



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

December 9, 2015

MEMORANDUM TO: John William, P.E.
Project Development Engineer

FROM: William A. Barrett
Environmental Specialist, Natural Environment Section

SUBJECT: NRTR Addendum for I-4400/I-4700 (US 25 Interchange); Federal Aid
Project No. NHF-26-1(62)23; WBS No. 34232.1.1; Divisions 13 and 14;
Buncombe and Henderson counties

REFERENCE: I-4400/4700 NRTR, dated August 2014
I-4400/4700 NRTR Addendum, dated July 27, 2015

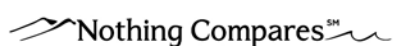
The purpose of this Addendum is to address jurisdictional features and federally protected species within an expanded study area at the I-26 / US 25 interchange (Addendum Figure 3, Sheet 11 and Sheet 12). Note that the addendum figures are replications of the original figures in the original NRTR (August 2014) and maintain the same figure and sheet numbers. The expanded study area is depicted in yellow on the figures. The information in this report is for the Addendum area only.

All work was conducted in accordance with the NCDOT Natural Environment Section standard operation procedures and July 2012 NRTR template. Field work was conducted by NCDOT biologists Bill Barrett and Jeff Hemphill on October 13, 2015.

The following NRTR sections are provided as a supplement to the August 2014 NRTR and to the July 2015 NRTR Addendum (Blue Ridge Parkway) for this project. Tables include only new or updated information.

BIOTIC RESOURCES

Two terrestrial communities were identified in the US 25 Addendum study area: maintained/disturbed and Montane Oak-Hickory Forest (Addendum Table 4). The majority of the US 25 Interchange Addendum area was maintained/Disturbed community, with a small portion being Montane Oak-Hickory (area hatched on Addendum Figure 3, Sheets 11-12)



Addendum Table 4.

Community	Coverage (ac.)
Montane Oak-Hickory Forest	1.5
Maintained/Disturbed	5.4

JURISDICTIONAL RESOURCES

There were no jurisdictional resources identified within the expanded study area.

FEDERALLY PROTECTED SPECIES

As of July 24, 2015, the United States Fish and Wildlife (USFWS) lists nine federally protected species for Henderson County (Addendum Table 7).

Addendum Table 7. Federally protected species listed for Henderson County.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmidonta raveneliana</i>	Appalachian elktoe	E	No	No Effect
<i>Glyptemys muhlenbergii</i>	Bog turtle	T(S/A)	No	Not Required
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No	No Effect
<i>Helonias bullata</i>	Swamp pink	T	No	No Effect
<i>Isotria medeoloides</i>	Small whorled pogonia	T	Yes	Unresolved
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	unknown	Unresolved
<i>Sagittaria fasciculata</i>	Bunched arrowhead	E	No	No Effect
<i>Sarracenia rubra ssp. jonesii</i>	Mountain sweet pitcherplant	E	No	No Effect
<i>Sisyrinchium dichotomum</i>	White irisette	E	Yes	Unresolved

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

Small whorled pogonia

USFWS Optimal Survey Window: mid May-early July

Habitat Description: Small whorled pogonia occurs in young as well as maturing (second to third successional growth) mixed-deciduous or mixed-deciduous/coniferous forests. It does not appear to exhibit strong affinities for a particular aspect, soil type, or underlying geologic substrate. In North Carolina, the perennial orchid is typically found in open, dry deciduous woods and is often associated with white pine and rhododendron. The species may also be found on dry, rocky, wooded slopes; moist slopes; ravines lacking stream channels; or slope bases near braided channels of vernal streams. The orchid, often limited by shade, requires small light gaps or canopy breaks, and typically grows under canopies that are relatively open or near features like logging roads or streams that create long-persisting breaks in the forest canopy.

Biological Conclusion: Unresolved

Surveys for small whorled pogonia will be conducted during the optimal survey window.

