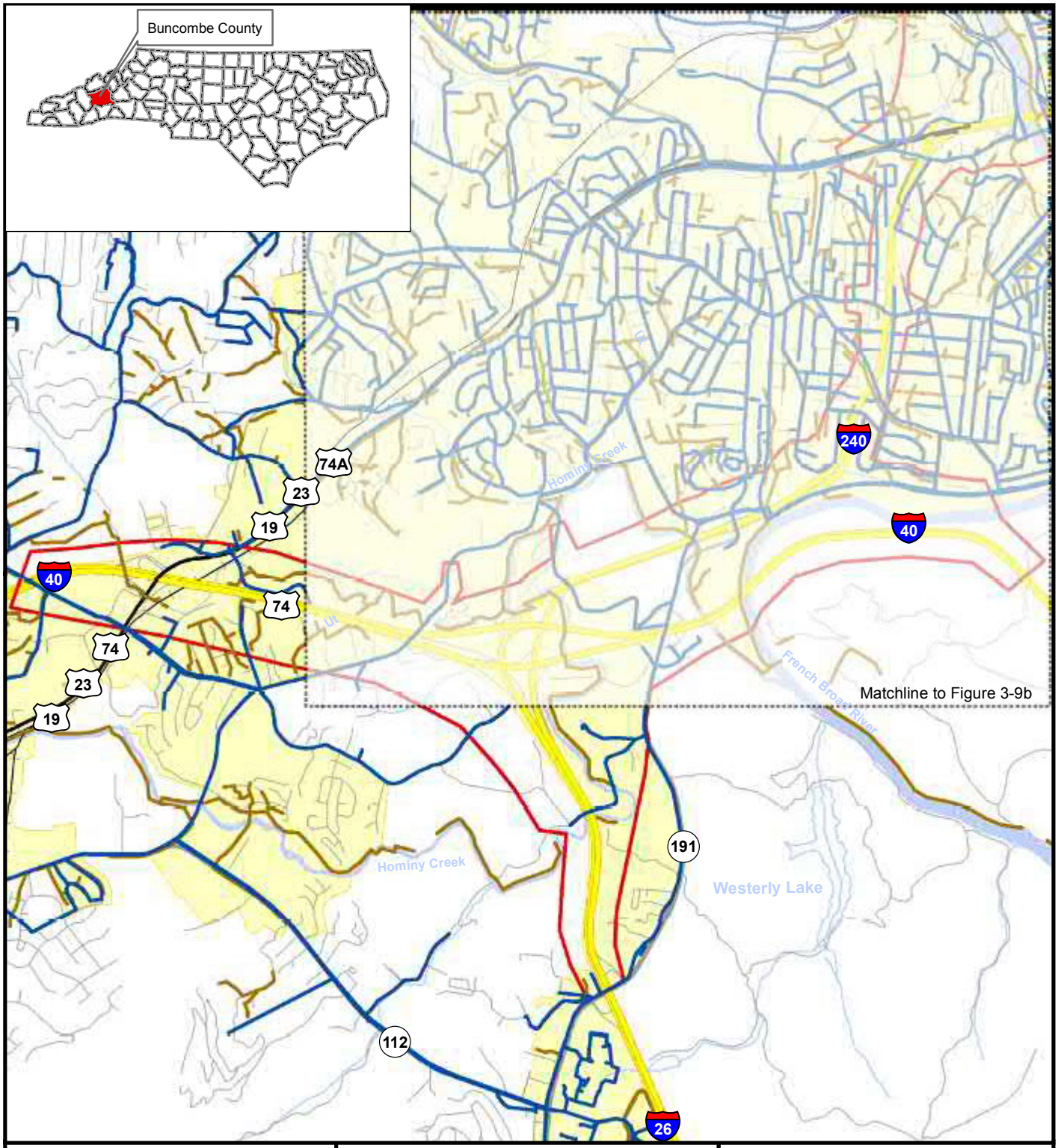
3.3.6 HAZARDOUS MATERIAL

Hazardous material sites are regulated by the Resource Conservation Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Hazardous materials are generally defined as material or a combination of materials that present a potential hazard to human health or the environment.

After selection of a LEDPA, the NCDOT GeoEnvironmental Unit provided an updated list of potentially hazardous sites within the project study area, which included 51 potential hazardous sites, as shown in Table 3-10 and on Figure 3-10.

No hazardous waste sites were identified within the project limits.

A Preliminary Site Assessment report was prepared in 1993 for an abandoned landfill located between Riverside Drive (SR 1477) and the French Broad River (Environmental Investigations, Inc. 1993, NCDOT 1993b). Based on observations of materials disposed of in the landfill, it is not likely that state or federal Superfund agencies would consider this site an imminent hazard or require evaluation (NCDOT 1993b).



North Carolina Department of Transportation

Legend

- Water Lines
- Sewer Lines
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: May 2018

N W E S

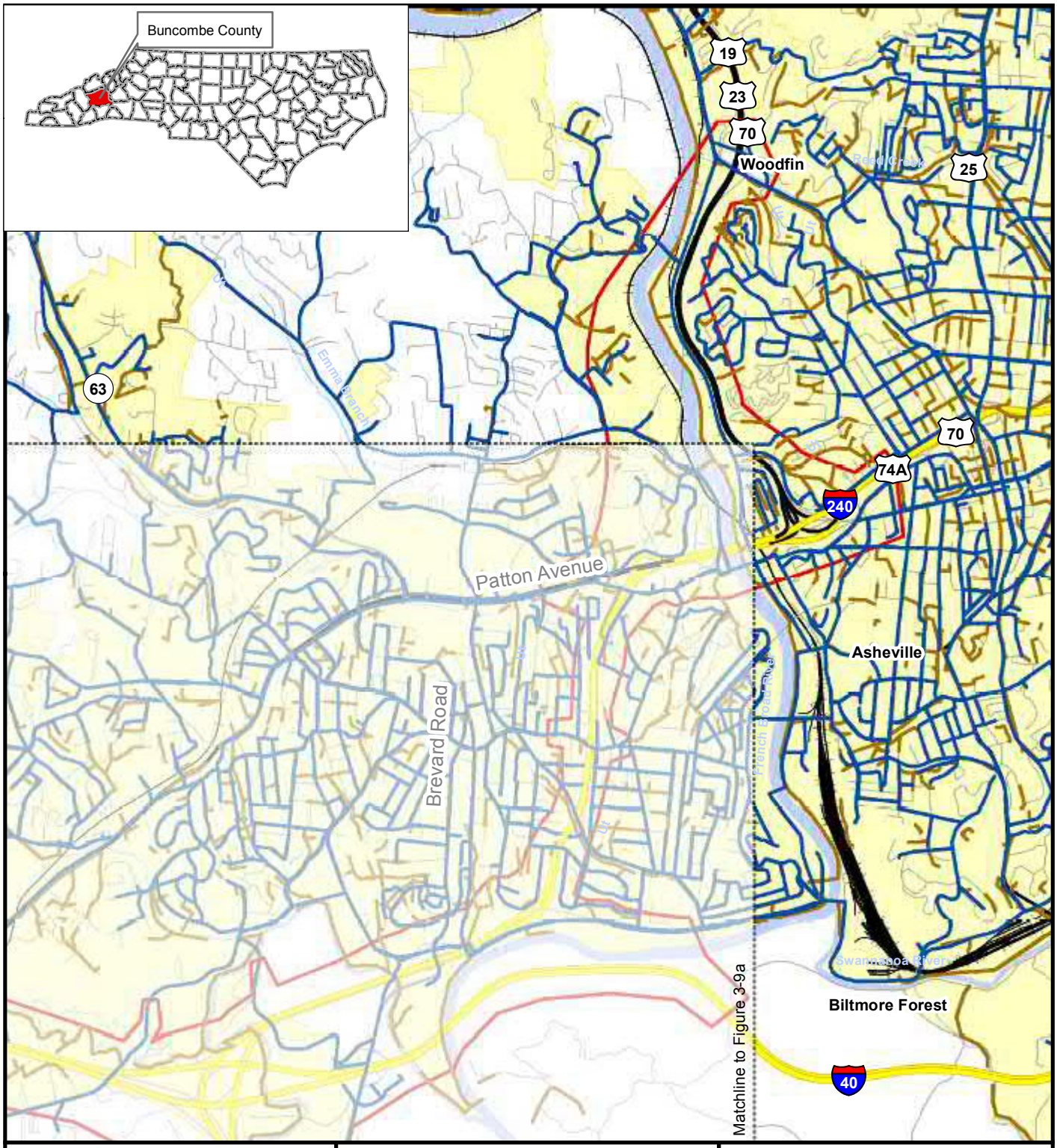
0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-9a

Utilities



North Carolina Department of Transportation

Legend

- Water Lines
- Sewer Lines
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: May 2018

N W E S

0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-9b

Utilities

Table 3-10: USTs, Landfills, and Other Potentially Contaminated Sites

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
1	UST	95 Highland Center Boulevard	0-004206	Silver Brothers Inc.	T Pressley Trucking/Silver Brothers Property LLC	Petroleum-contaminated soils	Low	Former T. Pressley Trucking; 7 tanks closed in 1999; GWI 21627
2	Truck Shop	100 Highland Center Boulevard	N/A	West Carolina Freightliner	Farm Equipment Company of Asheville Inc.	Petroleum-contaminated soils	Low	Currently West Carolina Freightliner; truck shop
3	UST	301 Smoky Park Highway	0-000439	Mountain Energy # 18	Mountain Energy Corporation/ Morgan Legacy LLC	Petroleum-contaminated soils	Low	Active gas station/store; four tanks closed in 1994 and 5 current tanks; GWI 3754
4	UST	295 Smoky Park Highway	0-004255	Quality Properties LP	Mountain Empire Oil Company	Petroleum-contaminated soils	Low	Active gas station/store; five tanks closed in 1987, one tank closed in 1994 and four current tanks; GWI 10386, 22147
5	UST	305 Smoky Park Highway	0-007340	Dunkin Donuts	Citizens Fuel Company Superior Properties of Asheville	Petroleum-contaminated soils	Low	Currently Dunkin Donuts; Former Citizens Fuel Co #11; four tanks closed in 2004; GWI# 3752
6	Auto Repair Shop	9 Crowell Road	N/A	Smoky Mountain Auto Service	Marion Waldman and Roland Herbstreit	Petroleum-contaminated soils	Low	Operates as a repair shop
7	UST	285 Smoky Park Highway	Unknown	Leonard's Auto Mart	Leonard and Veronica Crook	Petroleum-contaminated soils	Low	Old service station; facility ID unknown; currently used car lot

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
8	UST	266 Smoky Park Highway	0-004596	Several Businesses Mountain Tops Inc.	Adam Cornelia	Petroleum-contaminated soils	Low	Old service station (possibly former Smoky Park Chevron)
9	Machine Shop	90 McIntosh Road	N/A	Mitch's	William Bethune Trustee	TCH-contaminated soils	Low	RCRA requires soil cleanup; GWI# 13788
10	UST	99 Pond Road	N/A	JMJ Tomato Properties LLC	JMJ Tomato Properties LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; I-4400/4700 Site # 21 & B-5178 Site 3
11	Construction Debris	116 Pond Road	N/A	Henson's Inc. Mulch & More	Murmax, LLC	Construction, municipal and industrial yard waste	Low	Currently operates as landscaping supply facility; I-4400/4700 Site # 22 & B-5178 Site 4
12	UST	80 Pond Road	0-036323	Southern Concrete Materials Inc.	Southern Concrete Materials Inc.	Petroleum-contaminated soils	Low	Currently a concrete plant; former Pond Road Landfill; I-4400/ 4700 Site # 20 & B-5178 Site 2
13	Landfill/ Recycling	79 Pond Road	N/A	Mountain Metals recycling	Sonia G. Gribble	Brownfields Program Pond Road Landfill 09032-05-11	Low to Moderate	Currently a recycling center; former Pond Road Landfill; I-4400/4700 Site # 19 & B-5178 Site 1
14	UST Recycling	24 Pond Road	0-007878	Waste Management Recycling	Waste Management of Asheville/Waste Management of Carolinas Inc.	Petroleum-contaminated soils	Low	Currently a recycling facility; four tanks closed in 1992

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
15	UST	601 Brevard Road	0-004214	Former Homer Smith Exxon	Homer Smith	Petroleum-contaminated soils	Low	Currently junk car; four tanks closed in 1998; GWI# 19970
16	UST	589 Brevard Road	0-004608	Subway Quick Trip # 1	ISI Enterprise	Petroleum-contaminated soils	Low	Restaurant/gas station; five tanks closed in 2007; three current tanks; GWI# 28302
17	UST	251 E. Oakview Road (12 East Oakview Road)	0-007247	Thurston Motor Line	Ed Weisiger (UST Owner) Thurston Motor Line	Petroleum-contaminated soils	Low	Former Brown Transport; currently may be Duke Carolina Progress
18	UST	40 Interstate Boulevard	N/A	Carolina Cat	Beacon Partners #8 LLC	Petroleum-contaminated soils/solvents	Low	Caterpillar Diesel Repair shop; former Carolina Tractor
19	Waste	190 Hominy Creek Road	NCD980558 035	Hominy Creek Landfill	Buncombe County	Waste	Low to moderate	Transfer station; dump closed in 1973
20	UST	380 Brevard Road	0-031264	Aston Park Health Center	Aston Park Health Center	Petroleum-contaminated soils	Low	One UST closed in 1990
21	UST	75 Shelburne Road	0-024263	National Guard Armory	National Guard State of NC	Petroleum-contaminated soils	Low	Three USTs closed in 1993, 1995, and 1999
22	UST	225 Amboy Road	0-004395	Wilsons RV Repair	Wilsons Mobile Home repairs/ Flora J. Wilson	Petroleum-contaminated soils	Low	Two USTs closed in 1989
23	Paint/Body Shop	448 Haywood Road	N/A	Silvers Auto Service	Michael D. Silver	Solvents	Low	Auto Repair Paint & Body Shop
24	UST	441 Haywood Road	0-030207	Asheville Pre School	Asheville BOE	Petroleum-contaminated soils	Low	Former Aycock Elem School; one current 15,000-gallon heating oil UST

