S-23-41 (Gap Creek Road) Bridge Replacement over Middle Saluda River

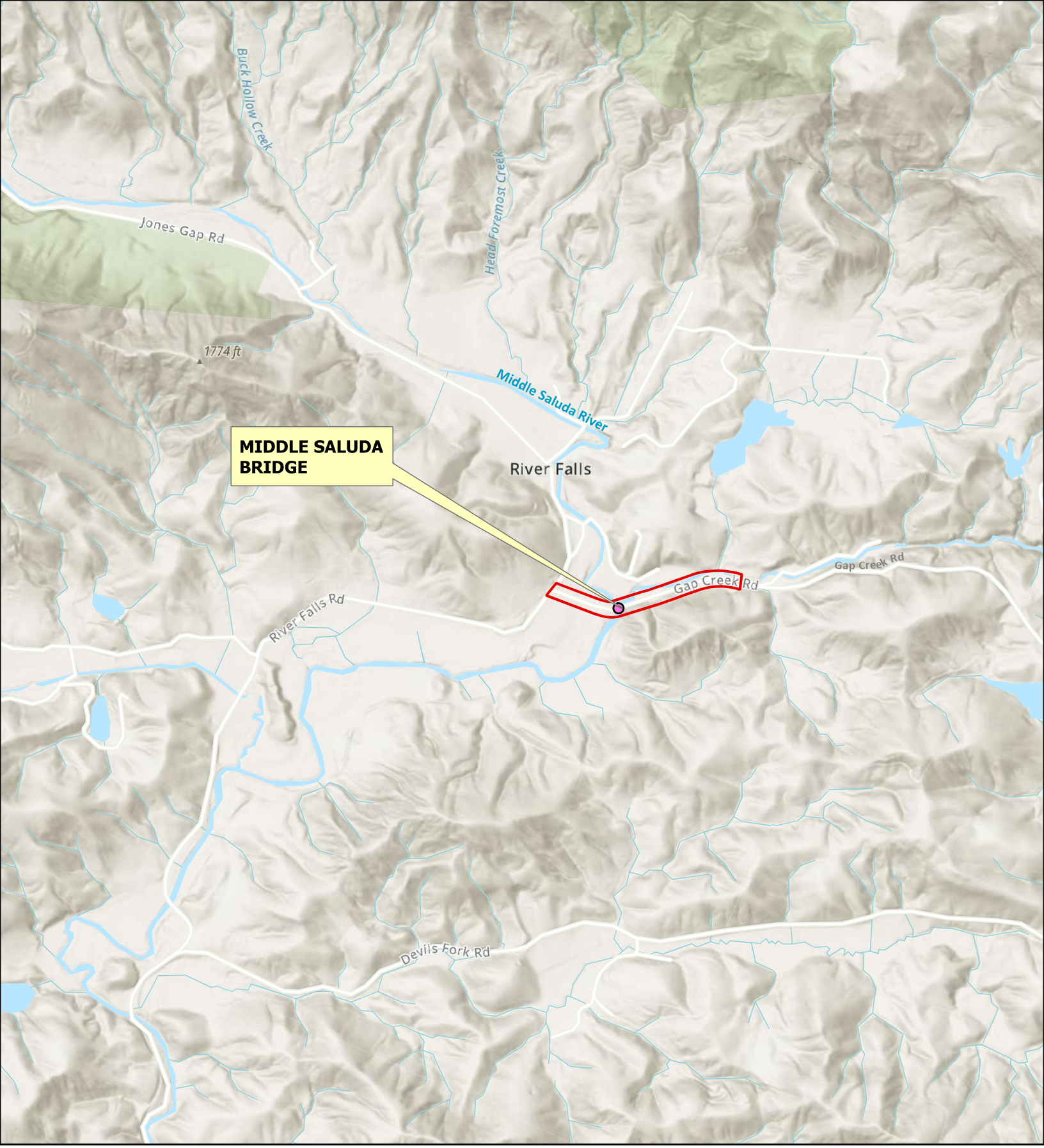
Project ID: P041159

Project Description:

S-23-41 (Gap Creek Road) Bridge Replacement over Middle Saluda River.
South Carolina Department of Transportation (SCDOT) proposes to replace the S-23-41 (Gap Creek Road) Bridge over Middle Saluda River in Greenville County.

The purpose of this project is to correct the load restriction placed on the bridge and restore all components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition. The bridge was built in 1964. According to the SCDOT Structure Inventory and Appraisal Report from August 2022, the bridge has a sufficiency rating of 20.5. An off-site detour may be utilized during construction. The bridge is currently open to traffic.

Field studies revealed no significant impacts or effects to resources within the project study area.



Legend

- Study Area
- Bridge

N

0 0.25 0.5 Mile

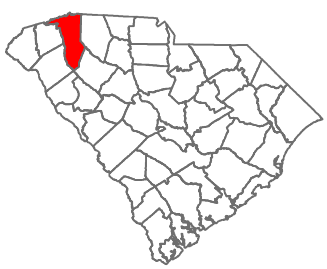
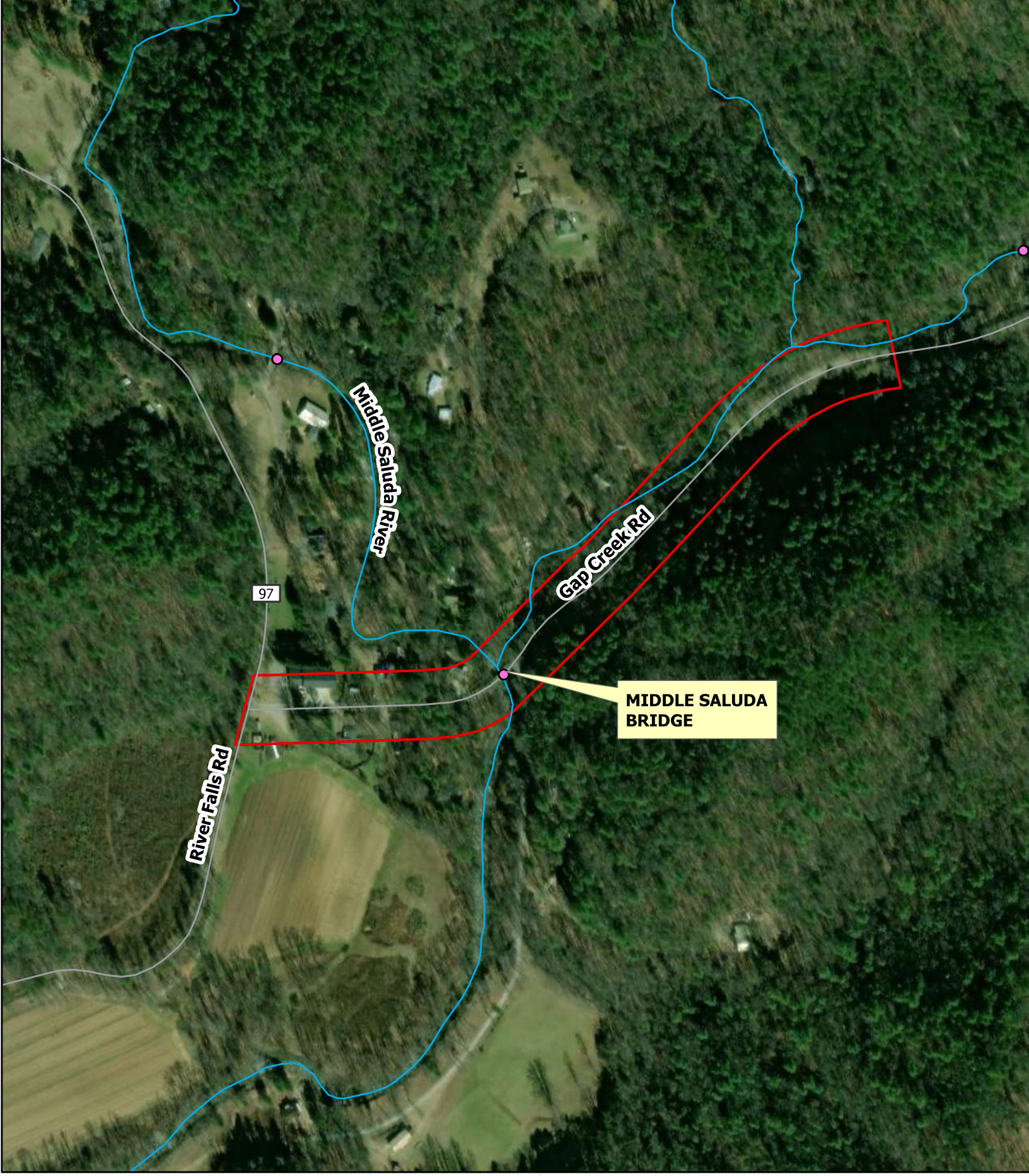


Figure 1.
Vicinity Map
Replacement of SC Bridge 4329
on Gap Creek Road
over Middle Saluda River
in Greenville County, SC

HNTB

Sources: SCDOT, ArcGIS ESRI Basemap. 2023.



Legend

- Study Area
- Bridge
- Road
- Stream

N

0 250 500 Feet

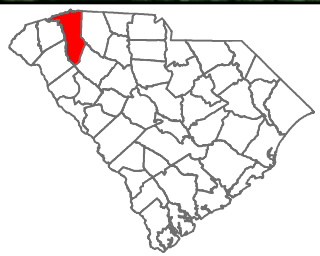


Figure 2.
Study Area Map
Replacement of SC Bridge 4329
on Gap Creek Road
over Middle Saluda River
in Greenville County, SC

Sources: SCDOT, ArcGIS ESRI Basemap. 2023.

S-41 Bridge Replacement Appendices

Appendix A: Cultural Resources Screening Reports

Appendix B: Natural Resources Technical Memorandum

Appendix C: Bridge Scope and Risk Assessment Form

Appendix D: Floodplain Checklist

Appendix E: Public Comments

Appendix A: Cultural Resources Screening Form

CULTURAL RESOURCE FIELD REPORT

SCDOT ENVIRONMENTAL SECTION

TITLE: Phase I Cultural Resources Survey of Proposed Improvements to the S-23-41 Bridge over Middle Saluda River

DATE OF RESEARCH: 8/1/23 **ARCHAEOLOGIST:** Lauren Christian, MA, RPA

ARCHITECTURAL HISTORIAN: Sean Stucker, MHP

COUNTY: Greenville **PROJECT**: Closed and Load Restricted Bridge Replacements- Package 19

F. A. No.: **File No.** **PIN**: P041159

DESCRIPTION:

The South Carolina Department of Transportation (SCDOT) proposes to replace various closed or load-restricted bridges including the S-23-41 (Gap Creek Road) bridge over the Middle Saluda River in Greenville County, South Carolina. The project area is defined as that area within 75 feet of either side of the proposed roadway centerline and extending 1,500 feet from the bridge. The archaeological survey covered the entire project area, while the architectural survey examined the Area of Potential Effects (APE), which was defined as all above-ground resources with sightlines to the bridge. This cultural resource survey was performed under contract with HNTB.

LOCATION:

The project is located approximately 3.75 miles north of the town of Cleveland in northern Greenville County, South Carolina (Figure 1).

USGS QUADRANGLE: Cleveland, SC **DATE:** 2014 **SCALE:** 1:24000

UTM: NAD83 **ZONE:** 17N **EASTING:** 359893 **NORTHING:** 3887478

ENVIRONMENTAL SETTING:

The project area is situated in the Blue Ridge physiographic region, which includes and extends above the Blue Ridge Escarpment and is characterized by metagranite mountains. The topography in the project area ranges from 1210 feet above mean sea level (amsl) along the southeastern edge of the project area to 1100 feet amsl in the vicinity of the Middle Saluda River. The surrounding landscape is mostly rural residential, though the River Falls Fire Department Headquarters is present at the western end of the project area. Vegetation in the southeastern portion consists of mixed pines and hardwoods with a moderately dense understory.

NEAREST RIVER/STREAM AND DISTANCE:

The Middle Saluda River (Hydrological unit code [HUC] 030501090203) bisects the project area and joins the South Saluda River approximately 7.25 miles south of the project area (HUC 0305010902). The South Saluda River is a tributary of the Saluda River (HUC 03050109), and these rivers confluence to the west of Travelers Rest, South Carolina, approximately 11.6 miles south of the project area.

SOIL TYPE:

Soils in the project area were formed from alluvium or residuum weathered from granite, gneiss, and/or diorite. The majority of the soils are somewhat poorly drained (72.2 percent), with only 27.8 percent identified as well-drained soils (Table 1; Figure 2).

Table 1. Soils Mapped in the Project Area

Map Unit	Map Name	Drainage Class	Notes	Acres in Project Area	Percent of Project Area
Cb	Cartecay and Toccoa soils	Somewhat Poorly Drained		7.6	72.2
EdE	Edneyville fine sandy loam	Well Drained	15–25% slopes	0.1	0.9
EdF	Edneyville soils	Well Drained	25–40% slopes	1.4	13.5
EHG	Edneyville and Ashe soils	Well Drained	Very steep	0.5	4.6
WhB	Wickham sandy loam	Well Drained	2–6% slopes	0.9	8.8
Total				10.5	100

REFERENCE FOR SOILS INFORMATION:

USDA-NCRS Soil Survey Division, Custom Soil Resource Report (websoilsurvey.sc.egov.usda.gov)

GROUND SURFACE VISIBILITY: **0% __ 1-25% _X_ 26-50% __ 51-75% ___ 76-100% ___**

CURRENT VEGETATION:

The vegetation in the project area primarily consists of mixed pines and hardwoods with a moderately dense understory. This understory becomes very dense in patches between the road and Gap Creek on the north side of the project area. The forested areas of the project area are primarily located in the central portion, as the eastern and western ends of the project area primarily contain manicured landscapes (Figures 3-5).

INVESTIGATION:

BACKGROUND RESEARCH

New South Associates, Inc. (NSA) conducted background research prior to fieldwork using the ArchSite GIS database maintained by the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH). The background research identified one previously recorded archaeological site and four historic structures within the 0.5-mile search radius (Figure 6). None of these resources are in the project area itself.

Site 38GR158 is a Middle to Late Archaic surface scatter located just south of the project area between the river and River Falls Road that was recorded in 1985. The site is in an agricultural field with 26 to 50 percent surface visibility at the time it was recorded. Site 38GR158 was recommended as not eligible for the National Register of Historic Places (NRHP) (ArchSite 2023). The four historic structures located within a half-mile radius of the project area include three unidentified houses (SHPO Site Numbers 3337, 3339, and 3341) and River Falls Lodge (SHPO Site Number 3911; Table 2). All four resources are located off Jones Gap Road to the north of the project area, and all were recommended as not eligible for listing in the NRHP (Owens et al. 2013).

Table 2. Previously Recorded Cultural Resources

Site/SHPO Site No.	Type or Name/Address	Temporal Affiliation/Build Date	NRHP Recommendation	Reference
38GR158	Surface Scatter	Middle to Late Archaic period	Not Eligible	Archsite 2023
3337	Unidentified House/ 223 Duckworth Road	c. 1940s	Not Eligible	Owens et al. 2013
3339	Unidentified House/101 Jones Gap Road	c. 1940s	Not Eligible	Owens et al. 2013
3341	Unidentified House/124 Jones Gap Road	c. 1950s	Not Eligible	Owens et al. 2013
3911	River Falls Lodge/ 100 River Falls Lodge Road	c. 1940	Not Eligible	Owens et al. 2013

SURVEY RESULTS

While the cultural resources survey did not identify any archaeological sites, an isolated find was recorded in STP 46. The architectural survey recorded five new resources. The results of the cultural resources survey are discussed below.