White irisette

USFWS Optimal Survey Window: late May-July

Habitat Description: White irisette, endemic to the upper Piedmont of North and South Carolina, is generally found on the southeast to southwest aspect of gentle to very steep, mid-elevation mountain slopes in thin-canopied, dry-mesic Basic Oak Hickory Forests that are mature, successional, or recently logged. Occurrences are also found in open, disturbed sites such as clearings, woodland edges, roadside embankments/rights-of-way, and power line rights-of-way. Known populations occur at elevations between 1,312 and 3,280 feet above mean sea level. The perennial herb prefers rich, basic soils, probably weathered from amphibolite, which are intermittently saturated with rain but well drained. The species occurs in a variety of soils, including the Ashe-Cleveland association; the Evard-Cowee complex; and Brevard, Cowee, Fannin, Greenlee, and Hayesville series. It may grow on shallow soil sites where down slope runoff removed the usual deep litter, humus, or mineral soil layers. Partial shade to direct sun is preferred, and some form of disturbance (*e.g.*, mowing, clearing, grazing, periodic fire) is necessary to maintain its relatively open habitat.

Biological Conclusion: Unresolved

Surveys for white irisette will be conducted during the optimal survey window.

Northern long-eared bat

USFWS Recommended Survey Window: June 1 – August 15

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

Biological Conclusion: Unresolved

The habitat assessment and, if needed, surveys for the NLEB will be the responsibility of the NCDOT – Biosurveys Group.

Qualifications of Contributors

Principal

Investigator: William A. Barrett

Education: B.S. Marine Science, University of South Carolina

Experience: Environmental Supervisor, NCDOT, Raleigh, NC, 1/05 – present.

Environmental Specialist, NCDOT, Raleigh, NC, 11/04 – 12/05.

Environmental Specialist, Florida Department of Environmental Protection, West Palm Beach, FL 10/97 – 11/04.

Environmental Scientist, GLE Associates, Inc., Tampa, FL 1/93 – 3/97.

Environmental Scientist, EnviroAssessments, Inc., Tampa, FL 8/91 – 1/93.

Environmental Technician, Pace Laboratories, Inc, Tampa, FL 3/90 – 8/91.

Responsibilities: Natural communities assessment, resource assessment, report preparation.