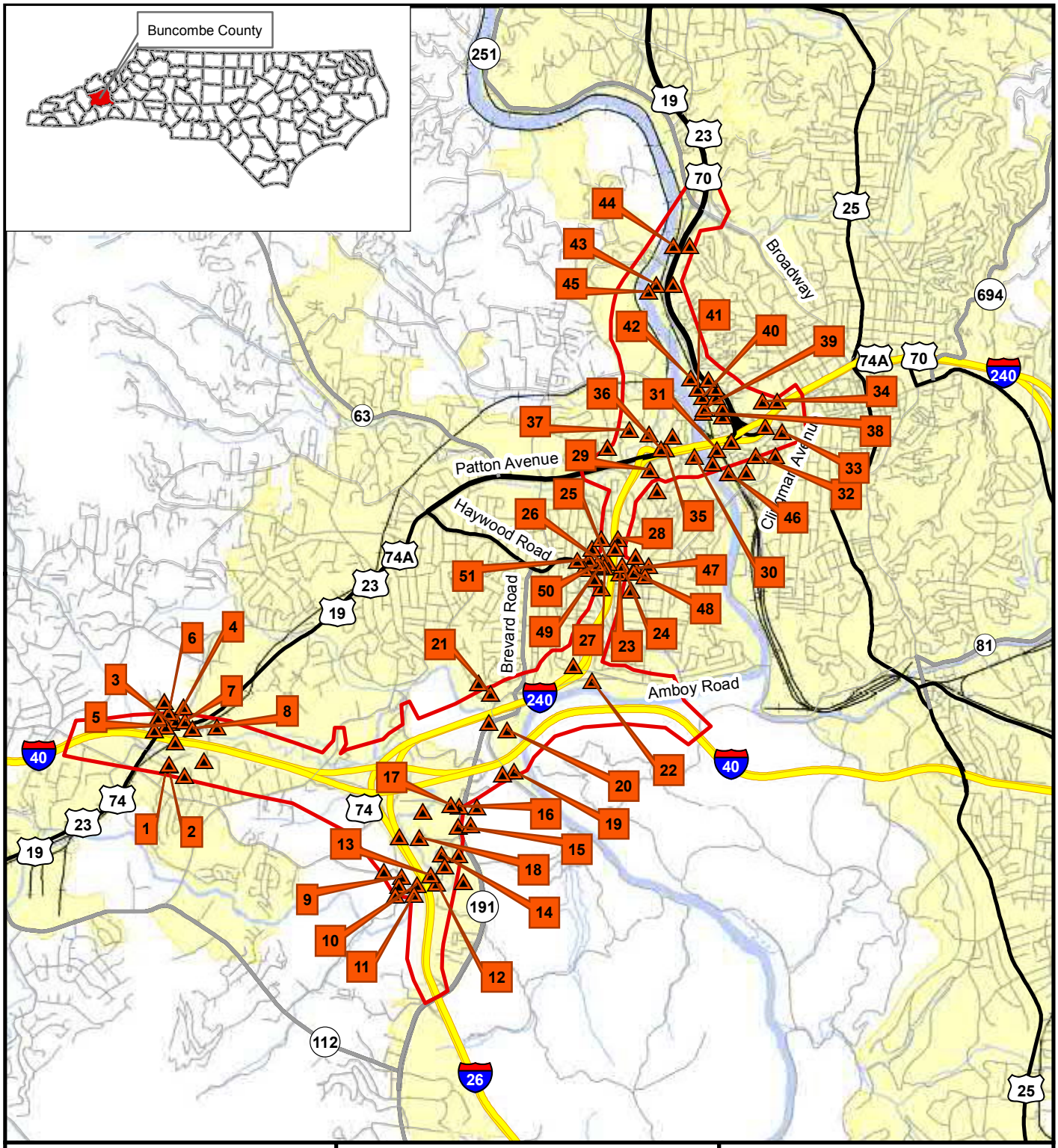
Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
25	UST	495 Haywood Road	0-032429	Haywood Quick Stop	DEU Enterprises/ Samuel J. Couch	Petroleum-contaminated soils	Low	Current convenience store; five current USTs
26	UST	507 Haywood Road	0-004483	Speedy Income Tax	Warren and Dianne Davenport	Petroleum-contaminated soils	Low	Former Frito Lay of Asheville; one UST closed in 1989
27	UST	476 Haywood Road	N/A	Daggitts Pawn	David E. Stevens	Petroleum-contaminated soils	Low	May have been a store/gas station at one time; no UST Information
28	UST	74 Argyle Lane	N/A	MCC Outdoor LLC	MCC Outdoor LLC	Petroleum-contaminated soils	Low	Vacant property; building footprint still visible; no UST information
29	UST	640 Patton Avenue (111 Hazel Mill Road)	0-021574	FedEx Shipping Center	FedEx Corp/Cole FE Asheville NC LLC	Petroleum-contaminated soils	Low	Two USTs closed in 1997 and 2000; NFA issued for Incidents 17600 & 20496
30	UST	167 Craven Street	0-004506	Currently a vacant lot	Buncombe County BOE/City of Asheville	Petroleum-contaminated soils	Low	Former Buncombe Co BOE Maintenance facility; six USTs closed between 1990 and 2008; GWIs 7402, 7404, and 7387 have been closed out
31	UST	300 Riverside Drive	0-021251	Former Westall-Chandley Lumber Company	Johnson-Chandley Lumber Company/ T&T Enterprises	Petroleum-contaminated soils	Low	GWI #16114; one UST removed in 1991 (A-0010A Site 1)
32	UST	360 West Haywood Street	0-003636	Asheville Transit Authority	City of Asheville	Petroleum-contaminated soils	Low	Two USTs closed in 1993 and one closed in 1994; GWI #10964 and 28130

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
33	UST	252 Patton Avenue	0-004339	Hunter Volvo	Paul S. Meeker	Petroleum-contaminated soils	Low	Formerly Meeker Lincoln-Mercury; one UST closed in place in 1989, one UST removed in 1992; GWI 8986 closed out in 1992
34	UST	125 Hill Street	0-030212	Dickson Elementary	Asheville City BOE	Petroleum-contaminated soils	Low	One current 10,000-gallon heating oil UST
35	UST	635 Patton Avenue	0-007590	The Auto Connection	Service Distributing Co/York Real Estate Investment LMT PTN	Petroleum-contaminated soils	Low	Former Serco Gas Station; four USTs closed in 2000; GWI# 22680 (A-0010A Site 2)
36	UST	639 Patton Avenue	N/A	Mr. Transmission	Jerry and Betty Jo Dean	Petroleum-contaminated soils	Low	Currently has in ground lifts (I-4400/4700 Site 12)
37	UST	645 Patton Avenue	0-036181	Sam's Club # 6452	Sams East, Inc./ Sams Real Estate Business Trust	Petroleum-contaminated soils	Low	Active gas station; three current USTs (I-4400/4700 Site 11)
38	Junk Yard	444 Riverside Drive	N/A	Asheville Auto Auction	Asheville Auto Auction Inc.	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 site # 15); see comments Site 45
39	Junk yard	448 Riverside Drive	N/A	Riverside Auto Parts	Scott Banks	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information; See comments Site 45
40	Junk yard	452 Riverside Drive	N/A	A-1 Towing and Used Cars	Thomas A. Hutchinson	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 Site 16); see comments Site 45

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
41	Farm Supplies	464 Riverside Drive	N/A	Southern States Farm Supply	Southern States Corporation	Pesticide	Low	Currently Southern States Farm Supplies; no UST information; see comments Site 45
42	Junk yard	665 Riverside Drive	N/A	Asheville Auto Parts	Terri S. Eury	Petroleum-contaminated soils	Low	Junk yard; no UST information; see comments Site 45
43	UST	690 Riverside Drive	0-007332	Riverside Stump Dump	Farm Equipment Co. of Asheville	Petroleum-contaminated soils	Low	Former Farm Equipment Co. of Asheville; four USTs closed in 1990 (A-0010A Site 4); see comments Site 45
44	UST	796 Riverside Drive	N/A	The Byway	Agiqua LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; see comments Site 45
45	Landfill	Along the Bank of the French Broad River	N/A	N/A	N/A	Landfill materials of unknown composition	High	Area along the French Broad River is the site of historic uncontrolled landfilling; site-specific data are needed for any route selected
46	Textile Manufacturing	122 Riverside Drive (formerly 191 Riverside Drive)	N/A	Cotton Mill Studios	River Link, Inc.	Petroleum-contaminated soils, PCE in groundwater	Low to Moderate	Brownfields Program Historic Cotton Mill 07015-03-11
47	UST	405 Haywood Road	0-000796	Gas-Up	Julian Agbala	Petroleum-contaminated soils	Low	Active gas station with six current tanks
48	UST	402 Haywood Road	N/A	B&K Auto Repair	James Ertzberger	Petroleum-contaminated soils	Low	Possible former gas station; no UST information

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
49	UST	514 Haywood Road	N/A	Orellanas Auto & Tire Shop	Gerald Brooks	Petroleum-contaminated soils	Low	Possible former gas station; no UST information
50	UST	520 Haywood Road	N/A	C&J Motorcycle Service	J&J Motor Sports, LLC	Petroleum-contaminated soils	Low	Former gas station; no UST information
51	UST	547 Haywood Road	0-004386	Legal Aid of NC	R.N. Jarvis/ Thomas & Ann Franks	Petroleum-contaminated soils	Low	Former Jarvis Gulf gas station; six tanks closed in 1988

Source: Revised Geotechnical Pre-Scoping Report (NCDOT 2014c)



North Carolina Department of Transportation

Legend

- Hazardous Material Sites
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: May 2018

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-10

Hazardous Materials Sites

3.3.7 MINERAL RESOURCES

The project is located within the Blue Ridge Physiological Province. This province is characterized by mountainous areas of steep ridges, intermountain basins, and valleys that intersect at all angles, giving the area its rugged character.

The project study area is underlain by the Rome Formation, which is characterized by shale and siltstone interbedded with fine-grained sandstone and shaly dolomite. The geology of the Blue Ridge Province is made up of a complex mixture of granite, gneiss, volcanic, and sedimentary rock that has been compressed, broken, faulted, and twisted into folds. This region contains deposits of mica, feldspar, and quartz, which are useful in the ceramic, paint, and electronic industries. Rocks underlying Asheville are included in the Ashe Metamorphic Suite, Tallulah Falls Formation, and Alligator Back Formation, which were deposited 600 to 800 million years ago in the Precambrian era. At that time, sand, clay, and rocks were washed into a sea and mixed with material ejected from nearby volcanoes. Through plate tectonics, deeply buried rocks were altered by intense pressure and heat to form metamorphic gneiss and schist, which, in combination with granitic rocks, eventually formed the Appalachian Mountain chain (Ecoscience Corporation 2010).

Crushed stone, sand, and fieldstone are mined in the Asheville area. Crushed stone is necessary for all types of road construction and in any construction that requires the use of concrete. The Asheville area has an abundant supply of crushed stone. Other valuable and useful mineral commodities are produced in the region surrounding Asheville and Buncombe County; however, there are no active mines or quarries within or near the project study area.

3.3.8 FLOODPLAINS/FLOODWAYS

The project study area is contained within the French Broad River Basin, which is located west of the Eastern Continental Divide. The entire basin covers approximately 2,830 square miles (Federal Emergency Management Agency [FEMA] 2010). The project study area lies within the French Broad River sub-basin, approximately 54 miles downstream of the headwaters of the French Broad.