ARCHAEOLOGY

The Phase I Archaeology Survey was conducted on August 1, 2023. Lauren Christian, MA, RPA, served as Field Director and was assisted in the field by Archaeological Technician John Tomko. The archaeological investigation included a pedestrian walkover of the entire project area and the excavation of shovel tests at 30-meter (100-foot) intervals within the project area. Shovel tests were placed along a single transect parallel to either side of Gap Creek Road. Soil profiles were recorded for all excavated shovel tests, and location data was recorded for all investigated shovel tests using handheld GPS instruments.

Forty-seven shovel test locations were plotted at 30-meter intervals across the project area. However, shovel tests that occurred in developed/modified areas, on steep sideslopes, or in wetlands were not excavated. All other areas were documented by shovel test excavation or by examining exposed subsoil. As a result nine were either excavated or were documented based on surface visibility (Figure 7). Along the north side of S-23-41, STs 1 to ST 7 were located in developed/modified areas, although ST 6 was between developments and was investigated. From ST 8 to 23, the project area parallels Gap Creek and contains somewhat poorly soils throughout. These shovel tests were not excavated except for ST 13 which contained a small finger ridge overlooking the creek. On the south side of S-23-41, STs 24 to 39 occur along a very steep slope and were not excavated. The topography flatted out and contained light residential development from ST 40 to ST 46. STs were investigated in this area, and ST 47 was in a disturbed/modified location.

Two example shovel tests contained notably different soil profiles. Negative STP 13 was offset to judgmentally test a small finger ridge overlooking Gap Creek. The soil profile of this STP consists of approximately 32 centimeters of dark yellowish brown (10YR 4/4) sandy loam Ap horizon overlying a lens of yellowish brown (10YR 5/6) sand beneath which is strong brown (7.5YR 4/6) sandy clay subsoil (Figure 8a). The soil profile for positive ST 46, located in a grassy field behind a partially demolished cinderblock building, consists of approximately 10 centimeters of brown (10YR 4/4) sandy loam Ap horizon overlying approximately 10 centimeters brown (10YR 4/3) silty loam mottled with reddish brown (5YR 4/3) sandy clay beneath which is reddish brown (5YR 4/3) sandy clay subsoil (Figure 8b).

One small piece of plain whiteware and one small piece of clear glass were noted in Zone 2 of ST 46 but were not collected. Due to the proximity of the shovel test to the intersection of Gap Creek Road and River Falls Road and its location next to a gravel pull-out, the origin of the non-diagnostic artifacts is thought to be secondary deposits. As an isolated find consisting of secondary deposits, it is not assessed for the NRHP.

ARCHITECTURAL SURVEY

On August 30, 2023, Architectural Historian Sean Stucker, MHP, conducted the architectural survey of the APE, which was defined as all above-ground resources 50 years of age or older with sightlines to the bridge. Such resources were documented with South Carolina State Survey forms and photography and assessed for NRHP eligibility in accordance with the *South Carolina State Historic Preservation Office (SHPO) Survey Manual: South Carolina Statewide Survey of Historic Places*. Five architectural resources were recorded, but the bridge itself, constructed in 1964, was not evaluated per the exemptions associated with the FHWA's Post-1945 Bridges Program Comment (U.S. Department of Transportation, Federal Highway Administration 2012). This bridge (ID 04329) is of a common type, with a substructure comprised of prestressed concrete channel beams and a steel-frame structure set in the riverbed, a precast-concrete deck structure, and a bituminous decking surface (Figure 9). Newly identified resources are listed in Table 3 and are depicted in Figure 10, and they are discussed below.

Table 3. Newly Recorded Architectural Resources

SHPO Site No.	Address	Style/Type	Build Date	NRHP Recommendation
6408	550 River Falls Road	Unidentified Commercial building	c. 1950	Not Eligible
6409	116 Gap Creek Road	Compact Ranch house	c. 1973	Not Eligible
6410	119 Gap Creek Road	Minimal Traditional house	c. 1960	Not Eligible
6410.01	119 Gap Creek Road	Outbuilding	c. 1960	Not Eligible
6411	122 Gap Creek Road	Ranch house	c. 1960	Not Eligible
6412	105 Cool River Drive	Unidentified house	c. 1954	Not Eligible

SHPO Site Number 6408 – 550 River Falls Road

Facing north from its site at the intersection of River Falls and Gap Creek roads and located approximately 700 feet west of the subject bridge over the Middle Saluda River, SHPO Site Number 6408 is a formerly front-gabled commercial building. Greenville County tax records do not list a construction date, and it is unclear if the building is present in 1951 aerial imagery. It does appear in 1955 imagery. Therefore, based on that imagery and the build dates of nearby previously recorded resources, the building is assumed to have been built circa 1950 (NETRonline 2024; United States Geological Survey 1951).

The type of commerce it housed is unknown, and it was not documented in the statewide survey *Rural Commerce in Context: South Carolina's Country Stores, 1850–1950*. A 1920 statewide inventory includes two entries for general stores in the "City" of River Falls (population 25), but no stores are listed for this community in a similar inventory from 1942 (Tyson et al. 2013). The building does not appear to have been occupied in at least 15 years, based on Google Streetview imagery dating back to 2009 that shows a vacant building at that time. Streetview imagery from 2016 shows a still-intact roof structure with composition shingle cladding, but several holes were visible in the roof at that time. The current survey documented a shell of a building with no remaining roof structure at all.

The one-story concrete block building (aka Concrete Masonry Unit/CMU) has a rectangular plan and a symmetrical three-bay façade with a central double-leaf door flanked by wide window openings, one of which contains the remnants of a three-part window frame with a large picture window flanked by four-light vertical windows. The half-glazed entry doors have four side-by-side vertical lights in the top half and inset wood paneling below, though the entrance is overgrown and blocked by abandoned equipment and does not appear to have been accessed in years. A few two-pane wooden windows are inset into the top two courses of CMU on both side elevations, and an exterior CMU chimney is appended to the rear (south) elevation, but other details of the building are obscured by overgrown surrounding foliage (Figure 11).

SHPO Site Number 6408 is a circa 1950 commercial building that is not a distinctive or noteworthy example of this commonplace South Carolina building type. Its integrity, furthermore, is impacted by the loss of materials (windows and roof) and its disuse and potential demolition by neglect (although the building is unlikely to collapse on its own,

due to its masonry structure). It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

SHPO Site Number 6409 – 116 Gap Creek Road

Facing west from its site on Gap Creek Road, approximately 430 feet west of the subject bridge over the Middle Saluda River, SHPO Site Number 6409 is a laterally gabled Compact Ranch house. Greenville County tax records do not list a construction date, and it is not present in 1969 aerial imagery. It seems to appear in 1976, so the house is assumed to have been built circa 1973 (NETRonline 2024; United States Geological Survey 1969). The primary façade is perpendicular to Gap Creek Road and faces away from the bridge and the river. There are several outbuildings/secondary dwellings located along the eastern perimeter and at the southeast corner of the parcel, but none appear in aerial imagery prior to the 1990s, so none of them were assessed.

The one-story frame dwelling has a nearly rectangular plan with a single-room addition at the south bay of the façade, and a shed roof structure that extends from and across the southern half of the front roof slope covers the addition and an attached single-auto carport. This roof structure seems to appear in 1984 aerial imagery, so it is either original or an early addition, although the interior addition is likely a later addition, based on its smaller windows and different siding materials. Surrounding foliage obscured most of the façade during the survey, although the wood shingle siding that covers the addition appears to extend across the façade, and the entrance appears to be near the center with two single windows to the left (north) and the addition to the right. This shingle siding material is visible in the north-facing side gable, but the remainder of that elevation and the rear (east) elevation have lap siding that may be fiber pressboard. All visible windows are one-over-one vinyl sash, and the roof cladding is composition shingle. The foundation is continuous CMU with a slab foundation beneath the addition. A slightly raised wooden deck with a pergola extends across the façade north of the addition (Figure 12).

SHPO Site Number 6409 is a circa 1973 Compact Ranch house that is not a distinctive or noteworthy example of this commonplace South Carolina house type. Its integrity, moreover, is impacted by the façade addition and the replacement siding and fenestration. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

SHPO Site Numbers 6410 and 6410.01 – 119 Gap Creek Road

Facing south from its site on Gap Creek Road, approximately 315 feet west of the subject bridge over the Middle Saluda River, SHPO Site Number 6410 is a laterally gabled Minimal Traditional house with one historic and one non-historic outbuilding. Greenville County tax records do not list a construction date, and it is not present in 1955 aerial imagery. It seems to appear in 1964, so the house is assumed to have been built circa 1960 (NETRonline 2024; United States Geological Survey 1964). SHPO Site Number 6410.01 is a gabled frame outbuilding that is not clearly visible in older aerial imagery (though it seems to appear in 1984 and may appear in 1976) but whose materials suggest that it was built around the same time as the main house, or possibly earlier and relocated (NETRonline 2024). A second outbuilding on the property does not appear in aerial imagery until the 2000s, so it was not assessed.

The one-story dwelling has a composition shingle roof and a rectangular plan with a cross-gabled roof extending from the western half of the front slope to cover the screened front porch. The porch approach is poured concrete steps and a landing, and the porch gable end is clad with T1-11 plywood siding. Screening somewhat obscures the asymmetrical façade details, but the porch appears to contain the door in the center bay with two single windows in the west bay and a single window centered in the unscreened portion of the facade. An exterior CMU chimney with stepped shoulders on the west elevation divides two single windows in the center and rear bays from a small window set at the upper-sash height in the front bay. The east side core has two single windows and a smaller paired window that is likely above the kitchen sink. A smaller single window is visible in the shed roof extension appended to the eastern half of the rear elevation. The standard windows are six-over-six wood sash, and the rear west-side window is

surmounted by a metal awning; smaller windows are multi-paned, but the patterns were not discernible. Rectangular louvered vents are centered in both side gables, and the foundation is continuous CMU. The structure may be CMU as well, but the exterior cladding is aluminum siding, and the house structure is not visible above the foundation (Figure 13).

SHPO Site Number 6410.01 is a one-room gabled frame outbuilding with a composition shingle roof and exposed rafter tails visible along the lateral elevations. It is sited fewer than 10 feet from the northeast corner of the house (the addition portion). A single six-over-six sash window of indiscernible material is centered in the south elevation, while an open garage bay occupies the northern half (plus) of the east elevation, above which a rectangular louvered vent is centered in the gable. The west elevation may contain a doorway and a window (and a vent), but this side is difficult to see from the public right-of-way (ROW). The exterior cladding is weatherboard siding, and the foundation is not visible (Figure 14).

Although SHPO Site Number 6410 is a circa 1960 Minimal Traditional house, it is not a distinctive or noteworthy example of this commonplace South Carolina house type. SHPO Site Number 6410.01 is a similarly commonplace example of a building type that is found throughout South Carolina (rural outbuilding). Neither building was found to embody the distinctive characteristics of a style, period, or method of construction nor to possess significance for engineering or materials, and neither building is known to be associated with events or persons significant in the past. Therefore, these resources are recommended as not individually eligible for the NRHP under Criteria A, B, or C.

SHPO Site Number 6411 – 122 Gap Creek Road

Located on the west bank of the Middle Saluda River and down a long driveway on the south side of Gap Creek Road, SHPO Site Number 6411 is a laterally gabled Ranch house with a cross-gabled wing across the east half of the façade. The house is sited just over 30 feet from the riverbank, but is set back over 200 feet from Gap Creek Road, and over 350 feet southwest of the subject bridge over the Middle Saluda River. Greenville County tax records do not list a construction date, and it is not present in 1955 aerial imagery but appears in 1964. The house is assumed to have been built circa 1960 (NETRonline 2024; United States Geological Survey 1964).

The one-story frame dwelling has an L-shaped plan with the cross-gable wing seeming to appear in the 1964 imagery. The entire house is exposed CMU with the entrance located in the west elevation of the wing rather than in the lateral core, which supports the theory of an original L-shaped footprint. This doorway is set back within a small umbrage beneath the roof of the lateral core, and a wooden deck extends from this sheltered patio along the wing's west elevation that also features a triple (possibly sliding) window with eight panes in each sash. Paired four- and six-pane windows are found on the accessible (west) gable end elevation and on the rear (south) elevation. The cross-gable roof structure carries through from the wing to bisect the south lateral slope, which extends one or two bays eastward beyond the intersection. Foliage obscures the east end of the house, which is not accessible from the public ROW. The gable ends are clad with lap siding that may be fiber pressboard, and a rectangular louvered vent is centered in the western gable end, while an exterior CMU chimney with an arched metal cap is centered on the north gable end of the wing. The continuous CMU foundation has integrated vents (CMU blocks turned sideways with the holes exposed every so often). The roof is clad with standing seam metal, and the soffit and fascia are clad with vinyl. The house appears in stable condition but also appears vacant (Figure 15).

SHPO Site Number 6411 is a circa 1960 Ranch house that is not a distinctive or noteworthy example of this commonplace South Carolina house type. Its integrity, moreover, is impacted by the replacement fenestration and eave materials. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

SHPO Site Number 6412 – 105 Cool River Drive

Facing northwest from its site on the north bank of Gap Creek along Cool River Drive and located approximately 400 feet northeast of both the subject bridge over the Middle Saluda River and the confluence of the river with Gap Creek, SHPO Site Number 6412 is a laterally gabled house with mixed materials and a vernacular design. Greenville County tax records do not list a construction date, and it is not clearly visible in 1951 aerial imagery. It seems to appear in 1955 and 1964 and is definitely visible in 1969, so, although the Real Property Card on file with the tax assessor shows the first deed transfer in 1957, the house is assumed to have been built circa 1954 (NETRonline 2024; United States Geological Survey 1951, 1964, 1969). The primary façade faces towards the road and away from the creek and the downstream bridge.

The one-story frame dwelling has a rectangular plan with the rear (southeast) roof slope extending out to cover an addition or enclosed porch across the full elevation. The façade contains the main entrance and two rectangular metal awning windows to the right of the door, one short and wide and the other more proportional; the latter type is also found on the side elevations, while the rear addition/enclosed porch has taller windows, though the details of this elevation are obscured by surrounding foliage, including whether there is a secondary egress. The front door is covered by a pent shed roof propped on diagonal braces that are anchored to the front wooden steps, which have a metal railing on one side and wooden one on the other. The exterior walls are clad with smooth plywood paneling with a combination of OSB plywood and metal panels covering most of the foundation, although the house appears to rest on some sort of pier system based on the open space visible behind a few missing sections of underpinning. The wooden soffit and fascia overhang about a foot on all sides, and an exterior CMU chimney is appended to the northeast elevation with rectangular louvered vents centered in both gable ends. The roof cladding is corrugated metal (Figure 16).

SHPO Site Number 6412 is a circa 1954 laterally gabled house that is not a distinctive or noteworthy example of this commonplace South Carolina house type. Its integrity, moreover, is impacted by the replacement and mix-matched materials, including the exterior cladding and fenestration. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

REMARKS AND RECOMMENDATIONS:

While the survey did not identify any archaeological sites, one isolated find that is likely a secondary deposit was identified near the intersection of Gap Creek and River Falls roads. Five new architectural resources were recorded, but none are recommended as eligible for the NRHP. The proposed project, as currently defined, would have no effects to historic properties.