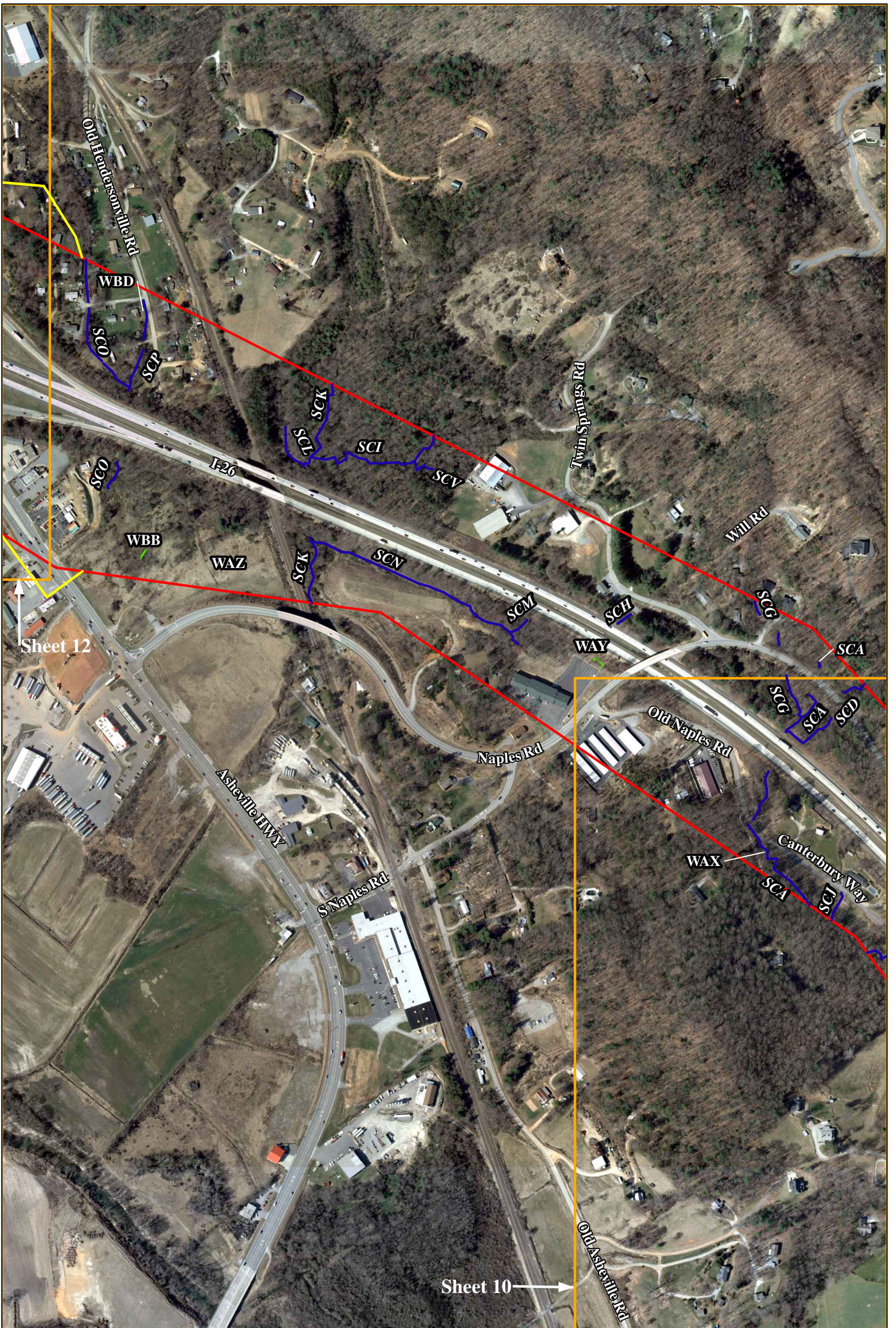
Investigator: J Jeffrey Hemphill

Education: BS, Forest Resource Management, Ohio State University,

Experience: Environmental Specialist, NCDOT, March 2004 - present

Environmental Scientist, R.D. Zande & Associates, Columbus, OH,
June 1991-January 2004

Responsibilities: Natural communities assessment, resource assessment



CAROLINA ECOSYSTEMS, INC.
 3040 NC 42 West; Clayton NC, 27520
 P:(919)-606-9145 F:(919)-585-5570