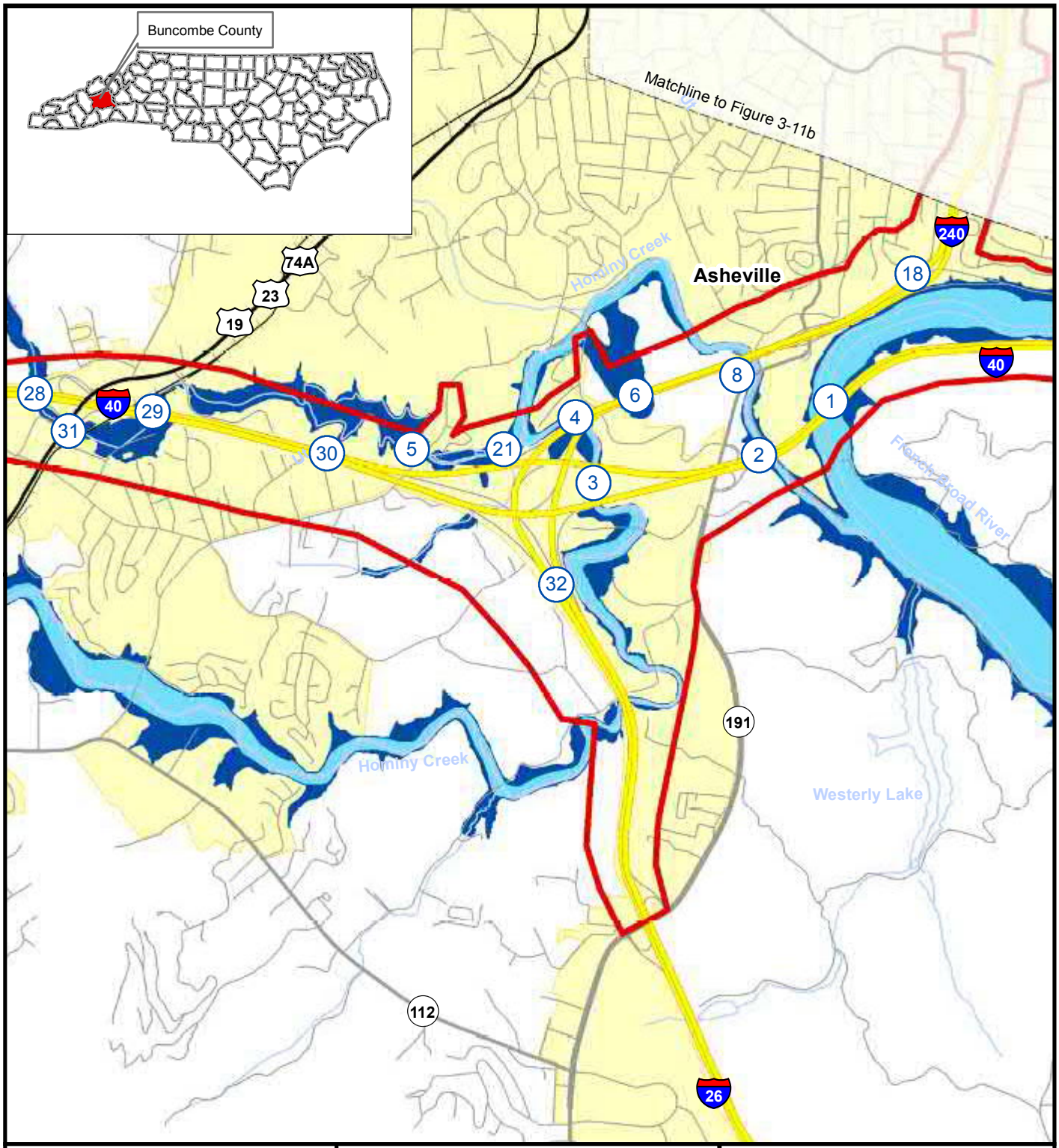
A principal tributary to the French Broad River in the Asheville vicinity is Hominy Creek. The only other named tributary to the French Broad River crossed by the project is Smith Mill Creek.

The existing roadways within the project study area include 23 crossings of FEMA floodplains. Table 3-11 and Figures 3-11a and 3-11b include an inventory of the existing crossings and the existing hydraulic features at the floodplain locations.

Table 3-11: Existing Hydraulic Crossings

Site	Stream	Location	Existing Structure
1	French Broad River	I-40, east of I-26	Bridges 356 and 352
2	Hominy Creek	I-40, east of NC 191	Bridges 344 and 347
3	Hominy Creek	I-40, east of I-26	Bridges 334 and 339
4	Hominy Creek	I-240, north of I-40	Bridges 70 and 66
5	Ragsdale Creek	SR 3412	Dual 9 foot by 9 foot box culvert
6	Unnamed Tributary to Hominy Creek	I-240, north of I-40	Dual 9 foot by 9 foot box culvert
8	Hominy Creek	I-240, west of NC 191	Bridges 206 and 208
13	French Broad River	I-240/Patton Avenue	Existing Captain Jeff Bowen Bridges 322 and 323
16	Reed Creek	US 19-23-70 and interchange	US 19-23-70 crosses over on Bridge 289 and ramps have box culvert crossings
17	Smith Mill Creek	Patton Avenue	Triple 8 foot by 11-foot box culverts
18	Unnamed Tributary 2A to French Broad River	I-240/Amboy Road	Single 48 inch pipe
19	Moore Branch	I-240, north of Amboy Road	Single 48 inch pipe
20	Unnamed Tributary 3C to Lower Hominy Creek	Shelburne Road	Single 66 inch pipe
21	Unnamed Tributary to Ragsdale Creek	I-40, west of I-240 and I-240 ramp	Single 6 foot by 9 foot box culvert
24	Tributary to French Broad River	US 19-23-70 and Riverside Drive	Single 8-foot by 8-foot box culvert
25	Tributary to French Broad River	US 19-23-70 and Riverside Drive	Single 84 inch pipe
28	Ragsdale Creek	I-40 West CD	Triple 7 foot by 9 foot box culverts
29	Ragsdale Creek	I-40 West CD	Triple 8 foot by 8 foot box culverts
30	Unnamed Tributary to Ragsdale Creek	I-40 West CD	One 48 inch pipe and one 30 inch pipe
31	*Ragsdale Creek*	*US 19/23*	*Triple 7-foot by 8-foot box culvert*
32	*UT to Hominy Creek*	*I-26/I-240*	*Single 60 inch pipe*
33	*UT to French Broad River*	*I-40/US 19*	*Single 66 inch pipe*
99	*UT to French Broad River*		*Single 60 inch pipe*

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b); *Hydraulic Aspects Report Addendum* (AECOM 2018b).



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Floodway
- Water
- 100 Year Floodplain
- Project Study Area
- Municipal Boundaries
- (7) Crossing Site Number

Date: May 2018

N W E S

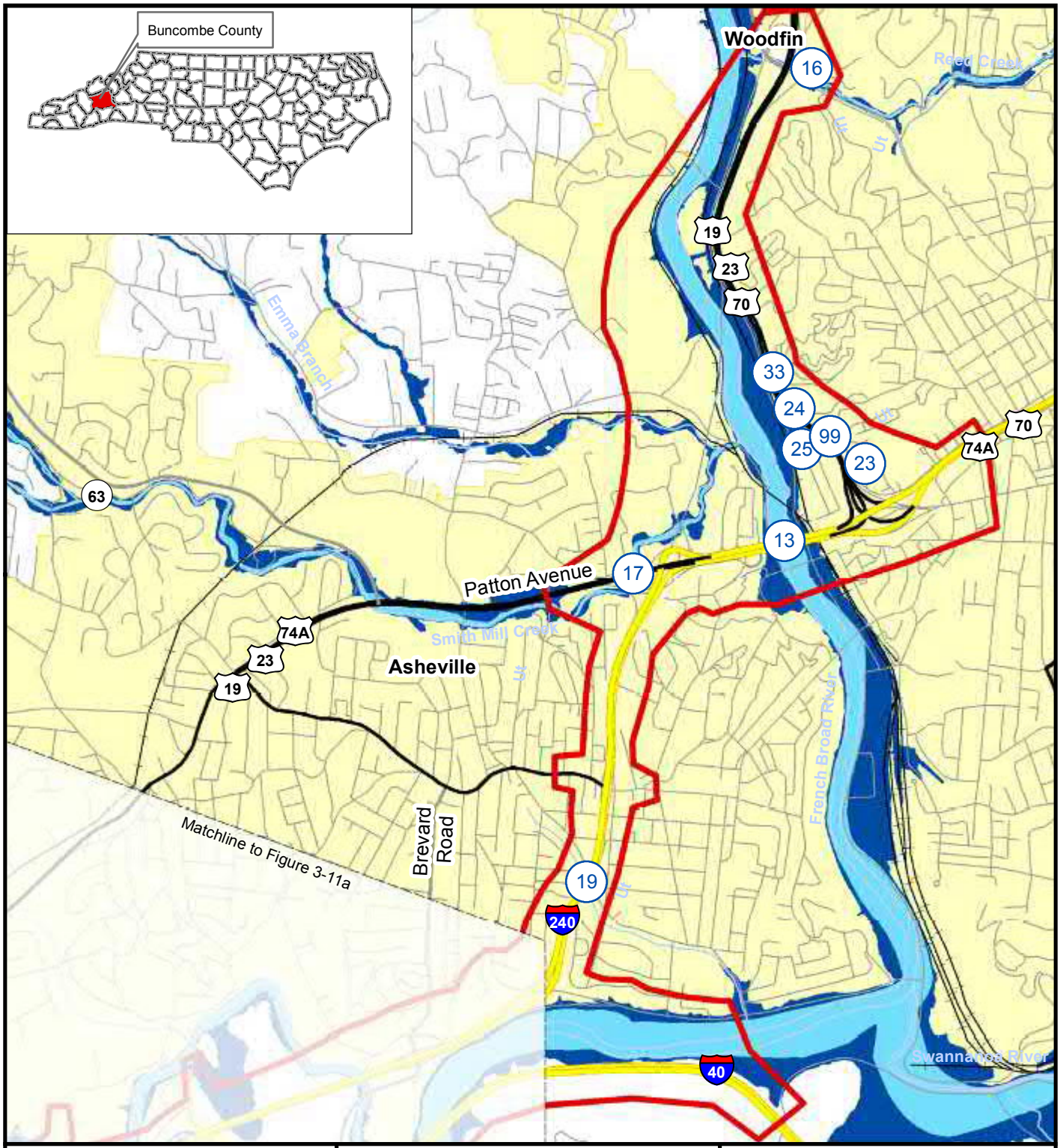
0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-11a

Floodplains and Floodways



North Carolina Department of Transportation

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Project Study Area
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Floodway
- Water
- 100 Year Floodplain
- Municipal Boundaries
- (9) Crossing Site Number

Date: May 2018

N W E S

0 0.25 0.5 Miles

Figure 3-11b

Floodplains and Floodways

3.3.9 PROTECTED LANDS

3.3.9.1 Wild and Scenic Rivers

Congress adopted the National Wild and Scenic Rivers Act in 1968 (Public Law 90-542; 16 U.S.C. 1271) to preserve certain rivers with outstanding natural, cultural, or recreational features in a free-flowing condition.

No rivers or sections of river within or near the project study area are designated as Wild, Scenic, or Recreational under the National Wild and Scenic Rivers Act (NPS 2018).

In 1971, North Carolina also passed a Natural and Scenic Rivers Act. There are no rivers or sections of rivers within or near the project study area that are designated under the North Carolina Natural and Scenic Rivers Act (NCDENR 2007).

3.3.9.2 State/National Forests

There are no state or national forests in the project study area; however, the Pisgah National Forest is located approximately 2 miles southwest of the I-26/I-40 interchange. The Pisgah National Forest consists of over one-half million acres of forest surrounding Mount Pisgah. It is owned and managed by the US Forest Service.

The Blue Ridge Parkway enters the Pisgah National Forest approximately 5 miles south of the project study area. The Parkway consists of 469 miles of scenic roadway that connects the Shenandoah National Park in Virginia with the Great Smoky Mountains National Park in North Carolina and Tennessee. The Parkway is a Designated All-American Road and is managed by the NPS. Several smaller parks and trails branch from the Parkway.

3.3.9.3 Gamelands and Preservation Areas

There are no gamelands in the project study area. A bear sanctuary, managed jointly by the US Forest Service and the North Carolina Wildlife Resources Commission (NCWRC), is located within the Pisgah National Forest. The sanctuary is located in the interior portion of the park, in Transylvania County. Within the northern portion of the project study area, the French Broad River is designated as a Land Trust Priority Area.

3.4 CULTURAL RESOURCES

The project is subject to compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, in which it is stated:

> The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure,

> or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking. (16 U.S.C. 470f)
>
> Section 110(f) of the NHPA requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect National Historic Landmarks (NHLs). The law requires that agencies, "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark." In those cases when an agency's undertaking directly and adversely affects an NHL, or when Federal permits, licenses, grants, and other programs and projects under its jurisdiction or carried out by a state or local government pursuant to a Federal delegation or approval so affect an NHL, the agency should consider all prudent and feasible alternatives to avoid an "adverse effect" on the NHL. [Sec. 110(a)(2)(B) and Sec. 110(f)].

The methods used to identify historic architectural and archaeological resources in the project study area and the results of those investigations are described in this section.

3.4.1 HISTORIC ARCHITECTURAL RESOURCES

The information in this section is from the *Historic Architectural Resources Survey Update Report* prepared for this project (Acme Preservation Services, LLC 2015) based on the earlier *Historic Architectural Resources Survey Report* (Alexander Mattson and Associates, Inc. 2006). The 2006 Historic Architectural Resources Survey was undertaken in accordance with the Department of Transportation Act of 1966, Section 106 of the NHPA of 1966, as amended (36 CFR 800), and the FHWA's *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (USDOT/FHWA 1987). The survey followed the 2003 *Section 106 Procedures and Report Guidelines* (NCDOT 2003b).