SIGNATURE: Natalie Adam Pope Principal Investigator **DATE:** April 17, 2024

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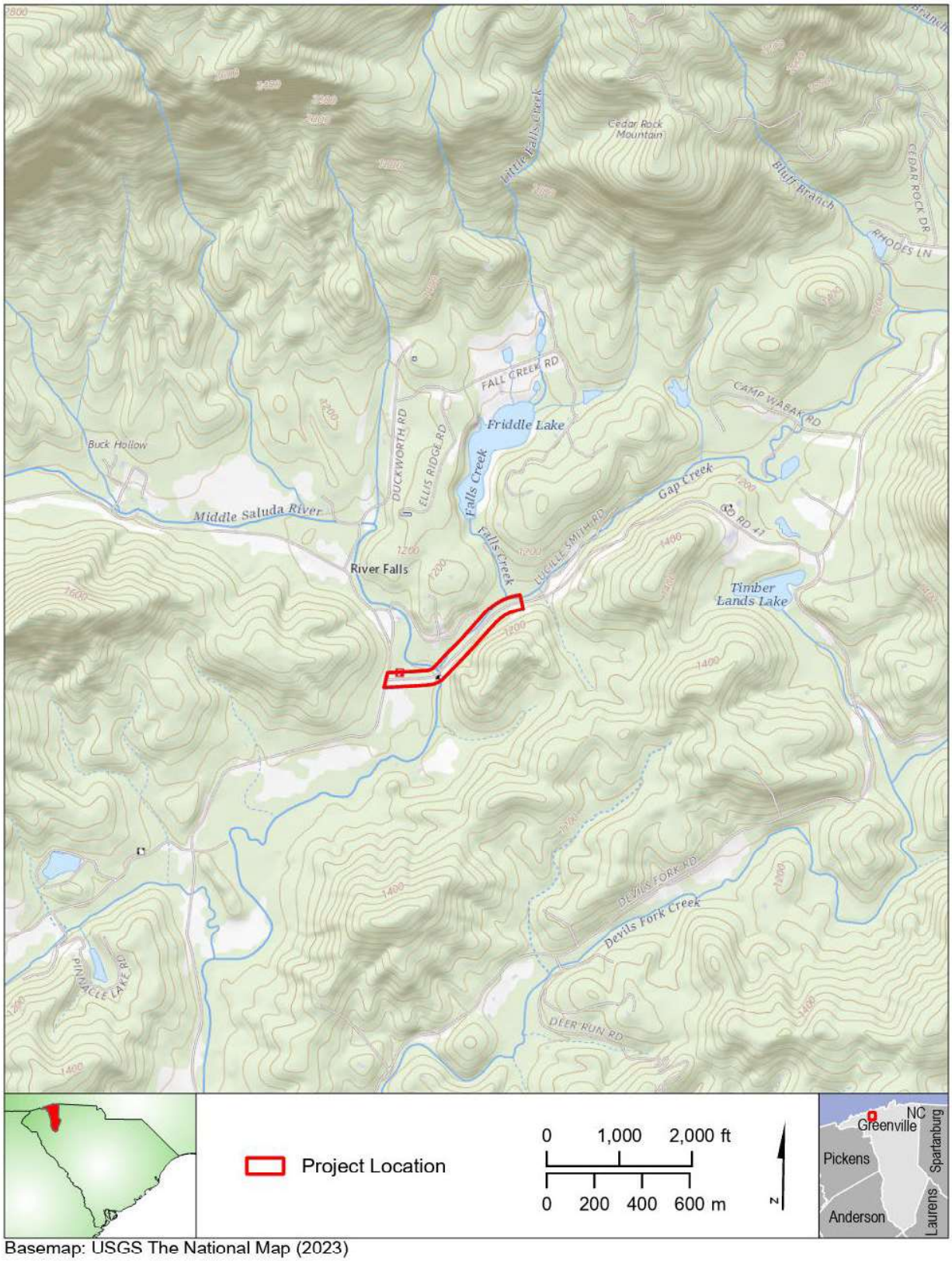
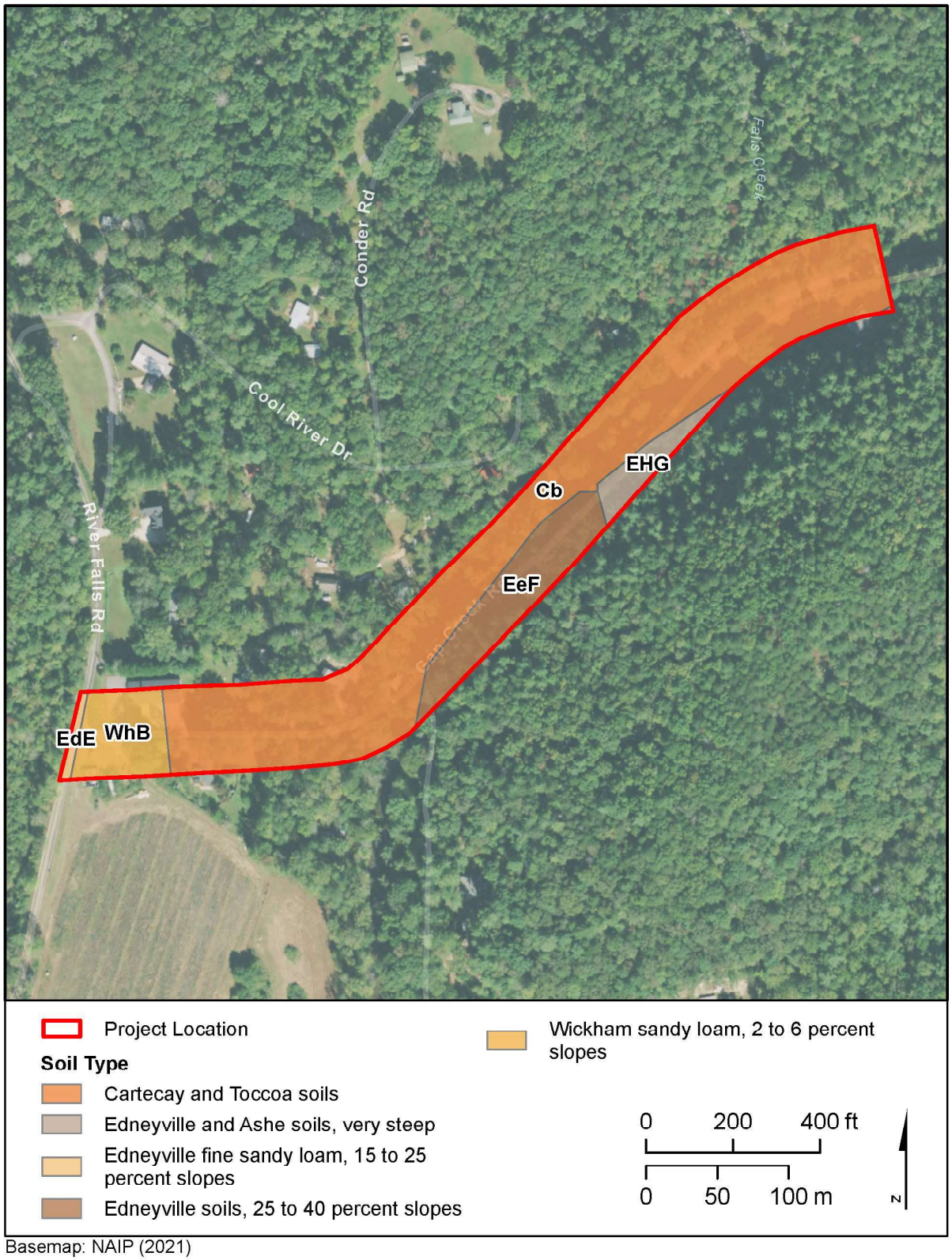
U.S. Department of Transportation, Federal Highway Administration. 2012. Program Comment for Actions Affecting Post-1945 Concrete and Steel Bridges. Advisory Council on Historic Preservation, Washington, D.C.

Figure 1: Project Location Map



Basemap: USGS The National Map (2023)

Figure 2. Soils Mapped in the Project Area



Basemap: NAIP (2021)

Figure 3: Forested Portion of Project Area (Looking East)

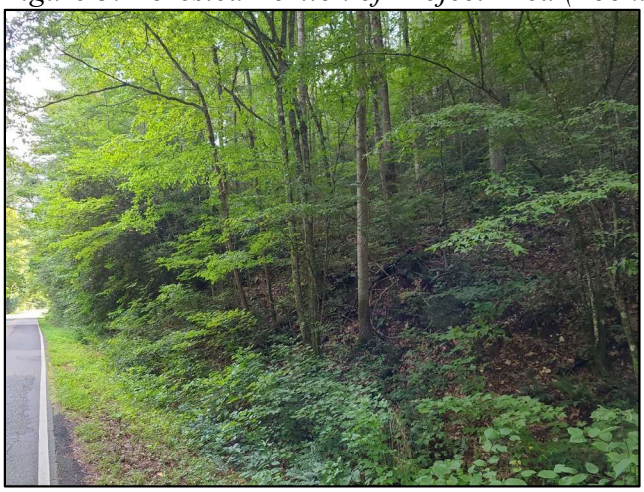
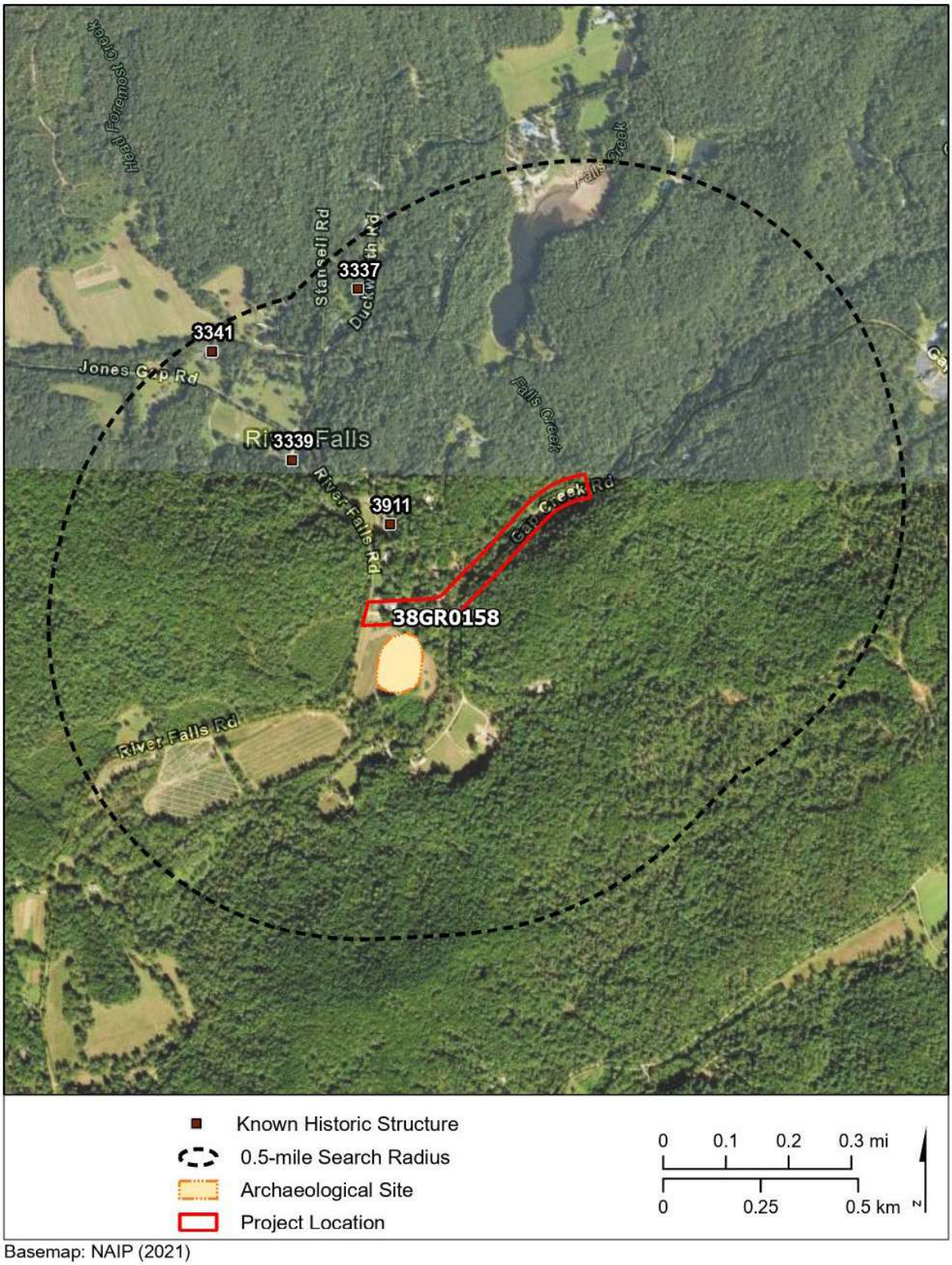


Figure 4: View between Gap Creek and Road in Project Area (Looking North)

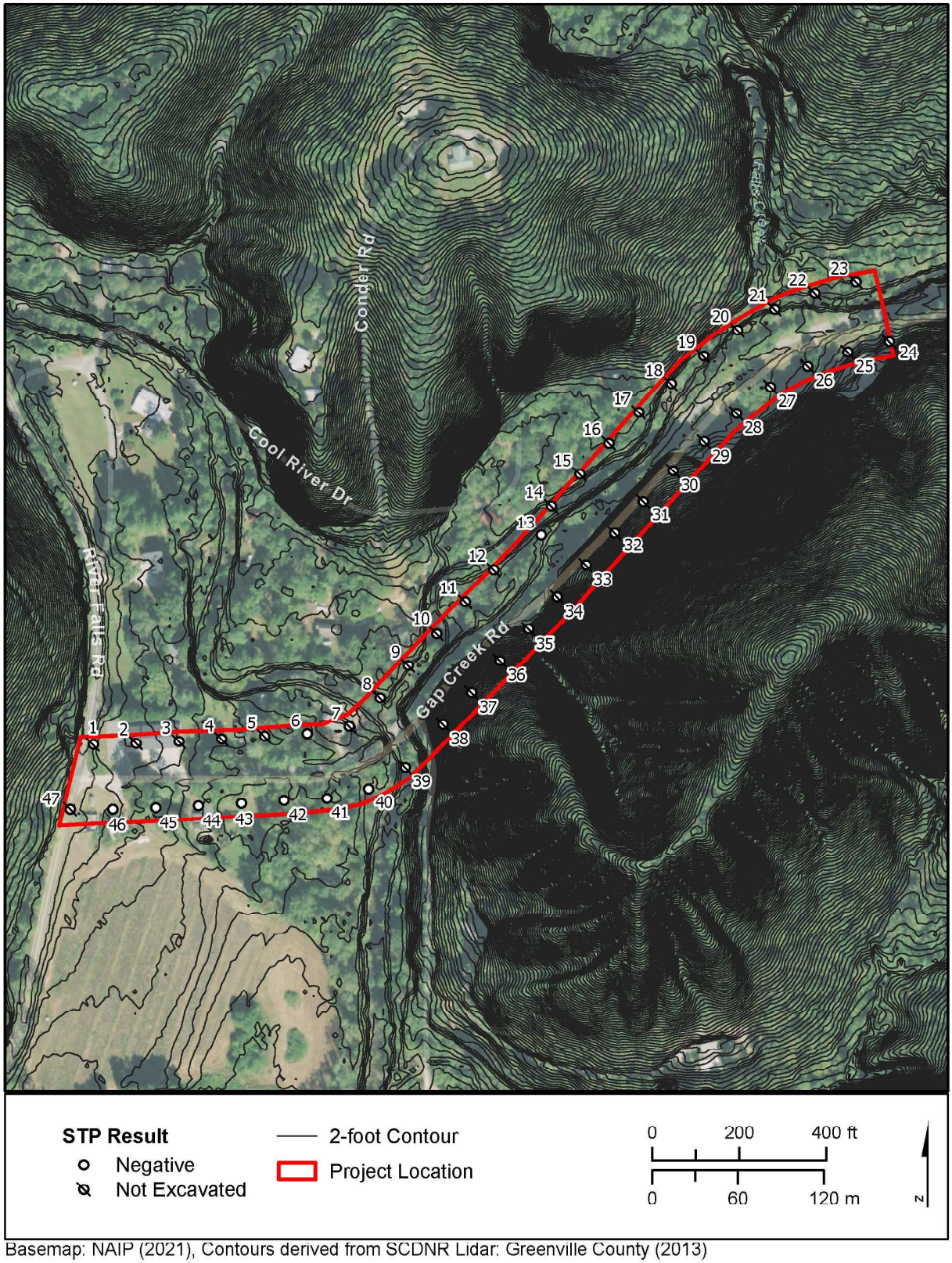
Figure 5: Manicured Lawn and Fire Department at West End of Project Area (Looking Northeast)