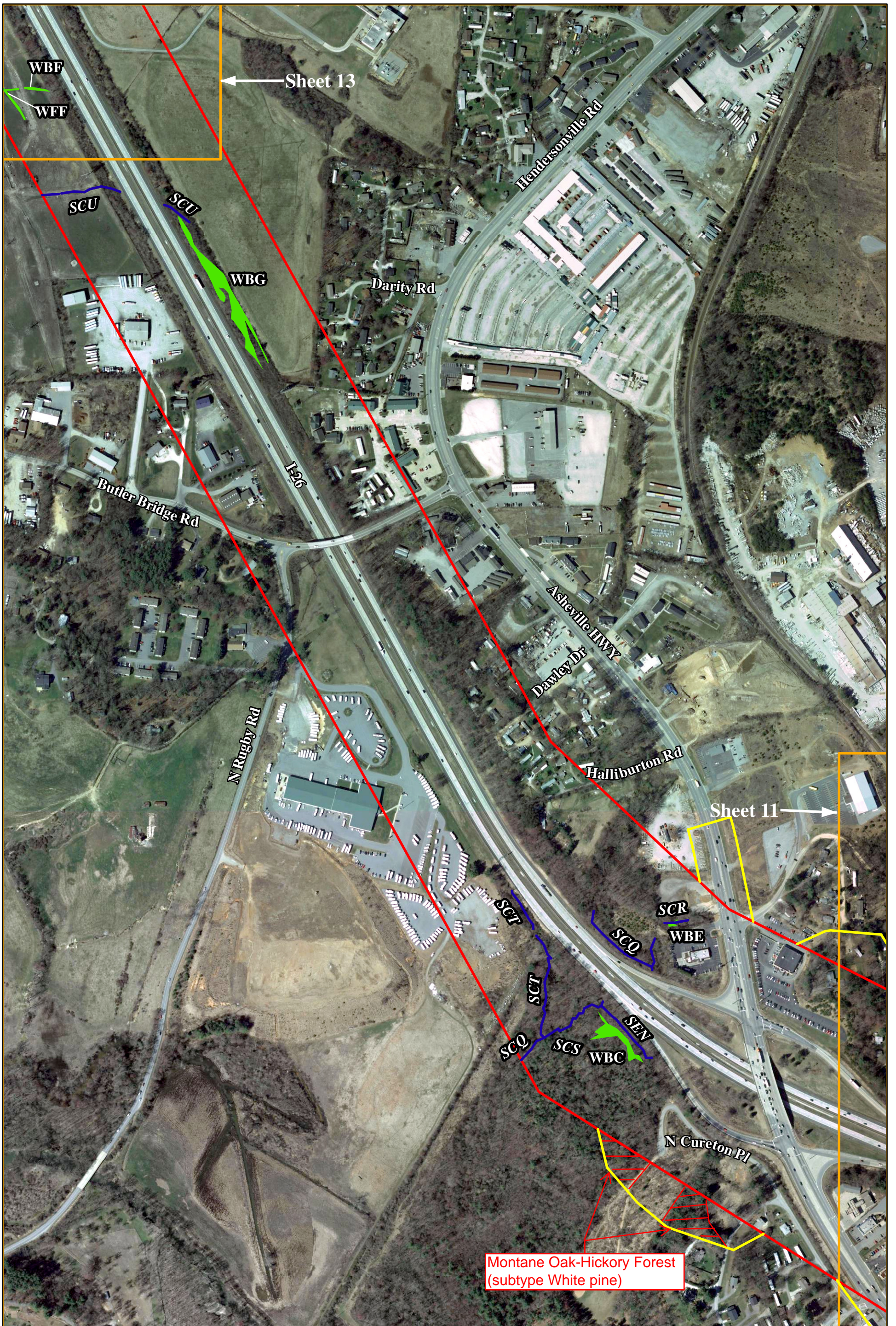
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N

0 200 400 Feet

- ▭ Study Area
- ▭ New Study Area
- Map Sheet Limits
- Wetlands
- Ponds
- Intermittent Streams
- Perennial Streams

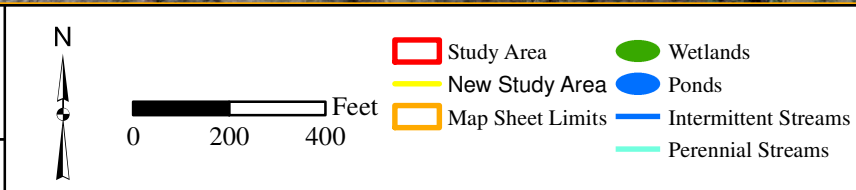
Addendum
Figure 3: Jurisdictional Features: Sheet 11
I-4400/4700
I-26 from NC-225 to I-40
 Buncombe and Henderson Counties



Montane Oak-Hickory Forest
(subtype White pine)

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Addendum
Figure 3: Jurisdictional Features: Sheet 12
I-4400/4700
I-26 from NC-225 to I-40
Buncombe and Henderson Counties