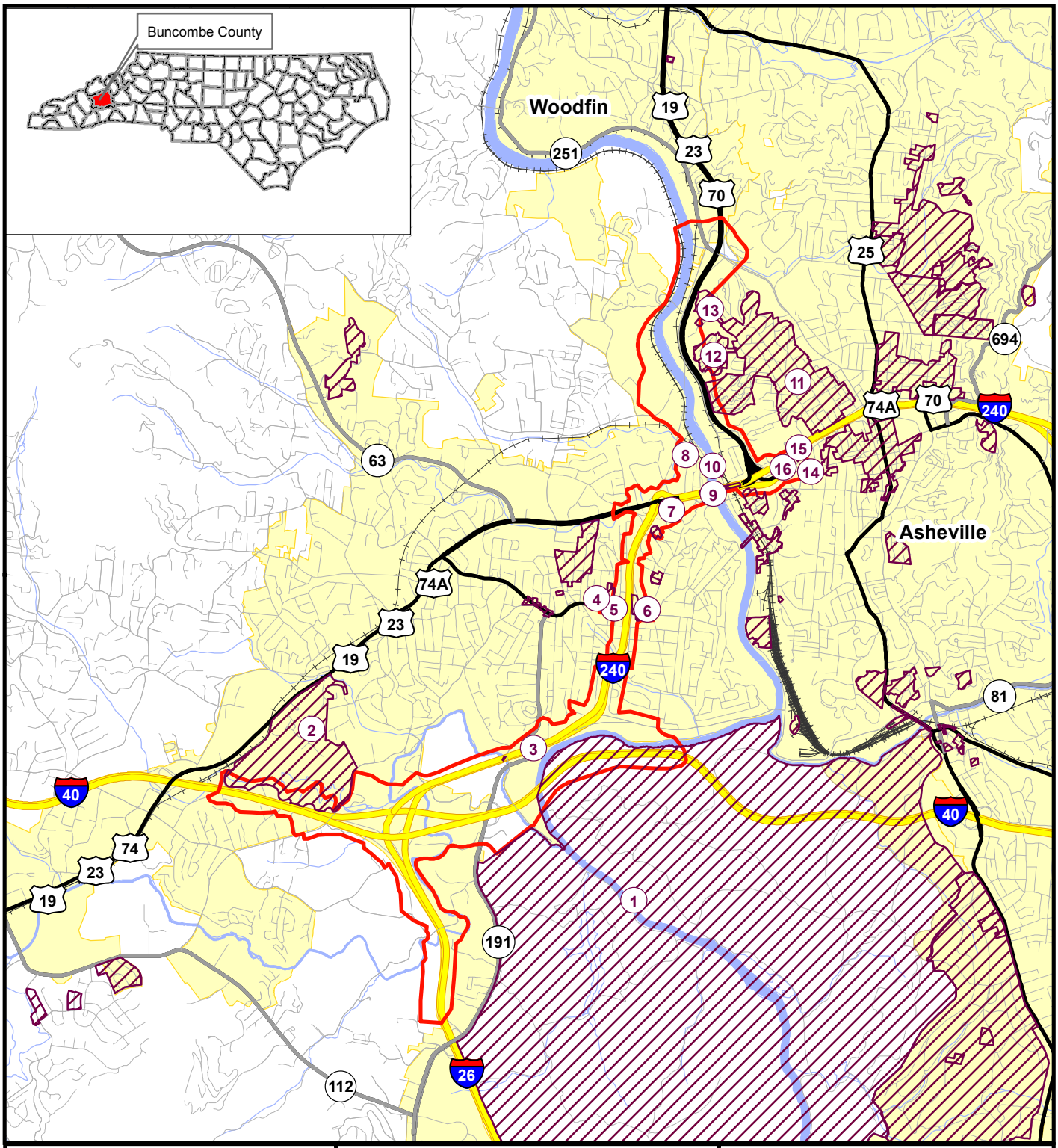
The survey was conducted with the following goals: (1) to determine the historic architectural area of potential effects (APE) for the project, which is defined as the geographic area or areas within which a project may cause changes to the character or use of historic properties, if any such properties exist; (2) to identify all resources of at least 50 years of age within the historic architectural APE; and (3) to evaluate these resources according to NRHP criteria (36 CFR 60).

All historic resources were identified and surveyed in the historic architectural APE. Fifteen of these resources were listed in the NRHP (NRHP-listed) or determined eligible for listing (NRHP-eligible). These historic resources are summarized in Table 3-12 and shown on Figure 3-12. A letter from the State Historic Preservation Officer (SHPO) concurring with the status of the historic resources as listed in the table is provided in Appendix C. Detailed descriptions and photographs of the resources are provided in the *Historic Architectural Resources Survey Update Report* and the 2015 DEIS (Acme Preservation Services, LLC 2015). Additional details about historic sites that are also subject to Section 4(f) requirements are provided in Chapter 5.

Table 3-12: Historic Architectural Resources in the APE

Name	Type	No. on Figure
Biltmore Estate	NHL	1
Asheville School	NRHP-listed	2
Buncombe County Bridge 216	NRHP-eligible	3
Calvary Baptist Church	NRHP-eligible	4
Baker Building	NRHP-eligible	5
West Asheville/Aycock School Historic District	NRHP-listed	6
William Worley House	NRHP-eligible	7
Freeman House	NRHP-eligible	8
Mrs. Minnie Alexander Cottage	NRHP-listed	9
Buncombe County Bridge 323 (formerly Great Smoky Mountains Park Bridge)	NRHP-eligible	10
Southern Railroad Bridge	NRHP-eligible	11
Montford Area Historic District	NRHP-listed	12
Montford Hills	NRHP-eligible	13
Montford Hills & Hibriten Drive Boundary Expansion	NRHP-eligible	14
Whiteford G. Smith House	NRHP-listed	15
Haywood Street United Methodist Church	NRHP-eligible	16

Source: *Historic Architectural Resources Survey Update Report* (Acme Preservation Services, LLC 2015).



North Carolina Department of Transportation

Legend

- Historic Resource
- Historic Resources
- Area of Potential Effect
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018

N W E S

0 0.5 1 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-12

Historic Architectural Resources

3.4.2 ARCHAEOLOGICAL RESOURCES

The methods and findings of the archaeological investigations conducted for the project are reported in detail in the Revised Draft Report, Archaeological Survey and Evaluation for the I-26 Asheville Connector, Buncombe County, North Carolina (Archaeological Survey and Evaluation Report) *(TRC Garrow Associates, Inc. 2007). Background research, field work, and analysis were used to identify archaeological resources within the archaeological APE for the project. The archaeological APE and survey areas for the project were identified by NCDOT. The results of the archaeological investigations described in the report are presented in this section.*

The Archaeological Survey and Evaluation Report *revisited and identified 29 archaeological resources. These resources include 1 previously-recorded site (31BN623) and 28 newly-identified sites. Of the 29 resources, 4 were recommended as eligible for the National Register of Historic Places (NRHP), 18 were recommended as not eligible for the NRHP, and 7 were recommended for further work (mechanically-assisted stripping and/or deep testing) to make an informed NRHP-eligibility recommendation. These findings are summarized in Table 3-13.*

Table 3-13: Archaeological Resources

Site Number	Finding	Site Number	Finding
31BN623	Recommended eligible for NRHP listing	31BN830	Recommended not eligible for NRHP listing
31BN825	Recommended eligible for NRHP listing	31BN831	Recommended not eligible for NRHP listing
31BN826	Recommended eligible for NRHP listing	31BN832	Recommended not eligible for NRHP listing
31BN828	Recommended eligible for NRHP listing	31BN833	Recommended not eligible for NRHP listing
31BN815	Recommended not eligible for NRHP listing	31BN869	Recommended not eligible for NRHP listing
31BN816	Recommended not eligible for NRHP listing	31BN872	Recommended not eligible for NRHP listing
31BN817	Recommended not eligible for NRHP listing	31BN876	Recommended not eligible for NRHP listing
31BN818	Recommended not eligible for NRHP listing	31BN814	Recommended for further testing
31BN819	Recommended not eligible for NRHP listing	31BN823	Recommended for further testing
31BN820	Recommended not eligible for NRHP listing	31BN867	Recommended for further testing
31BN821	Recommended not eligible for NRHP listing	31BN868	Recommended for further testing
31BN822	Recommended not eligible for NRHP listing	31BN870	Recommended for further testing
31BN824	Recommended not eligible for NRHP listing	31BN871	Recommended for further testing

Site Number	Finding	Site Number	Finding
31BN827	Recommended not eligible for NRHP listing	31BN873	Recommended for further testing
31BN829	Recommended not eligible for NRHP listing		

In addition to the 29 archaeological resources, the Archaeological Survey and Evaluation Report *recommended that several areas should be subjected to mechanically-assisted deep testing to identify whether any buried sites are present. These include floodplain and terrace formations along Hominy Creek, Smith Mill Creek, and the French Broad River.*

In September 2017, NCDOT archaeological personnel compared the design plans with recorded sites and areas recommended for deep testing with heavy machinery. Site maps from the DEIS were inspected to identify overlapping project limits that may create an adverse effect. This review resulted in the following recommendations. It was determined no additional survey work would be needed because all design elements fall within the previously-surveyed APE. NRHP-eligible site 31BN826 will be adversely affected, and these adverse effects will be mitigated. NRHP-eligible site 31BN828 will not be adversely affected. Although site 31BN623 is NRHP eligible, it was determined during a meeting with SHPO and FHWA on June 30, 2015, that the placement of fill over a portion of the site would have a no adverse effect with conditions that iron markers be placed adjacent to structural remains to mark their extent prior to the placement of fill. Five locations totaling 22 acres will require deep testing, and five known archaeological sites not yet assessed for NRHP-eligibility will be evaluated during the deep testing program. All further work will be carried out once right-of-way is acquired.

3.4.2.1 NRHP-Eligible Resources

Of the 29 resources identified during the I-2513 archaeological survey and testing project, 4 sites (31BN623, 32BN825, 31BN826, and 31BN828) were recommended eligible for the NRHP. Two of these four resources (31BN623 and 31BN826) are located within the preferred alternative and will be impacted; site 31BN828 and 31BN825 are located within the existing right-of-way, but will be avoided. A commitment to avoidance of site 31BN828 and 31BN825 will be carried forward through the construction phase of the project. If avoidance of adverse effects to 31BN828 and 31BN825 is deemed not possible, a data recovery plan should be developed and executed to compensate for impacts to the site.

Site 31BN623, which is believed to represent the remains of the early twentieth century Lower Hominy Creek Hydroelectric Plant, is recommended NRHP-eligible under Criterion A due to its association with the early hydroelectric and streetcar industries. The site does not appear to have archaeological research potential and so is not eligible for the NRHP under Criterion D. A meeting was held with staff from SHPO and FHWA on June 30, 2015, to discuss effects to site 31BN623. Fill associated with the project will cover a small portion of one wall feature. It was agreed that this would have a no adverse effect upon the site with the commitment that NCDOT place iron markers at either end of the wall to mark its extent prior to the placement of fill.

Site 31BN826 consists of an upland lithic scatters overlooking Ragsdale Creek (formerly Lake Ashnoca). It appears to date primarily to the Late Archaic period, although no diagnostic artifacts were found. Site 31BN826 is recommended NRHP-eligible under Criterion D and falls within the proposed right of way for the preferred alternative. Data recovery excavations are recommended to mitigate any effects caused by construction of the project.

3.4.2.2 NRHP-Unassessed Resources and Deep Testing Areas

As stated in the DEIS, seven other archaeological sites (Table 3-13) were recommended for additional investigations as a result of the archaeological survey and testing studies for the proposed project. The recommended additional investigations include mechanically-assisted stripping and deep testing in order to make an informed NRHP-eligibility recommendation for these resources. Sites 31BN814 and 31BN867 are not within the proposed right-of-way of the preferred alternative and therefore do not require additional investigations. Site 31BN871 is located within the existing right-of-way for the project but will not be impacted by construction. A commitment to avoidance of this site will be carried forward through the construction phase of the project.

Site 31BN823 is situated on the French Broad River floodplain in the southern part of the project area. Deep testing is needed at this location to search for and assess whether buried cultural deposits are present.

Four of these sites (31BN868, 31BN870, 31BN871, and 31BN873) appear to have the potential to contain prehistoric and/or nineteenth century historic period features. As this potential could not be adequately investigated with test unit excavation during the original survey and testing project, limited topsoil stripping and deep testing are recommended to allow a definitive characterization of the NRHP eligibility of these sites.

Additional geomorphic evaluation and deep testing is recommended at five other locations covering approximately 22 acres along the corridor where there is potential for deeply buried deposits, including floodplains and terraces along Hominy Creek, Smith Mill Creek, and the French Broad River. Many of these locations (such as along Hominy Creek at the south end of Section C, and along the French Broad River in Section B) are covered with pavement or extensive fill deposits. Although their topographic settings suggest that buried deposits could be present, it is uncertain whether any deposits that may have been present have survived modern disturbances. In other locations, such as along Smith Mill Creek, deposits could exist beneath relatively shallow blankets of historic alluvium.

3.4.2.3 NRHP-Ineligible Resources

The remaining 17 sites (31BN815 through 31BN822, 31BN824, 31BN827, 31BN829 through 31BN833, 31BN869, and 31BN872), along with isolated find 31BN876, are recommended as ineligible for the NRHP. These 18 resources do not appear to have the potential to provide substantive data concerning the prehistoric or historic occupations of these areas, and no additional work is recommended.