Figure 6: Previously Recorded Cultural Resources Map



Basemap: NAIP (2021)

Figure 7: Shovel Tests Results Map



Basemap: NAIP (2021), Contours derived from SCDNR Lidar: Greenville County (2013)

Figure 8: STP Soil Profiles

a. Soil Profile of STP 13 (Looking West)

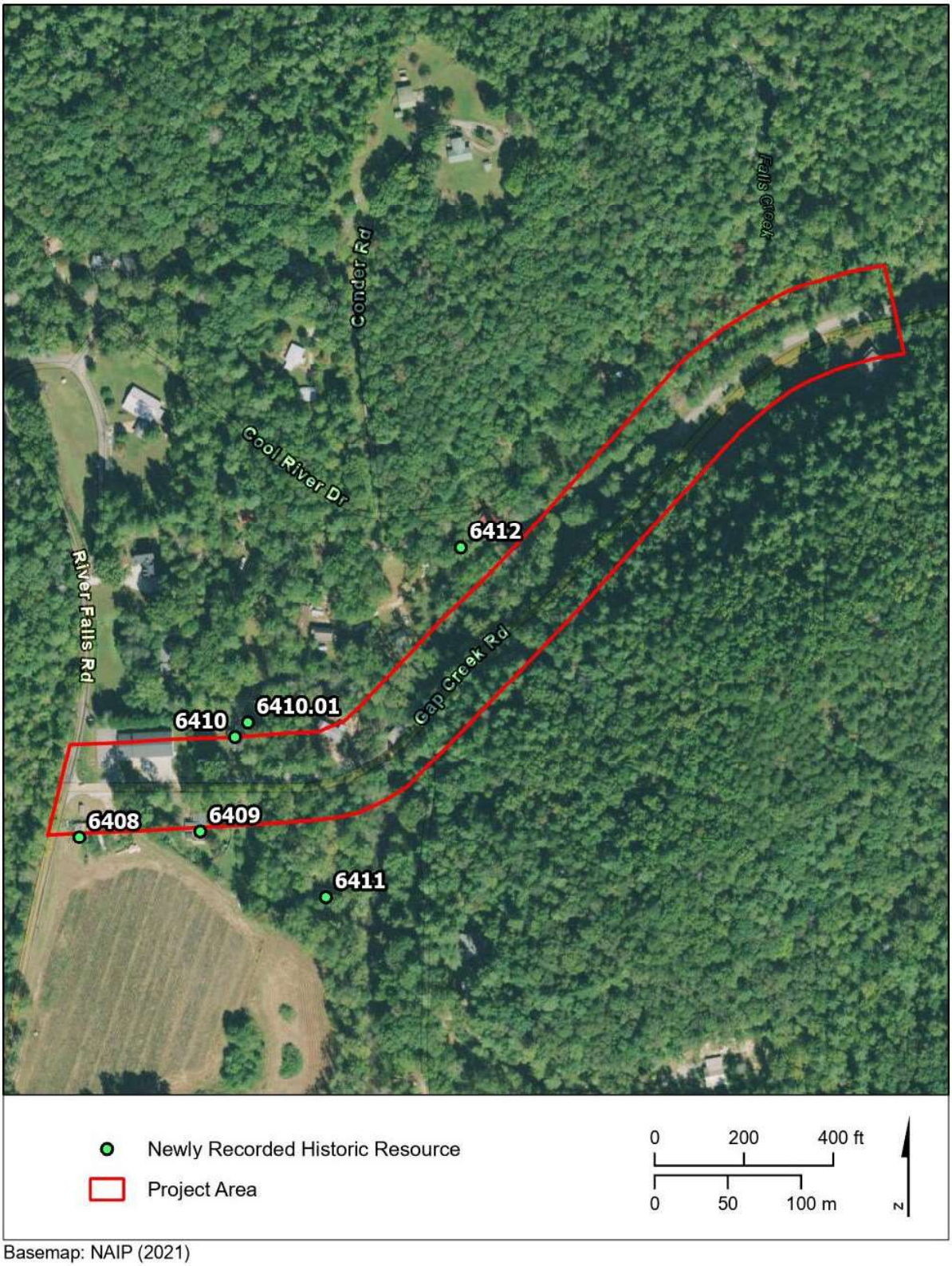
b. Soil Profile of STP 46 (Looking East)

Figure 9: S-23-41 Bridge over Middle Saluda River, Built 1964 and Not Assessed

a. View of Bridge, Looking Northeast

b. Bridge Structure, Looking Northeast

Figure 10: Newly Recorded Cultural Resources Map



Basemap: NAIP (2021)

Figure 11: SHPO Site Number 6408 – 550 River Falls Road

a. Oblique, Looking Southeast

b. Oblique, Looking Southwest

c. Rear Oblique, Looking Northeast

Figure 12: SHPO Site Number 6409 – 116 Gap Creek Road

a. Oblique, Looking Southeast

b. Oblique, Looking Southwest

c. Façade Detail, Looking Southeast

Figure 13: SHPO Site Number 6410 – 119 Gap Creek Road

a. Oblique, Looking Northwest

b. Oblique, Looking Northeast

c. Façade, Looking North

Figure 14: SHPO Site Number 6410.01 – 119 Gap Creek Road

a. Oblique, Looking Northwest

b. Oblique, Looking Northeast

Figure 15: SHPO Site Number 6411– 122 Gap Creek Road

a. West Elevation, Looking East

b. Entrance and Façade Detail, Looking Southeast

c. Rear Oblique, Looking Northeast

Figure 16: SHPO Site Number 6412 – 105 Cool River Drive

a. Façade, Looking Southeast

b. Rear Oblique, Looking North

c. Oblique, Looking South

Appendix B: Natural Resources Technical Memorandum

Natural Resources Technical Memorandum

S-41 (Gap Creek Road) Bridge Replacement over Middle Saluda River

SCDOT Project ID: P041159

ROBBINS & DEWITT

June 13, 2024

Introduction

The South Carolina Department of Transportation (SCDOT) proposes to replace the S-41 (Gap Creek Road) bridge over the Middle Saluda River in Greenville County, South Carolina. The project is approximately 10 miles northwest of Travelers Rest, SC. The project is located in the Saluda River Watershed (03050109 8-digit Hydrologic Unit Code) and the 66d Southern Crystaline Ridges and Mountains Level IV Ecoregion. Please see Attachment A, Figure 1 for a Site Location Map.

A Project Study Area (PSA) has been established, based on preliminary design, to encompass all potential impacts of the project. The PSA encompasses an area approximately 10.49 acres in size and approximately 2,150 feet (0.41 mile) in total length, generally centered on the Middle Saluda River in either direction. Furthermore, the PSA is 205 feet in total width, generally centered on the centerline of Gap Creek Road

Robbins & DeWitt conducted a desktop analysis, scientific literature review, and field surveys for natural resources associated with the proposed bridge replacement. This technical memorandum provides a summary of methods and findings related to natural resources and potential project related impacts. Attached to this memorandum are supporting figures, a SCDOT Permit Determination Form, South Carolina Department of Health and Environmental Control (SCDHEC) Watershed and Water Quality Information Report, and a biological evaluation for federally protected species.

Desktop Analysis Methods

A desktop analysis was completed as part of an initial evaluation of the PSA to identify key environmental resources to be considered for permitting and/or avoidance and minimization by the design team. The potential resources identified in the desktop evaluation were field verified by Robbins & DeWitt to ensure that critical regulatory items would not be adversely impacted by the project. The following resources were consulted during the desktop analysis:

- Federal Emergency Management Agency (FEMA) Map Service Center (https://msc.fema.gov/portal)
- SCDHEC Watershed Atlas (https://gis.dhec.sc.gov/watersheds)
- South Carolina Department of Natural Resources (SCDNR) and South Carolina Natural Heritage Program (SCNHP) (https://schtportal.dnr.sc.gov/portal/apps/sites/#/natural-heritage-program)
- SCDNR Digital Elevation Mapping (DEM) and Light Detection and Ranging (LiDAR) (https://www.dnr.sc.gov/GIS/lidar.html)
- SCDNR Open Source Geospatial Data (https://data-scdnr.opendata.arcgis.com/)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/)
- U.S. Fish and Wildlife Services (USFWS) Environmental Conservation Online System (ECOS) (https://ecos.fws.gov/ecp/)
- USFWS Information for Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac/)
- USFWS National Wetland Inventory (NWI) (http://www.fws.gov/wetlands)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (http://nhd.usgs.gov/)
- USGS Topographic Quadrangle Maps (1:24,000-scale) – Cleveland, SC Quadrangle

Jurisdictional Waters of the U.S.

After completing the desktop analysis, Robbins & DeWitt performed field reviews to determine the boundaries of jurisdictional waters of the U.S., including wetlands, in the PSA. Field reviews were conducted on July 13, 2023. A summary of jurisdictional features identified in the PSA is provided in Table 1.

Table 1 - Summary of Delineated Streams and Non-Wetland Waters in the Project Study Area

Stream	Latitude	Longitude	Centerline Length (feet)	Area (acre)
Stream A	35.120394	-82.537591	215	0.20
Stream B	35.122336	-82.535732	1,090	0.69
Total			**1,305 feet**	**0.89 acres**

Permitting Considerations

Based on the conceptual bridge design, impacts to jurisdictional waters may occur during construction but are expected to remain below the SCDOT U.S. Army Corps of Engineers General Permit impact thresholds.

The USACE Charleston District has identified the Middle Saluda River as part of the USACE Section 408 program. Coordination with the USACE Section 408 office will be required for the project. It is anticipated that the project will be designed to avoid alterations to the channel that would impair or reduce conveyance or functionality. The Contractor shall provide a bridge plan and profile depicting the final bridge design to the Section 408 USACE Charleston District office for review and concurrence prior to construction.

A completed SCDOT Permit Determination Form and SCDHEC Watershed and Water Quality Information Report are provided in Attachment B.

Federally Protected Species

Environmental scientists performed literature and field reviews to determine the likelihood of protected species within the PSA and the potential for project-related impacts. Field reviews were conducted on July 13, 2023, February 20, 2024, and April 16, 2024. The SCDNR South Carolina Natural Heritage Species Viewer was also reviewed to determine the presence of known populations of protected species within the vicinity of the project. Based on the literature and field reviews it is determined that the proposed project will have a biological conclusion of 'no effect' on bog turtle, bunched arrowhead, dwarf-flowered heartleaf, mountain sweet pitcherplant, swamp pink, small whorled pogonia, white fringeless orchid, or rock gnome lichen. The project will have a biological conclusion of 'may affect – not likely to adversely affect' for the northern long-eared bat. A Biological Evaluation is provided in Attachment C.

Migratory Birds

Certain bird species are protected under the Migratory Bird Treaty Act of 1918. The USFWS IPaC online database was reviewed for information pertaining to migratory bird species. Migratory birds were observed nesting on the existing bridge.

Vegetation

Land use in the PSA includes undeveloped forests and residential housing. The natural communities observed within the PSA consists of cove forest and a natural trout stream. Refer to the Biotic Communities section in Attachment C for a detailed description of vegetation observed in the PSA.

Soils

According to the (USDA-NRCS) Soil Survey Geographic (SSURGO) data, five Soil Map Units (SMU) are mapped within the PSA. Each SMU IS included in Table 2 below.

Table 2 - Soil Map Units (SMU) in the Project Study Area

SMU	SMU Name	Area (acres)	Percentage of PSA
Cb	Cartecay and Toccoa soils	7.6	72.4%
EdE	Edneyville fine sandy loam, 15 to 25 percent slopes	0.1	0.9%
EeF	Edneyville soils, 25 to 40 percent slopes	1.4	13.4%
EHG	Edneyville and Ashe soils, very steep	0.5	4.5%
WhB	Wickham sandy loam, 2 to 6 percent slopes	0.9	8.8%

If you have any questions, or if Robbins & DeWitt can be of additional assistance, please feel free to contact Matt DeWitt at (864) 201-8446 or matt.dewitt@robbins-dewitt.com.