3.5 NATURAL ENVIRONMENT CHARACTERISTICS

Aspects of the existing natural environment in the project study area are detailed in the DEIS, which include soils and geology, biotic communities and wildlife, water resources, jurisdictional issues such as wetlands, and protected species. Unless otherwise cited, information regarding these topics was obtained from the *Natural Resources Technical Report* (NRTR) prepared for this project (Atkins Engineering 2015) and the Natural Resources Technical Report Update (AECOM 2018e). *Two areas were identified outside of the original NRTR study area due to slope stakes plus 25-foot buffer of the preliminary designs. A preliminary review of these areas indicates no jurisdictional resources are likely, but a field-verified survey will be conducted by the USACE.*

The study area is situated in the Blue Ridge physiographic province of North Carolina. Topography in the project vicinity is characterized by gradual to steep slopes with narrow floodplains along drainageways. Elevations range from a low of 1,980 feet above sea level near the confluence of Hominy Creek and the French Broad River to a high of 2,150 feet along I-240 in the central portion of the project study area. Land use within the project vicinity is characterized by residential and urban development, forest land (including a portion of Pisgah National Forest), and agriculture.

3.5.1 SOILS

Natural Resources Conservation Service (NRCS) soil survey data for Buncombe County identify 21 soil types within the study area (Table 3-14) (NRCS 1993).

Table 3-14: Soils in the Project Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Biltmore loamy sand	BeA	Well Drained	Hydric [a]
Braddock clay loam	BkD2	Well Drained	Nonhydric
Braddock-Urban land complex	BnC	Well Drained	Nonhydric
Clifton clay loam	CkB2, CkC2	Well Drained	Nonhydric
Clifton sandy loam	CsC, CsD	Well Drained	Nonhydric
Clifton-Urban land complex	CuB, CuC, CuD	Well Drained	Nonhydric
Dillard loam	DrB	Moderately Well Drained	Hydric [a]
Evard-Cowee complex	EvD2, EvE2, EwC, EwD, EwE	Well Drained	Nonhydric
Evard-Cowee-Urban land complex	ExC, ExD, ExE	Well Drained	Nonhydric
Fannin-Lauada complex	FaD2, FaE2	Well Drained	Nonhydric
French loam	FrA	Moderately Well to Somewhat Poorly Drained	Hydric [a]
Hemphill loam	HpA	Very Poorly Drained	Hydric [a]
Iotla loam	IoA	Somewhat Poorly Drained	Hydric [a]
Rosman fine sandy loam	RsA	Well Drained to Moderately Well Drained	Hydric [a]
Statler loam	StB	Well Drained	Hydric [a]
Tate loam	TaB, TaC, TaD	Well Drained	Nonhydric

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Tate-Urban land complex	TmB, TmC, TmD	Well Drained	Nonhydric
Toxaway loam	TsA	Poorly and Very Poorly Drained	Hydric [a]
Udorthents, loamy	Ud	Well Drained	Nonhydric
Udorthents-Urban land complex	UfB, UhE	Well Drained	Nonhydric
Urban land	Ux	Well Drained	Nonhydric

[a] Soils that are primarily nonhydric, but that may contain hydric inclusions.

3.5.2 BIOTIC RESOURCES

3.5.2.1 Terrestrial Communities

Three terrestrial communities were identified in the project study area: maintained/disturbed, mesic mixed forest, and alluvial hardwood forest. Figures 3-13a and 3-13b show the location and extent of these terrestrial communities in the project study area. A brief description of each community type follows. Additional descriptions of the communities are included in the DEIS.

Maintained/Disturbed

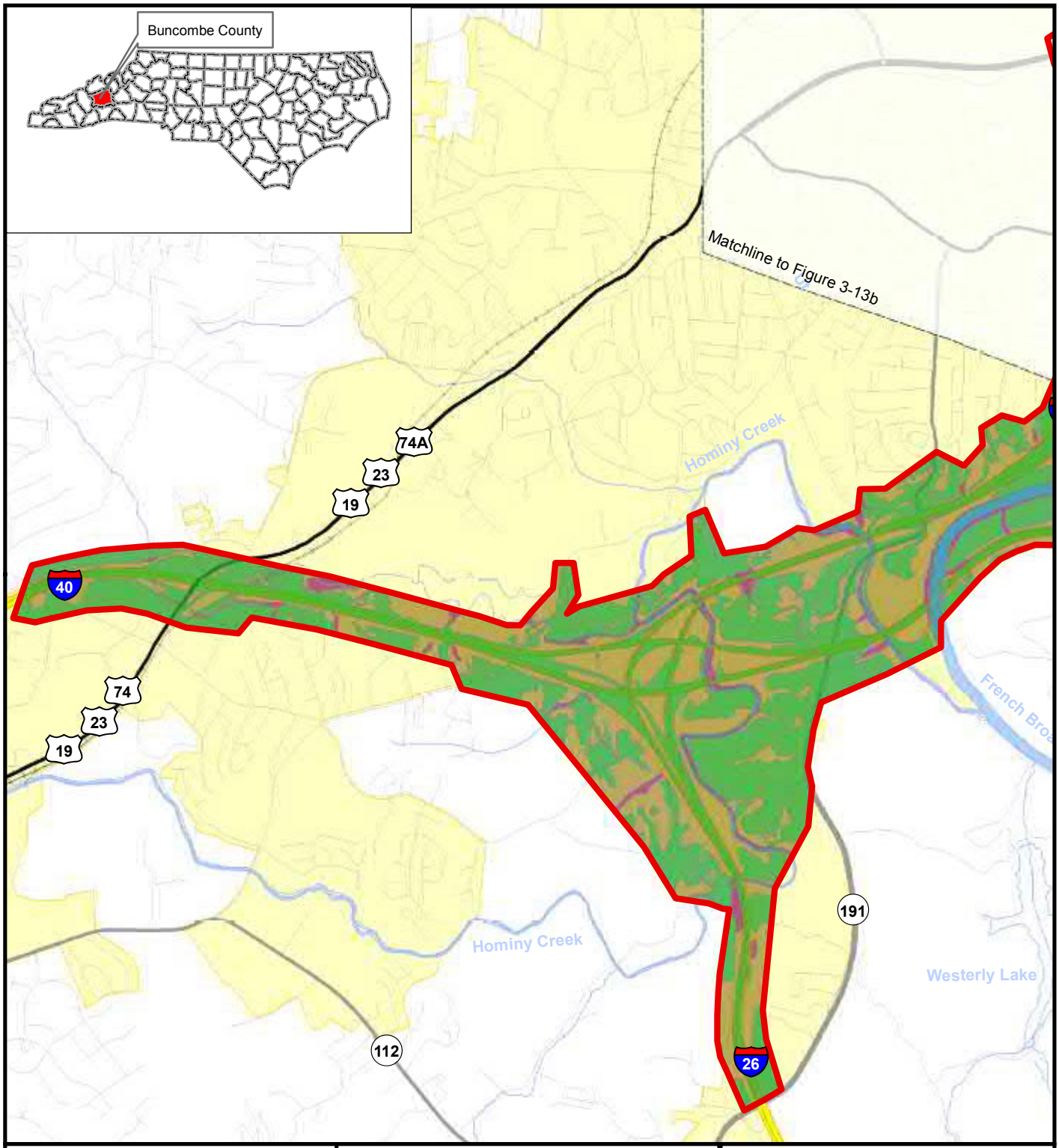
This community incorporates several land cover types, including residential, commercial, industrial, and cleared/maintained pasture areas. The majority of the study corridor is designated maintained/disturbed land, which includes the central portion that bisects western Asheville.

Asheville Mesic Mixed Forest

This community, if undisturbed, would most resemble Schafale and Weakley's Mesic Mixed Hardwood Forest. Mature, stable forests in this region are usually characterized by a hardwood canopy. However, this community is characterized by a mixture of pine and hardwood species, with pines occasionally comprising greater than 30 percent of canopy stems. The community in the project study area occurs on steeper sites and is primarily found as a buffer around roads, residential, and other developed areas, and as secondary growth forest on previously timbered or otherwise disturbed land.

Alluvial Hardwood Forest

This plant community supports many species in common with Piedmont/Low Mountain Alluvial Forest (Schafale and Weakley 1990), but the extent of disturbance by diverted storm water flow and by invasive species along roadside edges causes this community to deviate noticeably from the natural community described. Alluvial hardwood forest occurs throughout the project study area along streams. This community has a significant component of wetland species, particularly in the herb layer. These areas are intermittently flooded and may contain standing water for extended periods in the winter and spring.



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Natural Resources Study Area
- Water
- Municipal Boundary
- Alluvial Hardwood Forest
- Maintained/Disturbed
- Mesic Mixed Forest
- Open Water

Date: May 2018

N W E S

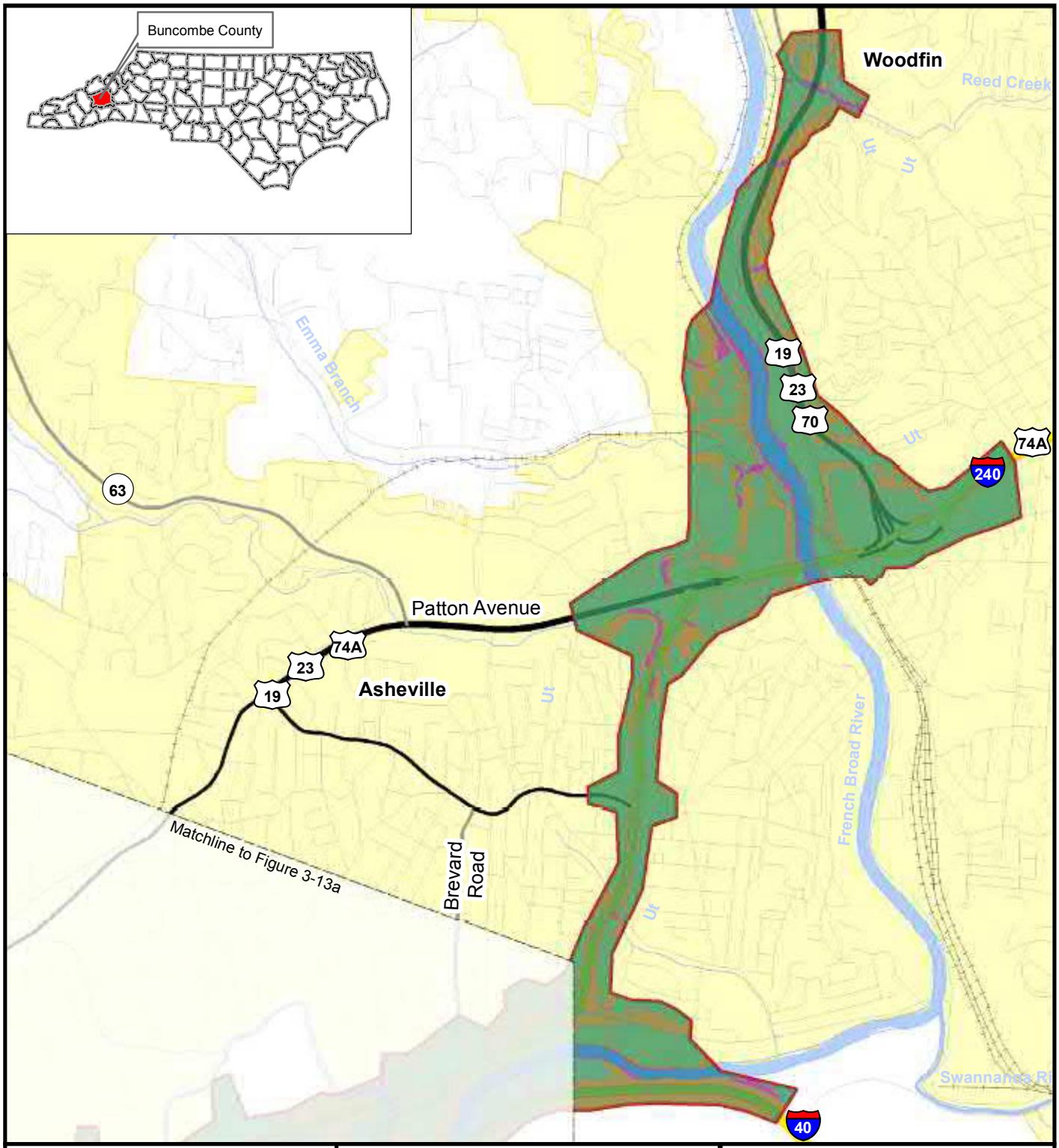
0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-13a

Biotic Resources



North Carolina Department of Transportation

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Natural Resources Study Area
- Water
- Municipal Boundary
- Alluvial Hardwood Forest
- Maintained/Disturbed
- Mesic Mixed Forest
- Open Water

Date: May 2018

N W E S

0 0.25 0.5 Miles

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-13b

Biotic Resources

3.5.2.2 Terrestrial Wildlife

Terrestrial communities in the project study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species. A list of species expected to occur and actually observed within the project study area are listed in the DEIS.

3.5.2.3 Aquatic Communities

Streams of various sizes occur within the project study area and provide adequate habitat for a variety of aquatic wildlife. A list of species expected to occur and actually observed within the project study area are listed in the DEIS.

3.5.2.4 Invasive Species

The NCDOT Invasive Exotic Plant List for North Carolina (2008) lists 17 species occurring in the project study area. The species identified within maintained/disturbed communities are identified in the DEIS. NCDOT will manage invasive plant species on the Department's right-of-way, as appropriate.

3.5.3 WATER RESOURCES

Water resources in the project study area are part of the French Broad River Basin (US Geological Survey [USGS] Hydrologic Unit 06010105). Forty-five streams were identified in the project study area (Table 3-15). The physical characteristics of these streams are provided in Table 3-16.

Table 3-15: Water Resources in the Project Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification [a]
French Broad River	SA	6-(54.5)	B
UT1A to French Broad River	SD	6-(54.5)	B
UT2A to French Broad River	SF	6-(54.5)	B
UT1B to French Broad River	SN	6-(54.5)	B
UT1B to French Broad River (Pond 1B)	Pond 1B	6-(54.5)	B
UT1B to French Broad River (Pond 2B)	Pond 2B	6-(54.5)	B
UT1B to French Broad River (Pond 3B)	Pond 3B	6-(54.5)	B
UT2B to French Broad River	SI	6-(54.5)	B
UT3B to French Broad River	SO	6-(54.5)	B
UT4B to French Broad River	SK	6-(54.5)	B
UT5B to French Broad River	SL	6-(54.5)	B
UT6B to French Broad River	SM	6-(54.5)	B
UT7B to French Broad River	ST	6-(54.5)	B
UT1C to French Broad River	SAB	6-(54.5)	B
UT2 to UT1C to French Broad River	SAG	6-(54.5)	B
UT2C to French Broad River	SE	6-(54.5)	B
UT3C to French Broad River	SAM	6-(54.5)	B
UT4C to French Broad River	SAP	6-(54.5)	B

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification [a]
UT5C to French Broad River	SAQ	6-(54.5)	B
UT1 to UT5C to French Broad River	SAA	6-(54.5)	B
Lower Hominy Creek	SB	6-76	C
UT1C to Lower Hominy Creek	SAC	6-76	C
UT2C to Lower Hominy Creek	SAJ	6-76	C
UT3C to Lower Hominy Creek	SH	6-76	C
Upper Hominy Creek	SX	6-76	C
UT1C to Upper Hominy Creek	SAF	6-76	C
UT2C to Upper Hominy Creek	SAL	6-76	C
UT1 to UT2C to Upper Hominy Creek	SZ	6-76	C
UT2 to UT2C to Upper Hominy Creek	SAI	6-76	C
UT3C to Upper Hominy Creek	SAO	6-76	C
Moore Branch	SC	6-77	C
Ragsdale Creek	SV	6-76-11	C
UT1C to Ragsdale Creek	SAD	6-76-11	C
UT2C to Ragsdale Creek	SAK	6-76-11	C
UT3C to Ragsdale Creek	SAN	6-76-11	C
UT5C to Ragsdale Creek	SAR	6-76-11	C
UT6C to Ragsdale Creek	SAS	6-76-11	C
Reed Creek	SJ	6-80	C
Smith Mill Creek	SR	6-79	C
UT1B to Smith Mill Creek	SG	6-79	C
UT2B to Smith Mill Creek	SU	6-79	C
UT3B to Smith Mill Creek	SS	6-79	C
UT4B to Smith Mill Creek [Emma Branch]	SP	6-79-2	C
UT1 to UT4B to Smith Mill Creek [Emma Branch]	SQ	6-79-2	C
Trent Branch	SW	6-76-10	C
UT1C to Trent Branch	SAE	6-76-10	C
UT1 to UT1C to Trent Branch	SY	6-76-10	C
UT2 to UT1C to Trent Branch	SAH	6-76-10	C
Pond 1B	1B	--	--
Pond 2B	2B	--	--
Pond 3B	3B	--	--

[a] Best Usage Classifications: B: Primary Recreation, Fresh Water; C: Aquatic Life, Secondary Recreation, Fresh Water

Table 3-16: Physical Characteristics of Water Resources in the Project Study Area

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SA	4-12	200	200	Cobble, Sand	Moderate	Slightly turbid
SB	6	75	12-18	Cobble, Sand	Moderate	Clear
SC	3	12	6	Cobble, Gravel	Moderate	Clear
SD	2	10	4	Cobble, Gravel	Moderate	Clear
SE	1-6	4-8	6	Cobble, Gravel, Silt	Moderate	Clear
SF	2-3	3	6	Gravel, Sand	Moderate	Clear
SG	3	10	4	Gravel, Sand	Slow	Clear
SH	3	8	12	Bedrock, Cobble, Sand	Moderate	Clear
SI	2	2-4	2-6	Cobble, Sand, Silt	Moderate	Clear
SJ	4	15	36	Bedrock, Sand	Moderate	Clear
SK	1	5	4	Cobble, Sand	Moderate	Clear
SL	2	4	3	Cobble, Sand	Moderate	Clear
SM	3	5	5	Cobble, Sand	Moderate	Clear
SN	1	2	2	Gravel, Sand	Moderate	Clear
SO	2-3	3	2	Sand	Slow	Clear
SP	2-3	8	4	Cobble	Moderate	Clear
SQ	2-3	4	3	Silt, Sand	Slow	Clear
SR	6-8	20	18	Cobble, Sand	Moderate	Clear
SS	1-3	5	6	Gravel, Sand	Slow	Clear
ST	1	3	0-2	Sand, Silt	Slow	Clear
SU	1-2	3	3	Gravel, Sand	Slow	Clear
SV	3-4	8-13	1-12	Gravel, Sand	Moderate	Clear
SW	4	6	6-12	Sand, Silt	Moderate	Clear
SX	1-5	30-50	4-10	Cobble, Sand, Silt	Moderate	Clear
SY	1-2	3-4	0-3	Sand, Silt	Slow	Clear
SZ	2	5	0-3	Cobble, Gravel, Sand	Moderate	Clear
SAA	0.5	2	0-2	Sand, Silt	Slow	Slightly turbid
SAB	2-6	4-8	5-6	Gravel, Sand, Silt	Moderate	Clear
SAC	1-2	2	2-4	Gravel, Sand	Moderate	Clear
SAD	2	4	0-8	Gravel, Sand	Slow	Clear
SAE	2-3	2-4	2-6	Sand, Silt	Slow	Clear
SAF	3-4	5	4-6	Sand, Silt	Moderate	Clear
SAG	2	4	2-4	Sand, Silt	Slow	Clear
SAH	1	1.5	0-3	Sand, Silt	Slow	Clear
SAI	1	2-3	0-3	Cobble, Gravel, Sand	Slow	Clear
SAJ	1-3	3	2-4	Cobble, Gravel, Sand	Slow	Clear
SAK	2	3	1-4	Sand, Silt	Slow	Clear

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SAL	1-3	2-8	2-4	Cobble, Gravel	Slow	Clear
SAM	3-5	6	12-18	Sand, Silt	Slow	Slightly turbid
SAN	2	4	1-8	Sand, Silt	Slow	Clear
SAO	0.5-1	4-8	0-3	Sand, Silt	Slow	Slightly turbid
SAP	5-8	8	12-14	Sand, Silt	Slow	Slightly turbid
SAQ	0.5	3	0-3	Cobble, Sand	Moderate	Clear
SAR	2	4	0-1	Clay, Silt	Slow	Slightly turbid
SAS	1-2	2.5	1-4	Sand, Silt	Slow	Clear

Source: Atkins Engineering 2015

Three ponds are located in Section B. These ponds are connected hydrologically to UT1B to French Broad River (SN). Ponds 1B (0.3 acre) and 3B (0.3 acre) appear to be impounded for water supplies, while Pond 2B (0.8 acre) is partially impounded by the railroad bed parallel to the French Broad River.

There are no NCWRC-designated trout waters, water supply watersheds (WS-I or WS-II), High Quality Waters (HQW), or Outstanding Resource Waters (ORW) within 1.0 mile downstream of the project study area. On February 26, 2010, Marla Chambers of the NCWRC stated that, “We do not expect significant trout reproduction to occur in the project area for I-2513 in Asheville and are not requesting a work moratorium to protect trout.”

The North Carolina 2016 Section 303(d) list of impaired waters identifies no waters within the study area as impaired due to sedimentation or turbidity (NCDEQ 2018).

Benthic samples were taken at the French Broad River at SR 1348 and given a rating of “Good-Fair” in 2007. Benthic samples were taken at Hominy Creek at SR 3412 and given a rating of “Fair” in 2007 (Atkins Engineering 2015).

3.5.4 JURISDICTIONAL ISSUES

3.5.4.1 Wetlands

Jurisdictional waters of the United States, including wetlands, are protected under Section 404 of the CWA. USACE and EPA jointly define wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, “Definitions of Waters of the United States,” Revised 2004; 40 CFR 230.3, “Wetlands Definitions,” Revised 2004). Section 404 jurisdictional wetlands are those areas

satisfying the technical criteria contained in the USACE's *Wetlands Delineation Manual* (Environmental Laboratory 1987). The USACE's *Wetlands Delineation Manual* requires evidence of hydric soils, positive hydrological indicators, and a prevalence of hydrophytic vegetation for a determination that an area is a wetland. Section 404 jurisdictional waters other than wetlands include streams, rivers, and lakes.

Both federal and state programs regulate activities conducted in wetlands in order to minimize the continued reduction and degradation of these resources and strive to achieve a "no net loss" policy. The federal program is based on Section 404 of the CWA and the USACE's implementing regulations (33 CFR 320-330).

Information on jurisdictional areas was gathered from the NRTR prepared for this project and investigations have occurred several times between 1998 and 2014. Subsequent field efforts were conducted between December 8 and December 19, 2014. The new delineated areas were submitted for approval to the USACE in February 2015. *Additional coordination will occur with USACE to verify jurisdictional resources before right-of-way acquisition.*

Jurisdictional Wetlands

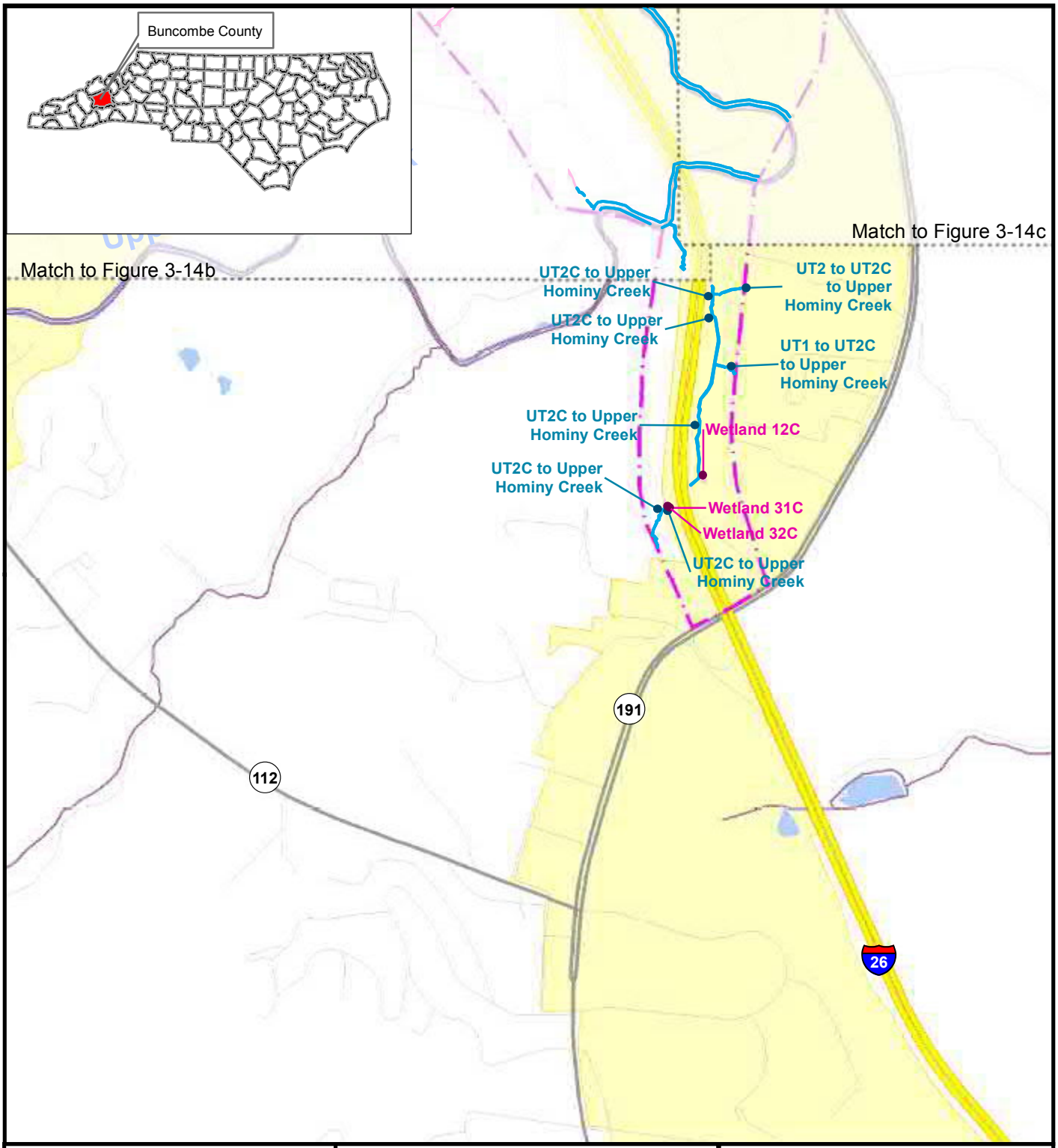
Forty-five jurisdictional streams were identified in the project study area (Table 3-17). The locations of these streams are shown on Figures 3-14a through 3-14e. USACE and NCDWR stream delineation forms are included in the NRTR (Atkins Engineering 2015). All jurisdictional streams in the project study area have been designated as cool water streams for the purposes of stream mitigation.