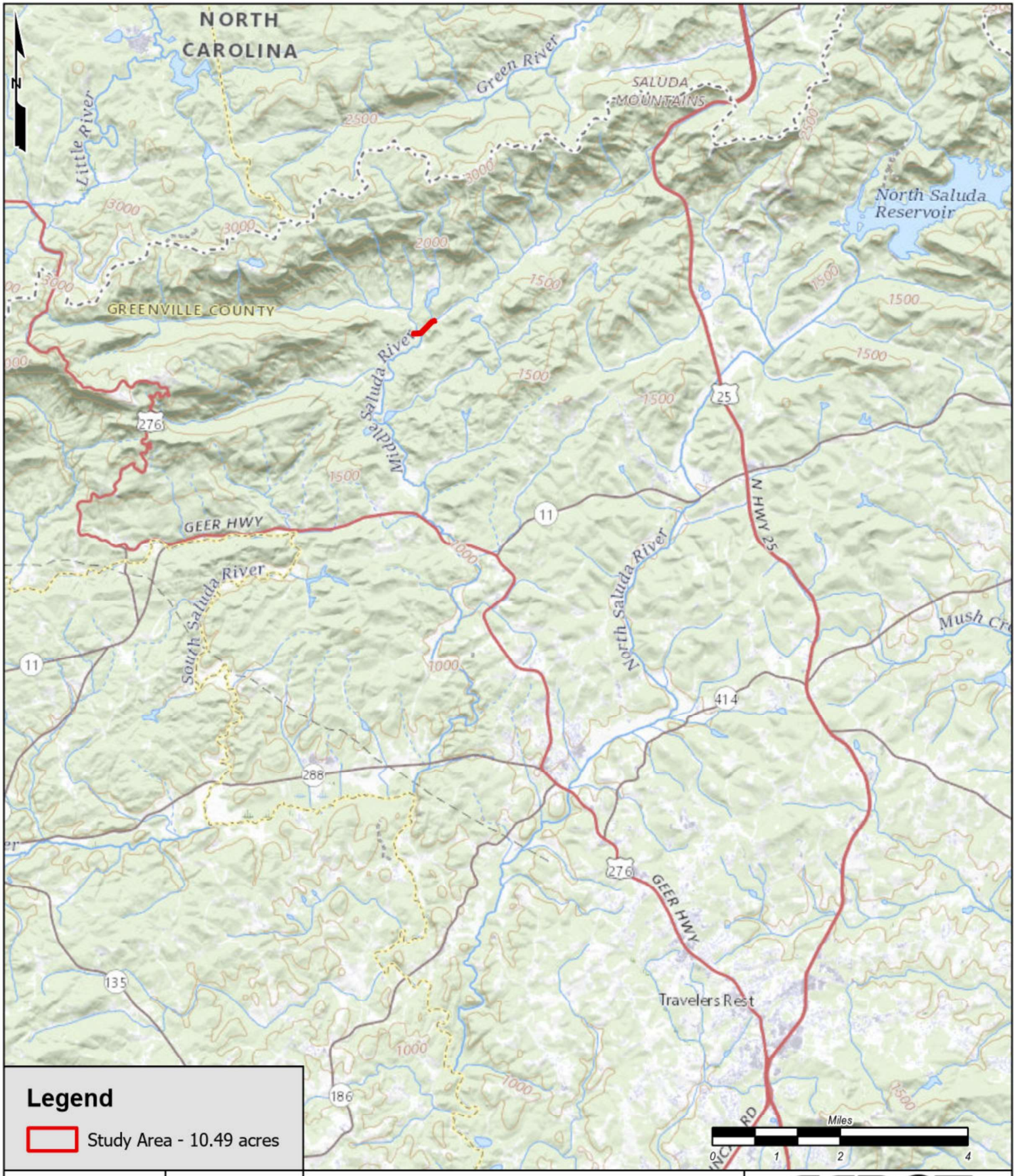
Respectfully Submitted

Matt DeWitt, AICP
Robbins & DeWitt, LLC

Attachment A

Figures

ROBBINS
& DEWITT



Legend

Study Area - 10.49 acres

ROBBINS & DEWITT
www.Robbins-DeWitt.com

S-41 BRIDGE REPLACEMENT
OVER MIDDLE SALUDA RIVER
PROJECT ID: P041159

GREENVILLE COUNTY, SOUTH CAROLINA

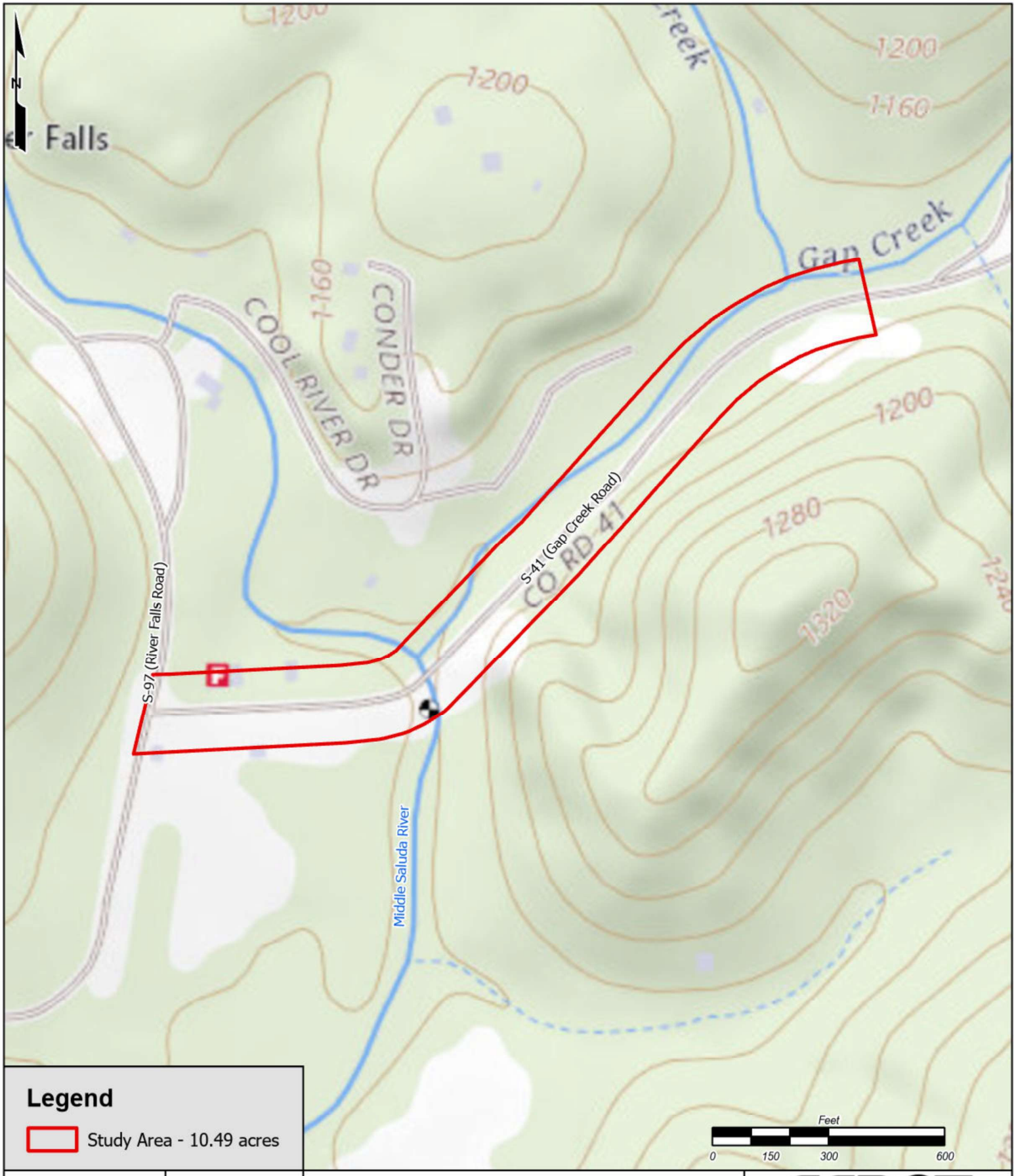
Source: USGS National Map (2023); USGS Cleveland, SC Quadrangle (2020)

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 10/30/2023

PROJECT VICINITY

FIGURE 1



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www.Robbins-DeWitt.com

S-41 BRIDGE REPLACEMENT
OVER MIDDLE SALUDA RIVER
PROJECT ID: P041159

GREENVILLE COUNTY, SOUTH CAROLINA

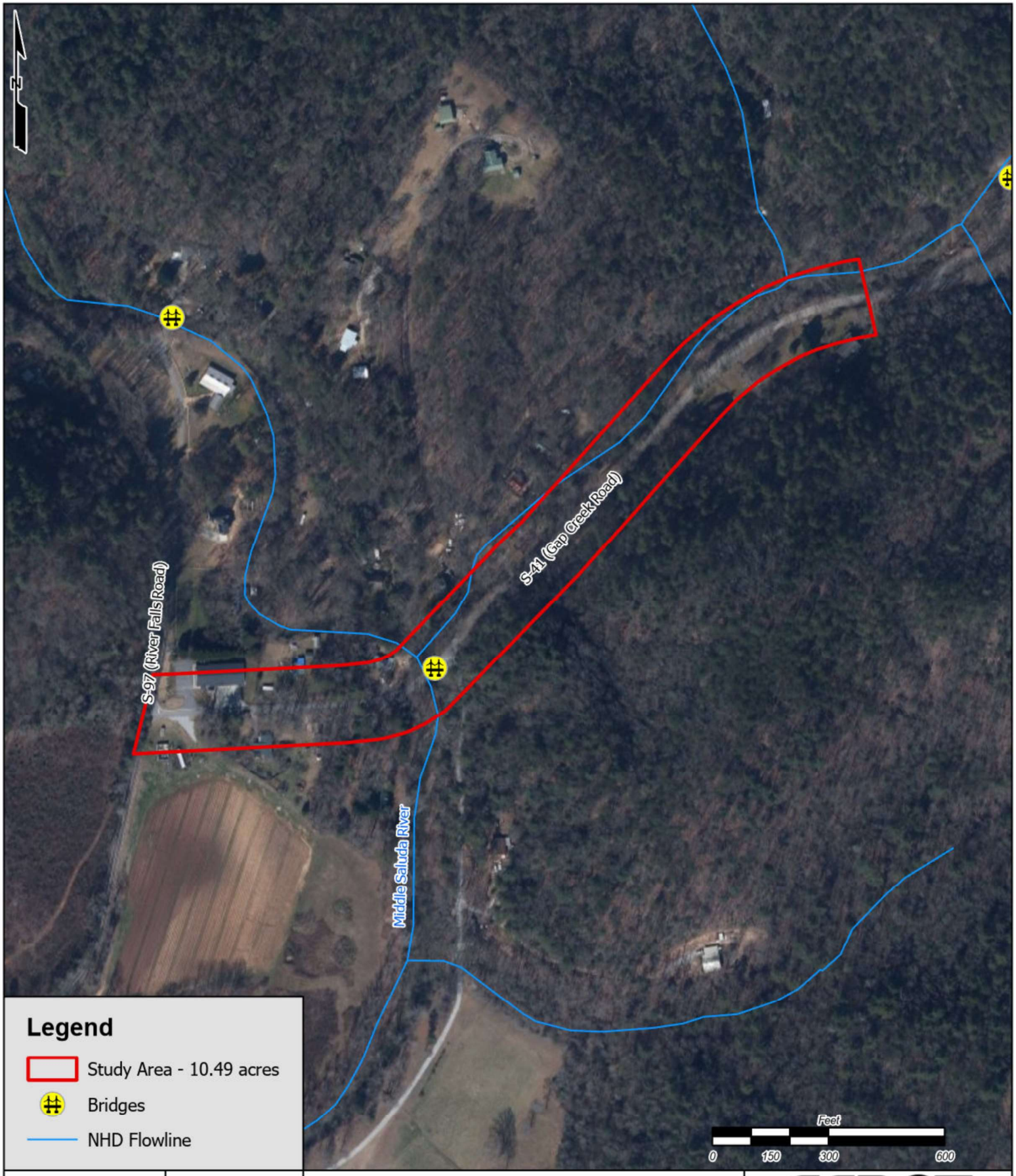
Source: USGS National Map (2023); USGS Cleveland, SC Quadrangle (2020)

SCDOT
South Carolina Department of Transportation

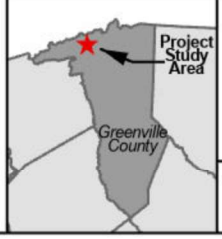
DRAWN BY: TRC | DATE: 10/30/2023

USGS TOPOGRAPHIC MAPPING

FIGURE 2



ROBBINS & DEWITT
www.Robbins-DeWitt.com



S-41 BRIDGE REPLACEMENT
OVER MIDDLE SALUDA RIVER
PROJECT ID: P041159

GREENVILLE COUNTY, SOUTH CAROLINA

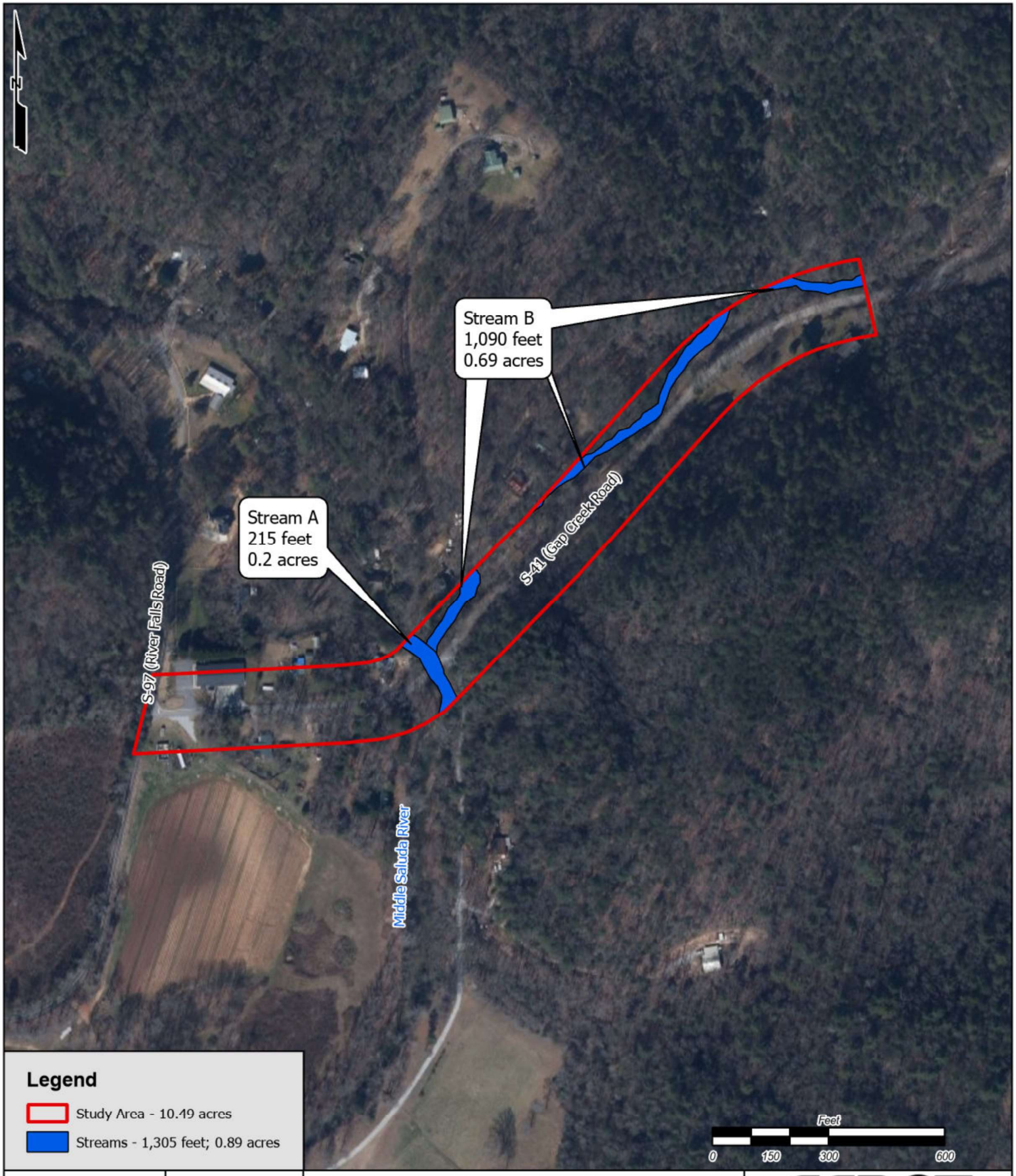
Source: USGS NHD Flowlines (2018); SC Geodetic High Resolution 6-inch, RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC | DATE: 10/30/2023

AERIAL IMAGERY

FIGURE 3



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S-41 BRIDGE REPLACEMENT
OVER MIDDLE SALUDA RIVER
PROJECT ID: P041159

GREENVILLE COUNTY, SOUTH CAROLINA

Source: Approximate boundaries of WOTUS were delineated on July 28, 2023; SC Geodetic High Resolution 6-inch, RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 10/30/2023

APPROXIMATE BOUNDARIES OF WOTUS

FIGURE 4

Attachment B

SCDOT Permit Determination Form & Water Quality Information Report

ROBBINS & DEWITT

PERMIT DETERMINATION

Date: May 2, 2024 Project ID: P041159

From: Russell Chandler Company: Robbins & DeWitt

Contact Info (phone and/or email): 803-360-5197 / russell.chandler@robbins-dewitt.com

Permit Manager: Will McGoldrick - Alternative Delivery Coordinator

Project Name: S-41 (Gap Creek Road) Bridge Replacement over Middle Saluda River

County: Greenville (Optional) Structure #:

STUDY AREA:

Does there appear to be WOTUS in the study area? (•) YES ( ) NO

PERMIT TYPE:

( ) It has been determined that no permit is required because:

(•) The following permit(s) is/are necessary:

(Please check which type(s) of permit the project will need)

USACE Permit GP [✓] IP [ ] NWP [ ]

OCRM Permit Individual CAP [ ] CAP GP [ ]

Navigable Permit State NAV [✓] USCG [ ]

408 PROJECT INFO:

Is it within a 408 Project: (•) YES ( ) NO

408 Project Name: Saluda River (North, South, and Middle Fork)

MITIGATION:

Mitigation Bank: (•) YES ( ) NO

Mitigation Bank Name: Saluda Mitigation Bank, Arrowhead Farms

Comments:

The determination above was based on the most recently available information at the time. This is a preliminary determination and is subject to change if the design of the project is modified.

Russell Chandler — May 2, 2024

Biologist, SCDOT/Consultant Date

Revised 04/2024

Watershed and Water Quality Information

Healthy People Healthly Communities

General Information

Applicant Name: SCDOT
Permit Type: Construction
Address: 195 GAP CREEK RD, MARIETTA, SC, 29661
Latitude/Longitude: 35.120273 / -82.537587
MS4 Designation: Medium MS4
Monitoring Station: S-252
Within Coastal Critical Area: No
Water Classification (Provisional): TN
Waterbody Name: MIDDLE SALUDA RIVER
Entered Waterbody Name:

Parameter Description

NH3N	Ammonia	CD	Cadmium	CR	Chromium
CU	Copper	HG	Mercury	NI	Nickel
PB	Lead	ZN	Zinc	DO	Dissolved Oxygen
PH	pH	TURBIDITY	Turbidity	ECOLI	Escherichia coli (Freshwaters)
FC	Fecal Coliform (Shellfish)	BIO	Macroinvertebrates (Bio)	TP	(Lakes) Phosphorus
TN	(Lakes) Nitrogen	CHLA	(Lakes) Chlorophyll a	ENTERO	Enterococcus (Coastal Waters)
HGF	Mercury (Fish Tissue)	PCB	PCB (Fish)		

Impaired Status (downstream sites)

Station	NH3N	CD	CR	CU	HG	NI	PB	ZN	DO	PH	TURBIDITY	ECOLI	FC	BIO	TP	TN	CHLA	ENTERO	HGF	PCB
S-252	X	X	X	X	X	X	X	X	X	X	X	InTN	X	X	X	X	X	X	X	X
S-299	X	F	F	F	F	F	F	F	F	F	F	A	X	X	X	X	X	X	X	X

F = Standards full supported
N = Standards not supported
A = Assessed at upstream station
X = Parameter not assessed at station
WnTN = Within TMDL, parameter not supported
InTN = In TMDL, parameter not supported
WnTF = Within TMDL, parameter full supported
InTF = In TMDL, parameter full supported

Parameters to be addressed (those not supporting standards)

ECOLI - Escherichia coli (Freshwaters)

Fish Consumption Advisory

Waters of Concern (WOC)

TMDL Information - TMDL Parameters to be addressed

In TMDL Watershed: Yes
TMDL Site: S-252
TMDL Report No: 023-04
TMDL Parameter: Fecal
TMDL Document Link: https://www.scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/tmdl_usaluda_fc.pdf

Report Date: May 2, 2024

Attachment C

Biological Evaluation – Section 7 of the Endangered Species Act

ROBBINS & DEWITT

Introduction

The proposed project consists of replacing the S-41 (Gap Creek Road) bridge over Middle Saluda River, and associated road work, in Greenville County, South Carolina.

Pursuant to Section 7 of the Endangered Species Act (ESA), a field survey was conducted within the Project Study Area (PSA) for the project. A Resource List was requested from the USFWS Information for Planning and Consultation (IPaC) in April 2024, to detail protected species under USFWS jurisdiction that are known or expected to be in or near the project area. Table 1 below includes the species that appear on the IPaC Resource List.

Federally Protected Species

Species with the federal classification of Endangered (E) or Threatened (T) or Threatened due to Similarity of Appearance (T [S/A]) are protected under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Although Section 7 of the ESA does not provide protections for Candidate species, they are listed in Table 1 in the event of a status changes prior to completion of the project. Additionally, species that are proposed for listing are not subject to Section 7 compliance until the time they are formally listed. The bald eagle is protected by the Bald and Golden Eagle Protection Act (BGEPA) and is included in this evaluation.

Table 1: Threatened and Endangered Species

Category	Common Name	Scientific Name	Protection Status
Bird	Bald eagle	*Haliaeetus leucocephalus*	BGEPA
Mammal	Northern Long-eared Bat	*Myotis septentrionalis*	*Endangered*
Mammal	Tricolored Bat	*Perimyotis sublavus*	Proposed Endangered
Reptile	Bog Turtle	*Glyptemys muhlenbergii*	Similar in Appearance to Threatened
Insects	Monarch Butterfly	*Danaus Plexippus*	Candidate
Flowering Plant	Bunched Arrowhead	*Sagittaria fasciculata*	Endangered
Flowering Plant	Dwarf-flowered Heartleaf	*Hexastylis naniflora*	Threatened
Flowering Plant	Mountain Sweet Pitcher-plant	*Sarracenia rubra ssp. Jonesii*	Endangered
Flowering Plant	Small Whorled Pogonia	*Isotria medeloides*	Threatened
Flowering Plant	Swamp Pink	*Helonias bullata*	Threatened
Flowering Plant	White Fringeless Orchid	*Platanthera integrilabia*	Threatened
Lichen	Rock Gnome Lichen	*Gymnoderma lineare*	Endangered

Methodology

Environmental scientists performed literature and field reviews to determine the likelihood of protected species within the PSA and the potential for project-related impacts. Field reviews were conducted on July 13, 2023, February 20, 2024, and April 16, 2024. The SCDNR South Carolina Natural Heritage Species Viewer was also reviewed to determine the presence of known populations of protected species within the vicinity of the project.

Biotic Communities

Land use in the PSA includes undeveloped forests and residential housing. The natural communities observed within the PSA consists of cove forest and a natural trout stream.

Cove forests are typically sheltered slopes and rich broad flats next to streams. Although not restricted to northern facing slopes, this community is commonly found on northern facing slopes. The S-41 roadway is an obstacle that prevents direct connection with the North Saluda River and Gap Creek floodplains, but the species composition of the natural community has remained. The most intact portion of this natural community is located on the northern facing slope adjacent to the eastbound travel lane of S-41. Species observed include *Rhododendron maximum* (great laurel), *Leucothoe axillaris* (doghobble), *Kalmia latifolia* (mountain laurel), *Fagus grandifolia* (American beech), *Trillium cuneatum* (Sweet Betsy), and multiple species of *Viola* (violet).

Portions of the Middle Saluda River and Gap Creek are classified as natural trout streams by SCDHEC, including the waters within the PSA. SCDHEC describes the Middle Saluda River as a small river with swift, rapidly moving pocket water. This river is predominantly a wild rainbow trout stream, but also supports a fair brown trout population in its lower reaches. Gap Creek is a tributary of the Middle Saluda River and has similar characteristics.

Results

The SCDNR South Carolina Natural Heritage Species Viewer identifies two occurrences of Gray bat within a one-mile radius of the PSA; however, gray bat is not currently included on the IPaC resource list.

Field reviews of the PSA found no suitable habitat for bald eagle, bog turtle, bunched arrowhead, mountain sweet pitcherplant, swamp pink, white fringeless orchid, or rock gnome lichen.

Suitable habitat exists for dwarf-flowered heartleaf and small whorled pogonia within the PSA. Surveys were conducted for both species on April 16, 2024. A team of four field scientists conducted a plant-by-plant survey within the PSA. No small whorled pogonia was identified during the surveys. Surveys identified multiple species of *Hexastylis ,* primarily *H. heterophylia* (Variable-leaf heartleaf); however, no *Hexastylis naniflora* was found. The *Hexastylis* observed in the PSA had a calyx tube orifice between 7mm and 12mm. *H. naniflora* has a smaller calyx tube orifice, which is typically 5mm or less (sometimes up to 7mm). Additionally, *H. naniflora* appears to be restricted to Pacolet sandy loam, Madison gravelly sandy loam, and Musella fine sandy loam soils (Gaddy 1981,1987), and none of these soil types are present in the PSA.

Suitable habitat for Northern long-eared bat and tricolored bat exists in the PSA. Roosting habitat exists under the existing S-41 bridge and in cavities and crevices of trees within the PSA. During a structure survey of the existing S-41 bridge on February 20, 2024, a single tricolored bat was observed roosting on

the bridge. A visual inspection and borescope review of cavities and crevices in trees within the PSA did not result in observation of any bats. A Structures Survey Data Sheet and Habitat Assessment Data Sheet are included in Attachment D.

Due to the project being located within the known range of northern long-eared bat, and the presence of suitable habitat within the PSA, the project was entered into the IPaC Determination Key (DKey) entitled "FHWA, FRA, FTA Programmatic Consultation for Transportation Projects Affecting NLEB or Indiana Bat". As part of the project information, SCDOT commits to conduct tree clearing within the PSA during the inactive season for the species (November 15 through March 15). A copy of the DKey questionnaire is included in Attachment D.

Conclusions

Based on the literature and field reviews, it is determined that the proposed project will have 'no effect' on bog turtle, bunched arrowhead, dwarf-flowered heartleaf, mountain sweet pitcherplant, swamp pink, small whorled pogonia, white fringeless orchid, or rock gnome lichen.

Based on the results of the DKey, the proposed project will have a biological conclusion of 'may affect, not likely to adversely affect' the northern long-eared bat. A copy of the USFWS concurrence (USFWS Project Code 2024-0081858) is included in Attachment D.

The project team will re-evaluate the project's effect on tricolored bats at the time the species is formally listed under the ESA, and, if necessary, initiate consultation at that time.

If you have any questions, or if Robbins & DeWitt can be of additional assistance, please feel free to contact Matt DeWitt at (864) 201-8446 or matt.dewitt@robbins-dewitt.com.

Respectfully Submitted

Matt DeWitt, AICP
Robbins & DeWitt, LLC

Attachment D

Biological Assessment Attachments

ROBBINS & DEWITT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Carolina Ecological Services
176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558
Phone: (843) 727-4707 Fax: (843) 727-4218

In Reply Refer To: 04/25/2024 13:45:05 UTC
Project Code: 2024-0081858
Project Name: S-41 over M Saluda River

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

South Carolina Ecological Services
176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558
(843) 727-4707

PROJECT SUMMARY

Project Code: 2024-0081858
Project Name: S-41 over M Saluda River
Project Type: Bridge - Replacement
Project Description: The proposed project consists of replacing the S-41 (Gap Creek Road) bridge over Middle Saluda River, and associated road work.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.12155565,-82.53627874828692,14z

Counties: Greenville County, South Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Bog Turtle *Glyptemys muhlenbergii* Population: U.S.A. (GA, NC, SC, TN, VA) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Similarity of Appearance (Threatened)

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Bunched Arrowhead *Sagittaria fasciculata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1720	Endangered
Dwarf-flowered Heartleaf *Hexastylis naniflora* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2458	Threatened
Mountain Sweet Pitcher-plant *Sarracenia rubra ssp. jonesii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4283	Endangered
Small Whorled Pogonia *Isotria medeoloides* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened
Swamp Pink *Helonias bullata* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4333	Threatened

NAME	STATUS
White Fringeless Orchid *Platanthera integrilabia* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1889	Threatened

LICHENS

NAME	STATUS
Rock Gnome Lichen *Gymnoderma lineare* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3933	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

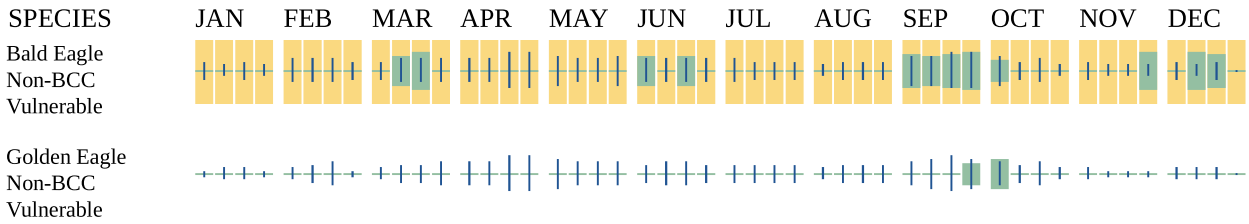
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

▪ probability of presence ▪ breeding season | survey effort – no data



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 27 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Chuck-will's-widow *Antrostomus carolinensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Golden-winged Warbler *Vermivora chrysoptera* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20

NAME	BREEDING SEASON
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

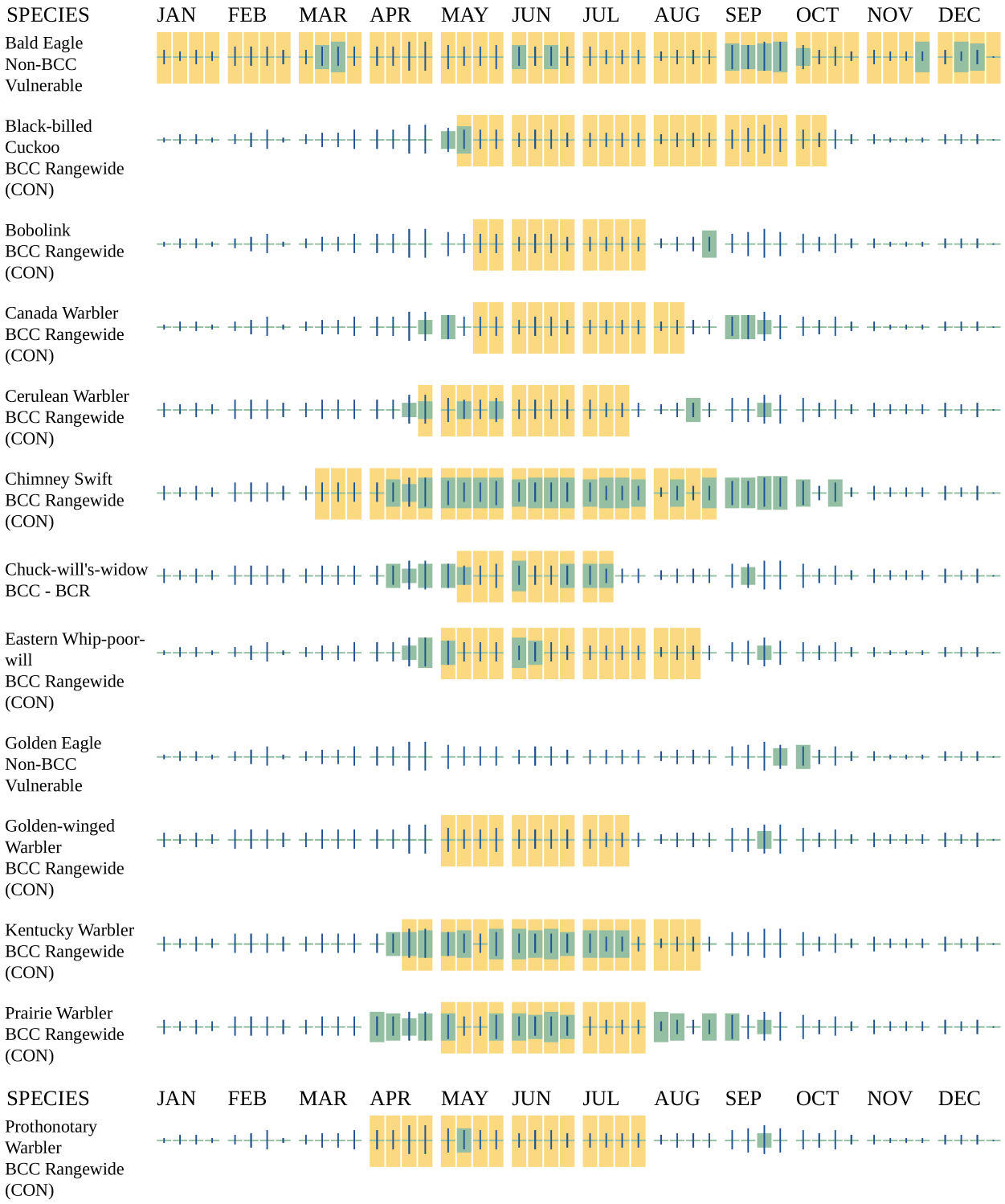
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