Table 3-17: Jurisdictional Characteristics of Water Resources in the Project Study Area

Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
Section	A	B	C			
SA	5,720.1	1,879.5	6,717.7	Perennial	Undetermined	Not Subject
SB	1,157.9	--	1,506.2	Perennial	Undetermined	Not Subject
SC	519.1	--	--	Perennial	Undetermined	Not Subject
SD	664.2	--	--	Perennial	Undetermined	Not Subject
SE	574.7	--	892.1	Perennial	Undetermined	Not Subject
SF	639.7	--	--	Intermittent	Undetermined	Not Subject
SG	125.9	1,354.6	--	Perennial	Undetermined	Not Subject
SH	384.2	--	--	Perennial	Undetermined	Not Subject
SI	--	709.9	--	Intermittent	Undetermined	Not Subject
SJ	--	693.7	--	Perennial	Undetermined	Not Subject
SK	--	256.7	--	Perennial	Undetermined	Not Subject
SL	--	317.1	--	Intermittent	Undetermined	Not Subject
SM	--	227.5	--	Intermittent	Undetermined	Not Subject
SN	--	775.8	--	Intermittent	Undetermined	Not Subject
SO	--	427.7	--	Perennial	Undetermined	Not Subject
SP	--	893.8	--	Perennial	Undetermined	Not Subject

Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
Section	A	B	C			
SQ	--	178.7	--	Intermittent	Undetermined	Not Subject
SR	--	3,270.1	--	Perennial	Undetermined	Not Subject
SS	--	243.8	--	Intermittent	Undetermined	Not Subject
ST	--	25.8	--	Intermittent	Undetermined	Not Subject
SU	--	300.1	--	Intermittent	Undetermined	Not Subject
SV	--	--	4,662.8	Perennial	Undetermined	Not Subject
SW	--	--	1,589.3	Perennial	Undetermined	Not Subject
SX	--	--	11,037.5	Perennial	Undetermined	Not Subject
SY	--	--	82.0	Intermittent	Undetermined	Not Subject
SZ	--	--	201.7	Perennial	Undetermined	Not Subject
SAA	--	--	142.2	Intermittent	Undetermined	Not Subject
SAB	--	--	445.0	Perennial	Undetermined	Not Subject
SAC	--	--	78.9	Intermittent	Undetermined	Not Subject
SAD	--	--	837.5	Perennial	Undetermined	Not Subject
SAE	--	--	242.3	Perennial	Undetermined	Not Subject
SAF	--	--	334.2	Perennial	Undetermined	Not Subject
SAG	--	--	374.9	Intermittent	Undetermined	Not Subject
SAH	--	--	22.3	Intermittent	Undetermined	Not Subject
SAI	--	--	234.5	Perennial	Undetermined	Not Subject
SAJ	--	--	526.7	Perennial	Undetermined	Not Subject
SAK	--	--	245.8	Intermittent	Undetermined	Not Subject
SAL	--	--	1,974.5	Perennial	Undetermined	Not Subject
SAM	--	--	850.0	Perennial	Undetermined	Not Subject
SAN	--	--	501.3	Perennial	Undetermined	Not Subject
SAO	--	--	196.8	Perennial	Undetermined	Not Subject
SAP	--	--	620.8	Intermittent	Undetermined	Not Subject
SAQ	--	--	144.2	Perennial	Undetermined	Not Subject
SAR	--	--	113.9	Intermittent	Undetermined	Not Subject
SAS	--	--	107.3	Perennial	Undetermined	Not Subject

Source: Atkins Engineering 2015



North Carolina Department of Transportation

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018

N W E S

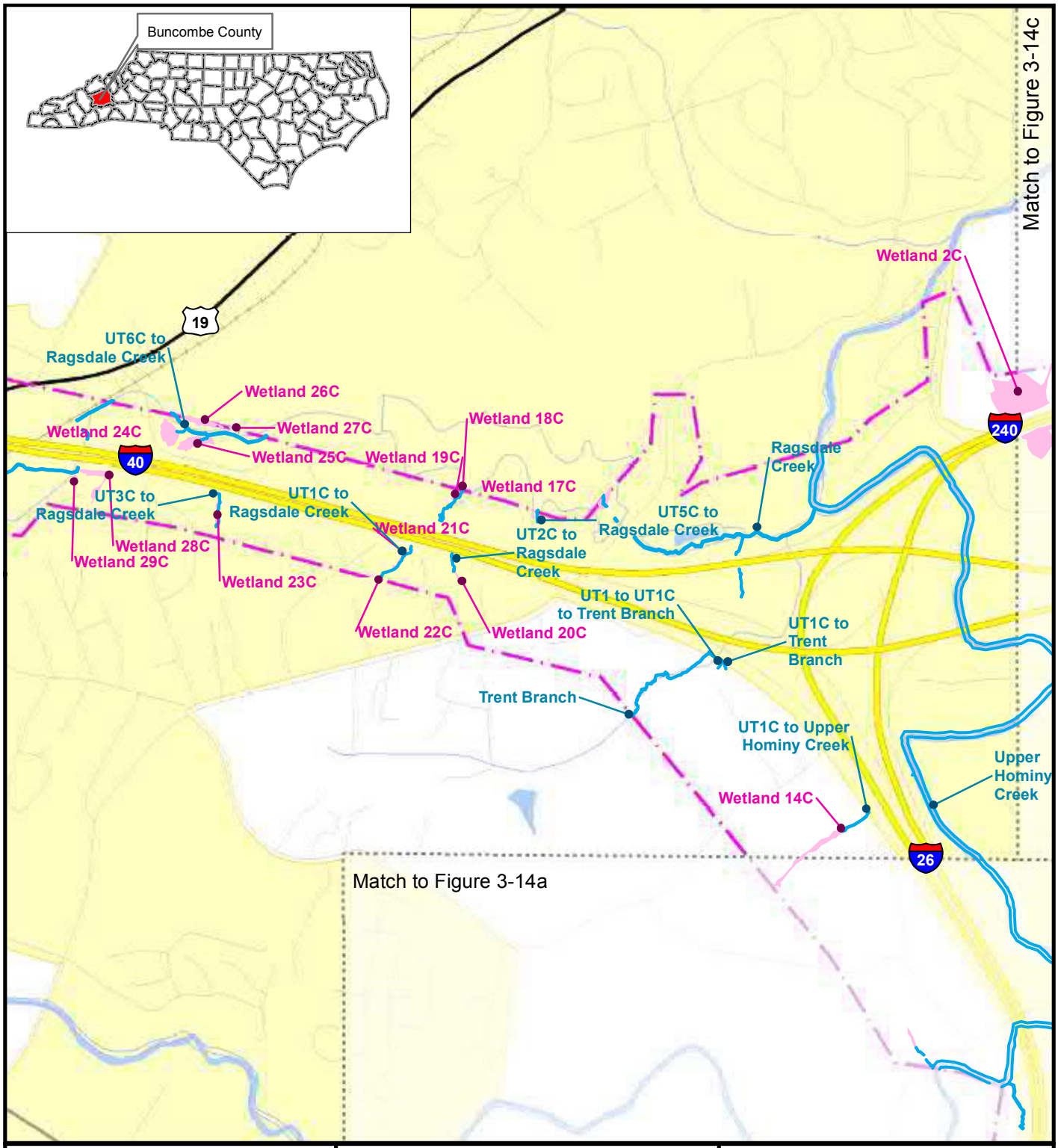
0 1,000 2,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-14a

Jurisdictional Streams and Wetlands



North Carolina Department of Transportation

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Welands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018

N W E S

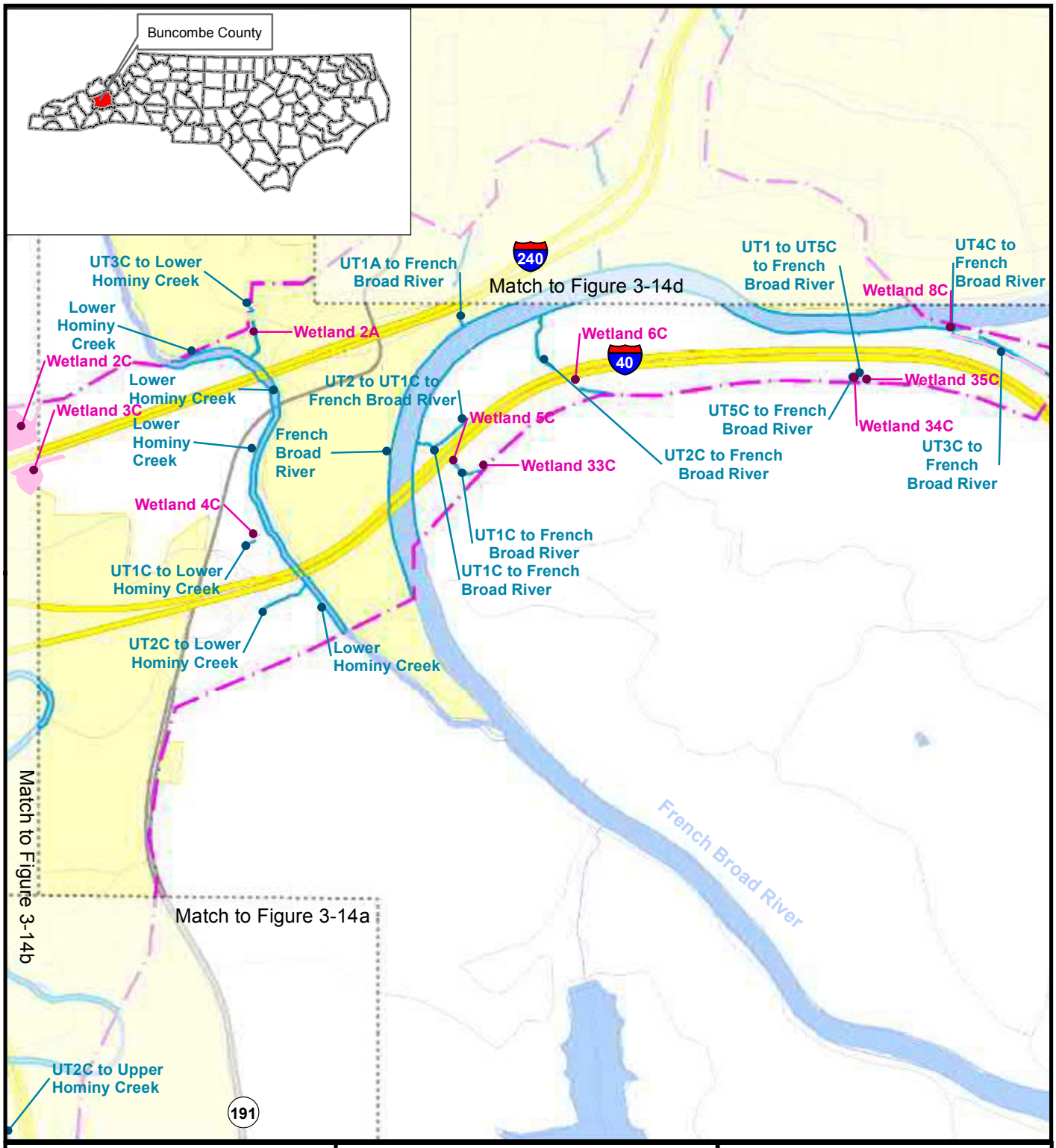
0 1,000 2,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-14b

Jurisdictional Streams and Wetlands



North Carolina Department of Transportation

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Welands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