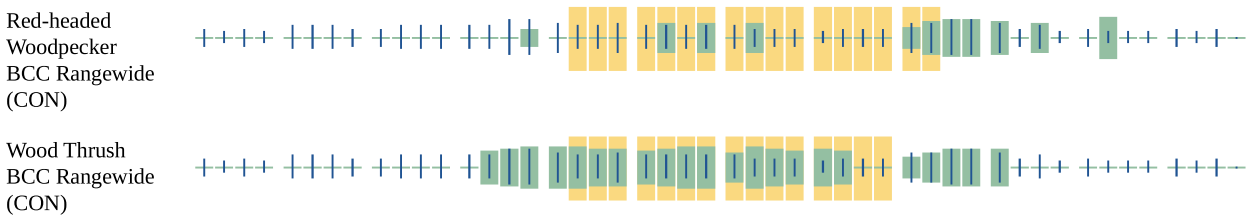
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

probability of presence | breeding season | survey effort | no data





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R3UBH
- R2UBH

IPAC USER CONTACT INFORMATION

Agency: South Carolina Department of Transportation
Name: Amanda Chandler
Address: P.O. Box 536
City: Blythewood
State: SC
Zip: 29016
Email amanda.chandler@robbins-dewitt.com
Phone: 8032387089

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration
Name: Will McGoldrick
Email: McGoldriWR@scdot.org

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Carolina Ecological Services
176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558
Phone: (843) 727-4707 Fax: (843) 727-4218

In Reply Refer To: 04/29/2024 23:15:47 UTC
Project code: 2024-0081858
Project Name: S-41 over M Saluda River

Subject: Consistency letter for the 'S-41 over M Saluda River' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated April 29, 2024 to verify that the **S-41 over M Saluda River** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures. **At least one of the qualification interview questions indicated an activity or portion of your project is consistent with a not likely to adversely affect determination therefore, the overall determination for your project is, may affect, and is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*)**. Consultation with the Service pursuant to section 7(a)(2) of the ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

This "may affect - not likely to adversely affect" determination becomes effective when the lead Federal action agency or designated non-federal representative requests the Service rely on the PBO to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative with a request for review, and as the agency deems appropriate, submit for concurrence verification through the IPaC system. The lead Federal action agency or designated

non-federal representative should log into IPaC using their agency email account and click "Search by record locator". They will need to enter the record locator **357-142315240**.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:
If your initial bridge/culvert or structure assessments failed to detect Indiana bats and/or NLEB use or occupancy, yet bats are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service. If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Bog Turtle *Glyptemys muhlenbergii* Similarity of Appearance (Threatened)
- Bunched Arrowhead *Sagittaria fasciculata* Endangered
- Dwarf-flowered Heartleaf *Hexastylis naniflora* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Mountain Sweet Pitcher-plant *Sarracenia rubra ssp. jonesii* Endangered
- Rock Gnome Lichen *Gymnoderma lineare* Endangered
- Small Whorled Pogonia *Isotria medeoloides* Threatened
- Swamp Pink *Helonias bullata* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- White Fringeless Orchid *Platanthera integrilabia* Threatened

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

S-41 over M Saluda River

DESCRIPTION

The proposed project consists of replacing the S-41 (Gap Creek Road) bridge over Middle Saluda River, and associated road work.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.12155565,-82.53627874828692,14z

DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

2. Is the project within the range of the northern long-eared bat[1]?

   [1] See northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

15. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

16. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

17. Are *all* trees that are being removed clearly demarcated?

    Yes

18. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

19. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

20. Does the project include slash pile burning?

    No

21. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

22. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

23. Has a bridge assessment[1] been conducted **within** the last 24 months[2] to determine if the bridge is being used by bats?

    [1] See User Guide Appendix D for bridge/structure assessment guidance

    [2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

    Yes

    SUBMITTED DOCUMENTS

    - *S-41_Structures Survey Data Sheet v2.pdf https://ipac.ecosphere.fws.gov/project/6NFOBJRWOBGRLHHDBVJQKXIX2U/projectDocuments/142314882*

24. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)[1]?

    [1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

    Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

    No

25. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

    No

26. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

27. Will the project involve the use of **temporary** lighting *during* the active season?

    No

28. Will the project install new or replace existing **permanent** lighting?

    No

29. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

30. Will the activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

31. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

32. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

33. Will the project raise the road profile **above the tree canopy**?

    No

34. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

35. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

36. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

37. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

38. **General AMM 1**
    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

39. **Tree Removal AMM 1**
    Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

    Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

    [1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

    Yes

40. **Tree Removal AMM 3**
    Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

    Yes

41. **Tree Removal AMM 4**
    Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

    [1] The word documented means habitat where bats have actually been captured and/or tracked.

    [2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    Yes

PROJECT QUESTIONNAIRE

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   N/A

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.26

4. Please describe the proposed bridge work:

   Replacing the S-41 (Gap Creek Rd) bridge over Middle Saluda River and associated roadway approach work.

5. Please state the timing of all proposed bridge work:

   2025

6. Please enter the date of the bridge assessment:

   2024-02-20

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: South Carolina Department of Transportation
Name: Amanda Chandler
Address: P.O. Box 536
City: Blythewood
State: SC
Zip: 29016
Email amanda.chandler@robbins-dewitt.com
Phone: 8032387089

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration
Name: Will McGoldrick
Email: McGoldriWR@scdot.org

BAT HABITAT ASSESSMENT DATA SHEET

Project Name: S-41 (GAP CREEK RD) OVER MIDDLE SALUDA RIVER

Date: 2023-07-13, 2024-02-20

County: GREENVILLE

Lat Long: 34.1204, -82.53757

Surveyor: A. CHANDLER, R. CHANDLER

Brief Project Description
Replacing the S-41 (Gap Creek Rd) bridge over Middle Saluda River and associated roadway approach work.

Project Area			
	Total Acres	Forest Acres	Open Acres
Project	10.49 acres	4.56 acres	5.93 acres
Proposed Tree Removal	Completely Cleared	Partially Cleared (Will Leave Trees)	Preserve Acres – No Clearing
	0.26 (anticipated)	None	4.3 acres (anticipated)

Vegetation Cover Types	
Pre-Project	Post-Project
Hardwood forest Maintained right-of-way	Hardwood forest Maintained right-of-way

Landscape within 5-mile Radius
Flight corridors to other forested areas?
Yes
Describe Adjacent Properties (e.g., forested, grassland, commercial or residential development, water sources)
Forested, Residential, Middle Saluda River, Gap Creek

Proximity to Public Land
What is the distance from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?
Within 2.5 miles: Jones Gap State Park, SC Govt Managed Lands Within 5 miles: Caesars Head State Park, Caesars Head WMA, Ashmore Heritage Preserve, Unnamed WMA, Tall Pines WMA

Sample Site Description	
Sample Site No. (s):	Project Study Area (10.49 acres)

Water Resources at Sample Site			
Stream Type (# and length)	Ephemeral	Intermittent	Perennial
			Stream A (214.5 lf) Stream B (1090.8 lf)

Pools/Ponds (# and size)	N/A	Open and accessible to bats?

Wetland (approx. acres)	Permanent	Seasonal

Describe existing condition of water sources: Middle Saluda River – steady flow, USGS monitoring station 02162350, Trout Natural (TN) water Gap Creek – steady flow

Forest Resources at Sample Site			
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (< 20')
	1 (1-10%)	3 (21-40%)	3 (21-40%)

Dominant Species of Mature Trees	Sycamore, River birch, Poplar, Holly, Great laurel, Mountain laurel, Red maple, Water oak, Beech

Exfoliating Bark (%)	5%

Size of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (> 15 in)
	2 (11-20%)	4 (21-40%)	1 (1-10%)

No. of Suitable Snags	5%
Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.	

1 = 1-10%, 2 = 11-20%, 3 = 21-40%, 4 = 41-60%, 5 = 61-80%, 6 = 81-100%

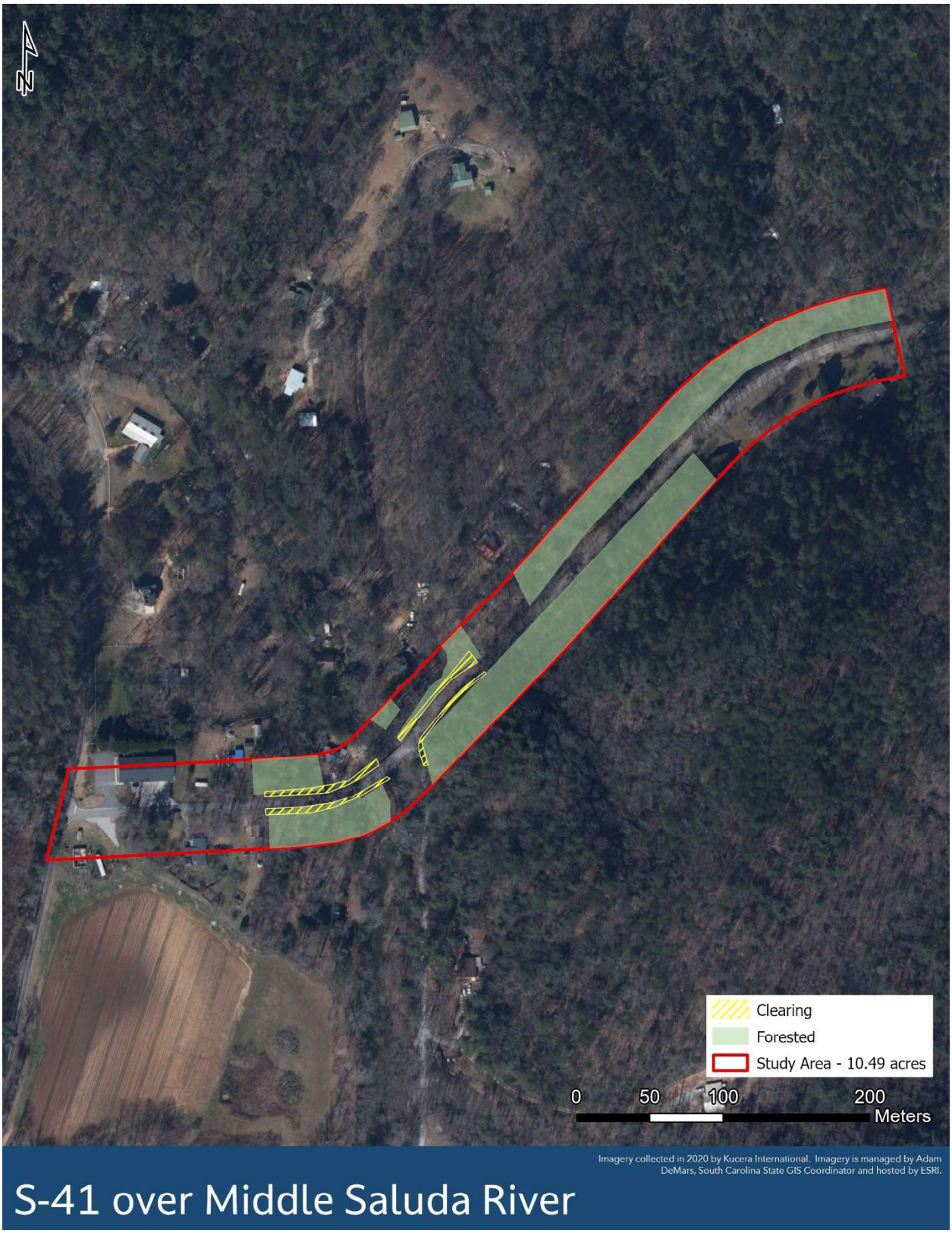
IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? YES

IS THE HABITAT SUITABLE FOR TRI-COLORED BATS? YES

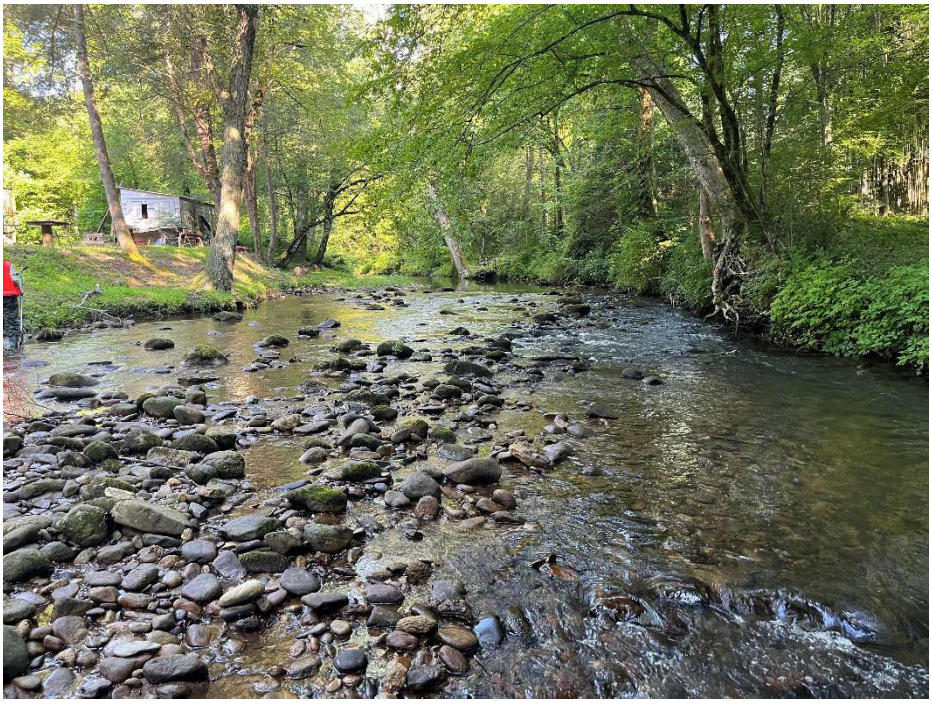
Additional Comments:

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat.