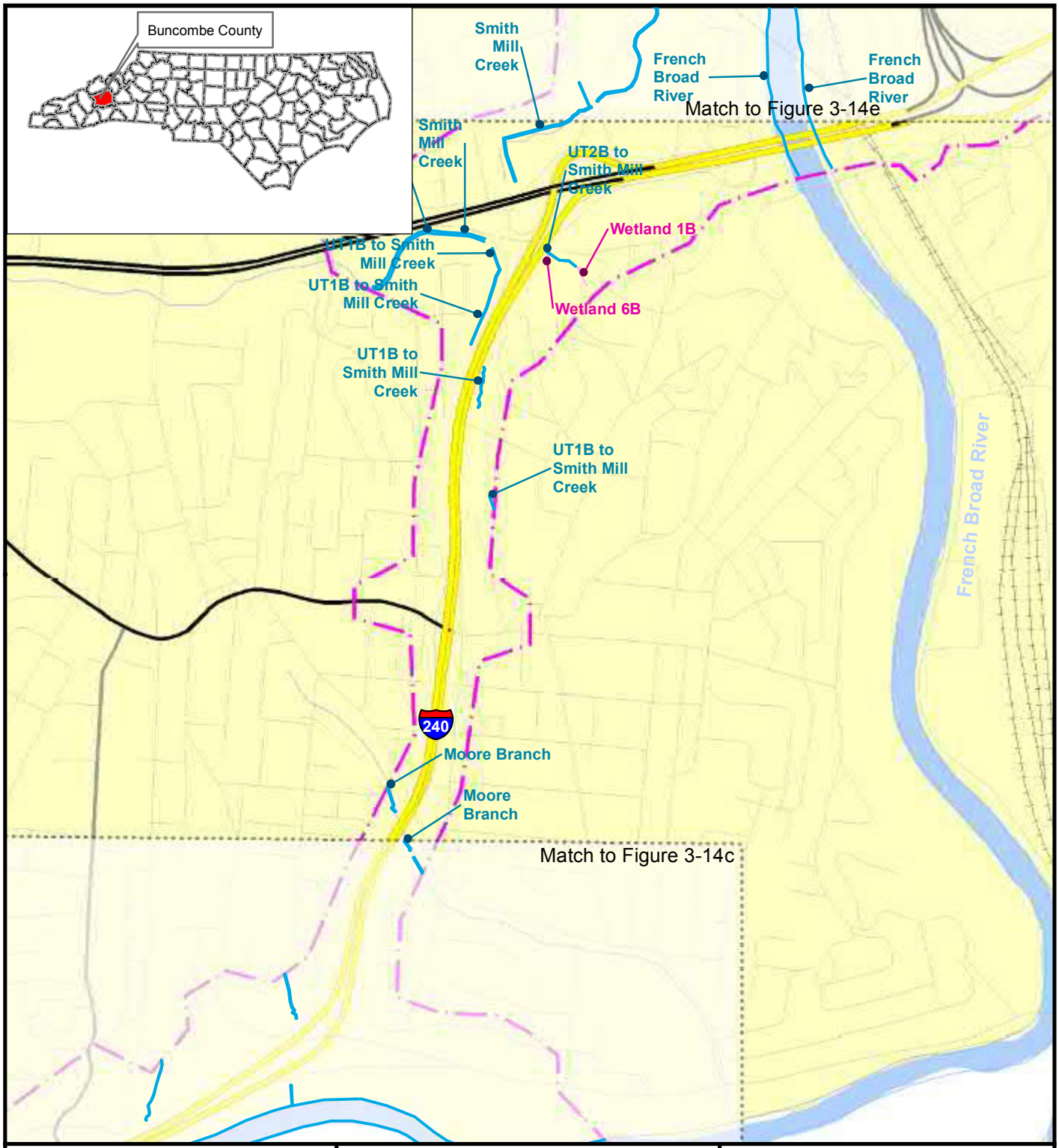
Date: May 2018

N W E S

0 1,000 2,000 Feet

Figure 3-14c

Jurisdictional Streams and Wetlands



North Carolina Department of Transportation

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Welands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018

N W E S

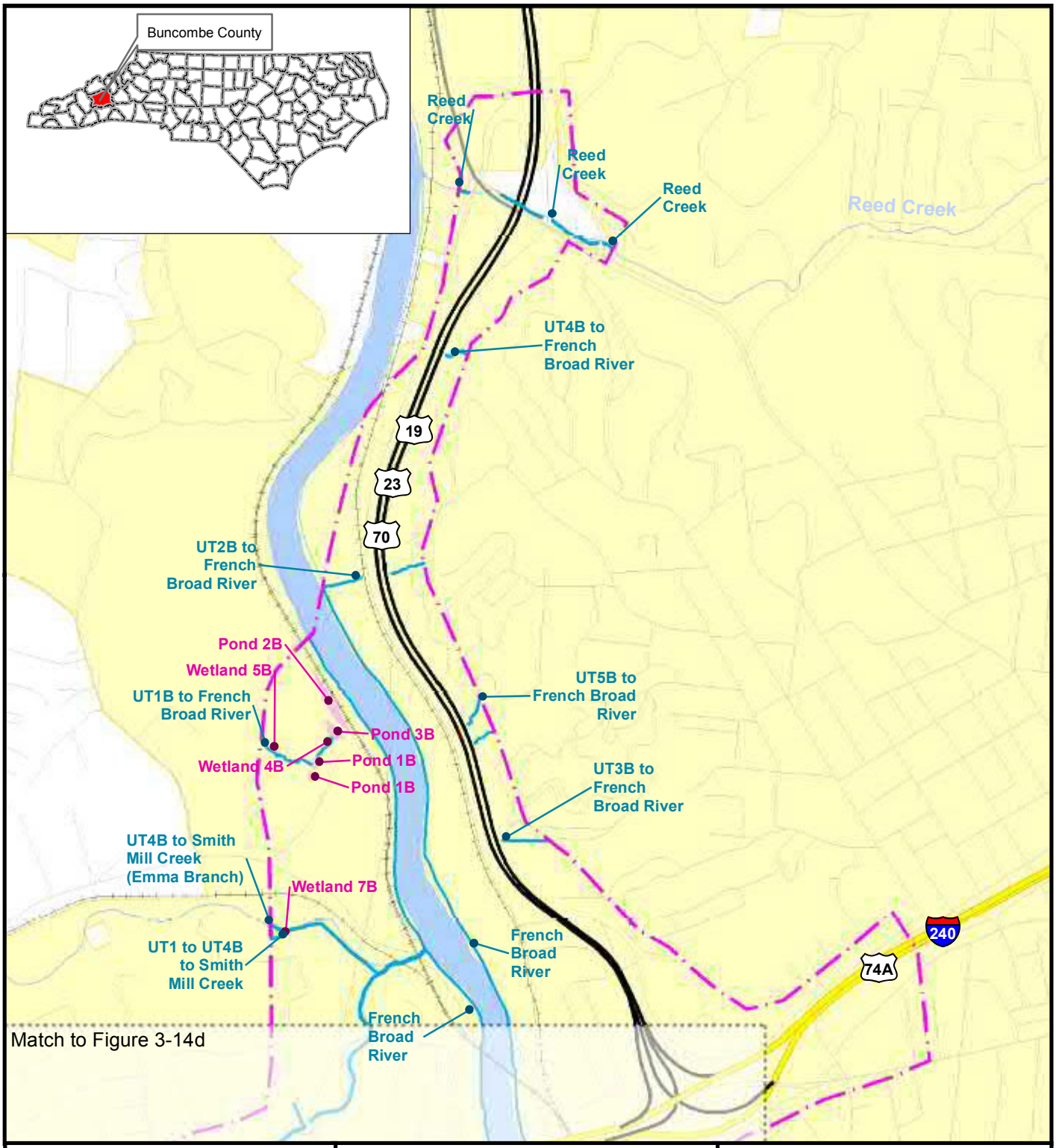
0 1,000 2,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-14d

Jurisdictional Streams and Wetlands



North Carolina Department of Transportation

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018

N W E S

0 1,000 2,000 Feet

I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Figure 3-14e

Jurisdictional Streams and Wetlands

Ponds 1B (0.33 acre), 2B (0.33 acre), and 3B (0.21 acre) are located in Section B.

Thirty-six jurisdictional wetlands were identified within the project study area. Wetland classification and quality rating data are presented in Table 3-18. All wetlands in the project study area are within the French Broad River basin (USGS Hydrologic Unit 06010105). USACE wetland delineation forms and NCDWR wetland rating forms for each site are included in the NRTR. Descriptions of the natural communities at each wetland site are presented in Table 3-18.

Table 3-18: Jurisdictional Characteristics of Wetlands in the Project Study Area

Map ID	North Carolina Wetland Assessment Method (NCWAM) Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)
Section A				
WA	Bottomland Hardwood Forest	Riparian	40	0.01
WB	Floodplain Pool	Riparian	46	0.67
Section B				
WC	Bottomland Hardwood Forest	Riparian	43	0.11
WD	Bottomland Hardwood Forest	Riparian	33	0.11
WE	Floodplain Pool	Riparian	21	0.04
WF	Headwater Forest	Riparian	29	0.04
WG	Headwater Forest	Riparian	20	0.02
Section C				
WH	Headwater Forest	Riparian	71	3.63
WI	Headwater Forest	Riparian	71	1.51
WJ	Riverine Swamp Forest	Riparian	43	0.04
WK	Headwater Forest	Riparian	35	0.03
WL	Headwater Forest	Riparian	35	0.03
WM	Floodplain Pool	Riparian	21	0.02
WN	Bottomland Hardwood Forest	Riparian	37	0.62
WO	Headwater Forest	Riparian	50	0.04
WP	Headwater Forest	Riparian	Unknown	0.10
WQ	Headwater Forest	Riparian	Unknown	0.65
WR	Bottomland Hardwood Forest	Riparian	67	0.27
WS	Bottomland Hardwood Forest	Riparian	41	0.01
WT	Bottomland Hardwood Forest	Riparian	41	0.03
WU	Headwater Forest	Riparian	47	0.05
WV	Riverine Swamp Forest	Riparian	54	0.08
WW	Riverine Swamp Forest	Riparian	54	0.02
WX	Riverine Swamp Forest	Riparian	46	0.19
WY	Headwater Forest	Riparian	40	0.68
WZ	Bottomland Hardwood Forest	Riparian	40	0.61
WAA	Bottomland Hardwood Forest	Riparian	40	0.39
WAB	Bottomland Hardwood Forest	Riparian	40	0.03
WAC	Bottomland Hardwood Forest	Riparian	59	0.51

Map ID	North Carolina Wetland Assessment Method (NCWAM) Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)
WAD	Bottomland Hardwood Forest	Riparian	59	0.04
WAE	Bottomland Hardwood Forest	Riparian	31	0.04
WAF	Headwater Forest	Riparian	39	0.01
WAG	Headwater Forest	Riparian	34	0.04
WAH	Headwater Forest	Riparian	48	0.02
WAI	Bottomland Hardwood Forest	Riparian	38	0.03
WAJ	Bottomland Hardwood Forest	Riparian	39	0.04
Total				10.8

Source: Atkins Engineering 2015

3.5.4.2 Protected Species

Federally listed endangered and threatened species are legally protected under the provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended. Any action likely to adversely affect a species afforded federal protection is subject to review by the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS). Species classified as Federal Species of Concern (FSC) are not protected under the provisions of Section 7 of the ESA but are defined as species under consideration for listing as threatened or endangered. North Carolina provides limited protection to "at risk" species under the North Carolina Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. The NCWRC and the North Carolina Department of Agriculture are responsible for enforcing and administering species protection. The USFWS and the North Carolina Natural Heritage Program (NCNHP) maintain lists and location data of known occurrences of endangered, threatened, and rare species for North Carolina.

*The federally protected species listed for Buncombe County as of March 22, 2018, are depicted in Table 3-19. Species with habitat present in the project study area are described in the DEIS. Since publication of the DEIS, the rusty patched bumble bee (*Bombus affinis*), a species that occurs in the eastern and midwestern United States and Ontario, Canada, was listed as an endangered species under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). No Section 7 survey or conclusion is required at this time.*

Table 3-19: Federally Protected Species Listed for Buncombe County

Scientific Name	Common Name	Federal Status [a]	Habitat Present
Clemmys muhlenbergii	Bog turtle	T(S/A)	Yes
Glaucomys sabrinus coloratus	Carolina northern flying squirrel	E	No
Myotis grisescens	Gray bat	E	Yes
Myotis septentrionalis	Northern Long-eared Bat	T	Yes
Hybopsis monacha	Spotfin chub [b]	T	Yes
Alasmidonta raveneliana	Appalachian elktoe	E	Yes
Bombus affinis	*Rusty-patched bumble bee* [b]	*E*	*Unknown* [c]
Microhexura montivaga	Spruce-fir moss spider	E	No
Epioblasma florentina walker	Tan riffleshell [b, d]	E	Yes
Solidago spithamaea	Blue Ridge goldenrod [b]	T	No
Sagittaria fasciculata	Bunched arrowhead [b]	E	Yes
Sarracenia jonesii	Mountain sweet pitcher plant	E	No
Geum radiatum	Spreading avens	E	No
Spiraea virginiana	Virginia spiraea[b]	T	Yes
Gymnoderma lineare	Rock gnome lichen	E	No

[a] E = Endangered, T = Threatened, T(S/A) = Threatened due to similarity of appearance
[b] Historic record (the species was last observed in the county more than 50 years ago).
[c] *No Section 7 survey or conclusion is required at this time.*
[d] Obscure record (the date and/or location of observation is uncertain).

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within 1.0 mile of open water. Within and near the project study area, the French Broad River constitutes foraging habitat for the bald eagle. Therefore, a detailed survey of the project study area and the area within 660 feet of the project limits was conducted from December 8 to December 18, 2014. No eagles or nests were found. In most cases, there were few large, emergent trees available near the surveyed water bodies that might provide nesting habitat if not for the urban setting. A review of the NCNHP database revealed no known occurrences of this species within 1.0 mile of the project study area. Due to the survey results, lack of known occurrences, and lack of suitable habitat, it has been determined that this project would not affect this species.

Endangered Species Act Candidate Species

As of March 22, 2018, the USFWS lists no Candidate species for Buncombe County.

Essential Fish Habitat

The NMFS has identified no Essential Fish Habitat within Buncombe County.