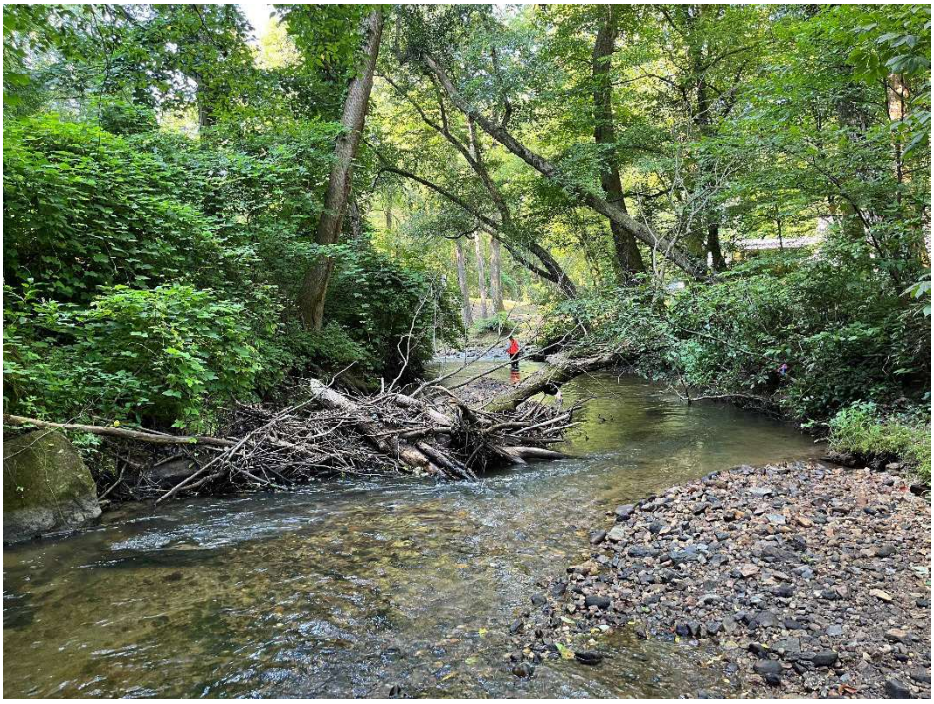
Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources


N
Clearing
Forested
Study Area - 10.49 acres
0
50
100
200
Meters
Imagery collected in 2020 by Kucera International. Imagery is managed by Adam DeMars, South Carolina State GIS Coordinator and hosted by ESRI.
S-41 over Middle Saluda River

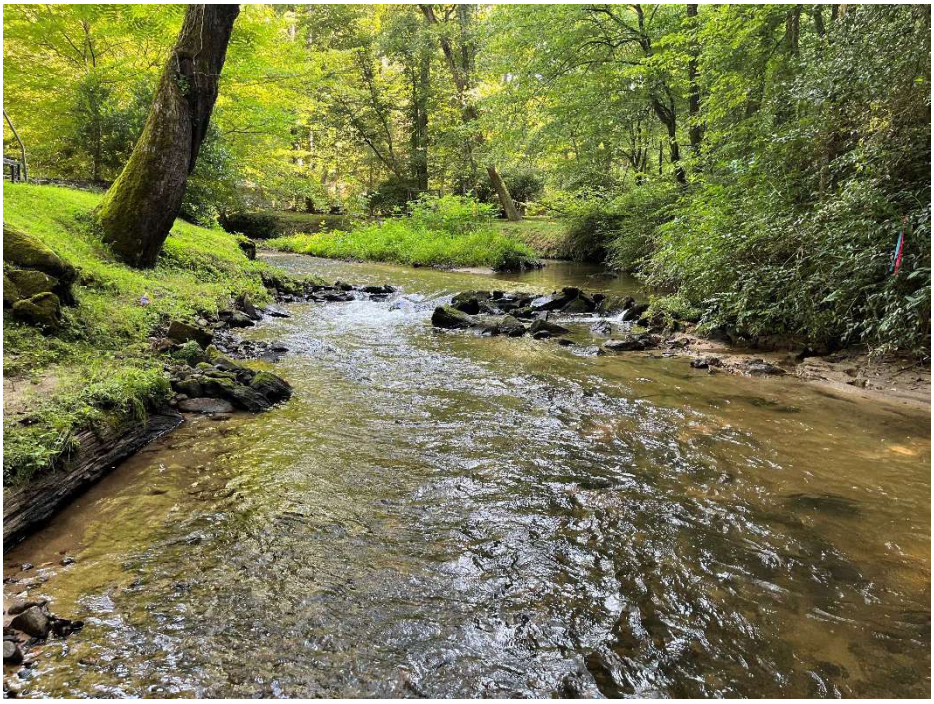
Photograph 1
Date: 2023-07-27
Taken by: M. DeWitt
From Middle Saluda River, facing south (S-41)



Photograph 2
Date: 2023-07-27
Taken by: M. DeWitt
From Middle Saluda River, facing north



Photograph 3
Date: 2023-07-27
Taken by: M. DeWitt
Middle Saluda River and Gap Creek confluence, facing east



Photograph 4
Date: 2023-07-27
Taken by: M. DeWitt
Gap Creek and Middle Saluda River confluence, facing west

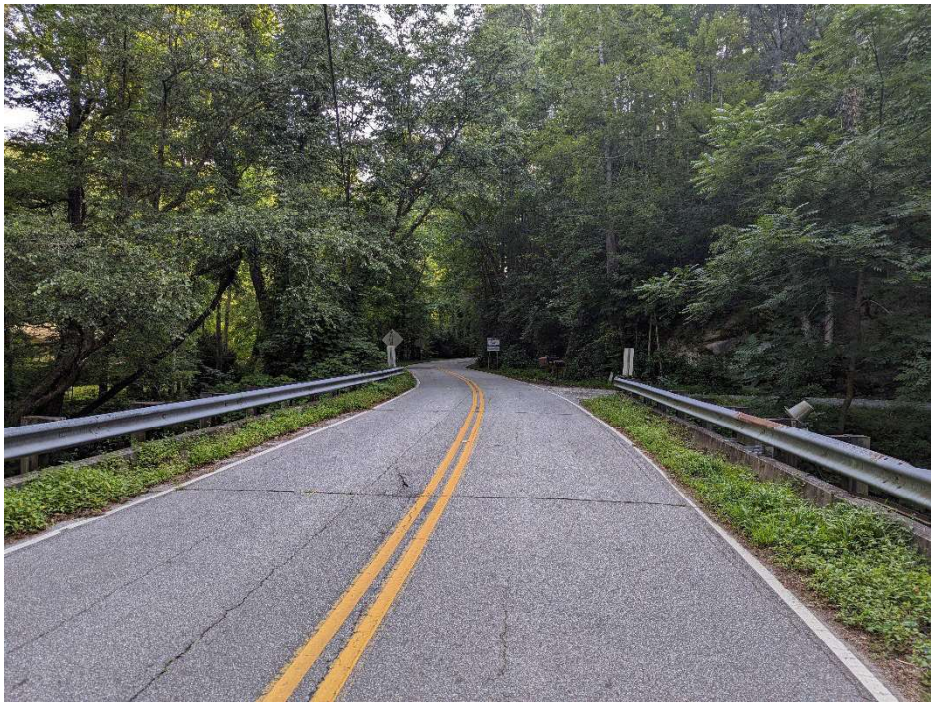
Photograph 5
Date: 2023-07-27
Taken by: M. DeWitt
Middle Saluda River and Gap Creek confluence

Photograph 6
Date: 2023-07-13
Taken by: A. Chandler
Middle Saluda River from S-41 bridge, facing south

Photograph 7
Date: 2023-07-13
Taken by: A. Chandler
Under S-41 bridge, bird nest

Photograph 8
Date: 2023-07-13
Taken by: A. Chandler
Middle Saluda River, facing north towards S-41

Photograph 9
Date: 2023-07-13
Taken by: A. Chandler
Middle Saluda River, facing south



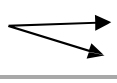
Photograph 10
Date: 2023-07-13
Taken by: A. Chandler
S-41 over Middle Saluda River, facing northeast

Photograph 11
Date: 2024-02-20
Taken by: A. Chandler
Rock outcrop south of S-41 and east of bridge.

Photograph 12
Date: 2024-02-20
Taken by: A. Chandler
Tri-colored bat (*Perimyotis subflavus*) observed roosting underneath bridge, north end wall

STRUCTURES SURVEY DATA SHEET

Investigator Names(s): A.CHANDLER, R.CHANDLER	
Date: 2023-07-13, 2024-02-20	County: GREENVILLE
Lat Long/w3w: 34.1204, -82.53757	
Project Name: S-41 (GAP CREEK RD) OVER MIDDLE SALUDA RIVER	
SCDOT Structure ID: 04329	SCDOT Project No.: P041159

Structure Type:			Underdeck Material:
☐ Parallel Box Beam 	☐ Steel I-Beam 		☒ Concrete
☐ Pre-Stressed Girder 	☒ Flat Slab / Box 		☐ Corrugated Steel
☐ Cast in Place 	☐ Trapezoidal Box 		☐ Other:
	☐ Other:		
Note:			
☐ Culvert - Box			
☐ Culvert - Pipe/Round			

Road Type:			
☐ Interstate	☐ US Highway	☒ State Road	☐ County Road
		S-41	

Surrounding Habitat (check all that apply):				
☒ Residential	☐ Agricultural	☐ Commercial	☐ Pine Forest	☐ Grassland
☒ Riparian	☐ Wetland	☒ Mixed Forest	☐ Bottomland Hardwood	
☐ Other:				

Conditions Under Bridge (check all that apply):			
☒ Bare Ground/Sediment	☐ Concrete	☒ Rip Rap	☒ Flowing Water
☐ Standing Water	☒ Open Vegetation (not obstructing flight path)	☐ Closed Vegetation (may obstruct flight path)	☐ Two Lanes
☐ Four (+) Lanes	☐ Unpaved Road	☐ Railroad	☐ Other:

Bats Present:	
☒ YES	☐ NO

Bat Indicators (check all that apply):				
☒ Visual	☐ Smell	☐ Sound	☐ Staining	☐ Guano

Species Present:	
☐ Big brown (*Eptesicus fuscus*)	☐ Northern long-eared (*Myotis septentrionalis*)
☐ Brazilian free-tailed (*Tadarida brasiliensis*)	☐ Northern yellow (*Lasiurus intermedius*)
☐ Eastern red (*Lasiurus borealis*)	☐ Rafinesque's big-eared (*Corynorhinus rafinesquii*)
☐ Eastern small-footed (*Myotis leibii*)	☐ Silver-haired (*Lasionycteris noctivagans*)
☐ Evening (*Nycticeius humeralis*)	☐ Southeastern (*Myotis austroriparius*)
☐ Gray (*Myotis grisescens*)	☐ Seminole (*Lasiurus seminolus*)
☐ Hoary (*Lasiurus cinereus*)	☒ Tri-colored (*Perimyotis subflavus*)
☐ Little brown (*Myotis lucifugus*)	☐ UNKNOWN

Roost Description (if known, check all that apply):			
☒ Day Roost	☐ Nursery Roost	☐ Night Roost	☐ UNKNOWN
Number of Roosts: 1			

Roost Design (check all that apply):			
☐ Crack/Crevice/Expansion Joint: Under Bridge		☐ Crack/Crevice/Expansion Joint: Top of Bridge	
☐ Plugged Drain	☒ Under/Along Main Bridge Structure	☐ Rail	☐ Other:

Human Disturbance or Traffic Under Bridge or at Structure?		
☐ High	☒ Low	☐ None

Areas Inspected (check all that apply):			
☐ Vertical Surfaces on I-Beams	☒ Vertical Surfaces between Concrete End Walls and Bridge Deck		
☒ Expansion Joints	☒ Rough Surfaces	☒ Guardrails	☒ Cervices
☐ Other:			
Areas NOT Inspected because of Safety or Inaccessibility:			

Evidence of Migratory Birds Using the Structure?	
☒ YES	☐ NO

Additional Information:

Photograph 1
Date: 2024-02-20
Taken by: A. Chandler
Under S-41 bridge, bird nest

Photograph 2
Date: 2024-02-20
Taken by: A. Chandler
Tri-colored bat (*Perimyotis subflavus*) observed roosting underneath bridge, north end wall

Appendix C: Bridge Scope and Risk Assessment Form

BRIDGE SCOPE AND RISK ASSESSMENT FORM

COUNTY: Greenville DATE: 07/15/2024

ROAD #: S-26-31 STREAM CROSSING: Middle Saluda River

Purpose & Need for the Project:

SCDOT proposes to replace the SC Route S-23-40 (Gap Creek Road) over Middle Saluda River in Greenville County.The purpose of this project is to correct the load restriction placed on the bridge and restore all components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition.

I. FEMA Acknowledgement

Is this project located in a regulated FEMA Floodway? ☐ Yes ☑ No

Panel Number: 45045C0200E Effective Date: 08/18/2014 (See Attached)

II. FEMA Floodmap Investigation

FEMA Flood Profile Sheet Number N/A illustrates the existing 100 year flood:

☐ Passes under the existing low chord elevation.
☐ Is in contact with the existing low chord elevation.
☐ Overtops the existing bridge finished grade elevation.

III. No Rise/CLOMR Preliminary Determination

☑ Preliminary assessment indicates this project may be constructed to meet the "No-Rise" requirements. A detailed hydraulic analysis will be performed to verify this assessment.

Justification: The preliminary bridge model shows a "No-Rise" with no increases US or DS of the project area.

☐ Preliminary assessmnet indicates this project may require a CLOMR/LOMR. Impacts will be determined by a detailed hydraulic analysis.

Justification:

BRIDGE SCOPE AND RISK ASSESSMENT FORM

IV. Preliminary Bridge Assessment

A. Locate Existing Plans

a. Bridge Plans ☑ Yes ☐ No File No. 19.381 Sheet No. 18 (See Attached)

b. Road Plans ☐ Yes ☑ No File No. _____ Sheet No. _____ (See Attached)

B. Historical Highwater Data

a. USGS Gage ☑ Yes ☐ No Gage No. 02162350 Results: _____

b. SCDOT/USGS Documented Highwater Elevations

☑ Yes ☐ No Results: 3.12 (2013) Gage Height (Gage is 1078.81')

c. Existing Plans ☑ Yes ☐ No See Above

V. Field Review

A. Existing Bridge

Length: 90 ft. Width: 27.7 ft. Max. span Length: 30 ft.

Alignment: ☐ Tangent ☑ Curved

Bridge Skewed: ☐ Yes ☑ No Angle: _____

End Abutment Type: 5 Steel H Piles w/ RC Caps

Riprap on End Fills: ☑ Yes ☐ No Condition: _____

Superstructure Type: Prestress Concrete Channel Beams

Substructure Type: Steel Piles w/ RC Caps

Utilities Present: ☑ Yes ☐ No

Describe: 2 4" PVC conduits attached. Stream Gauge and box attached on Downstream side in span 2.

Debris Accumulation on Bridge: Percent Blocked Horizontally: 0 %

Percent Blocked Vertically: 0 %

Hydraulic Problems: ☐ Yes ☑ No

Describe:

BRIDGE SCOPE AND RISK ASSESSMENT FORM

V. Field Review (cont.)

B. Hydraulic Features

a. Scour Present: ☑ Yes ☐ No Location: Piles at Bent 3

b. Distance from F.G. to Normal Water Elevation: 14.03 ft.
c. Distance from Low Steel to Normal Water Elev.: 12.36 ft.
d. Distance from F.G. to High Water Elevation: 11.68 ft.
e. Distance from Low Steel to High Water Elev.: 10.01 ft.

f. Channel Banks Stable: ☑ Yes ☐ No
Describe:

g. Soil Type: gravel, cobble, larger rocks

h. Exposed Rock: ☑ Yes ☐ No Location:

i. Give Description and Location of any structures or other property that could be damaged due to additional backwater.

House located nearby but will not be impacted. No structures will be impacted by additional backwater.

C. Existing Roadway Geometry

a. Can the existing roadway be closed for an On-Alignment Bridge Replacement
☑ Yes ☐ No
Describe:

If "yes", does the existing vertical and horizontal curves meet the proposed design speed criteria?

yes, proposed horizontal and vertical curves have been adjusted to meet design speed.

If "No", will the proposed bridge be:
☐ Staged Constructed
☑ Replaced on New Alignment

BRIDGE SCOPE AND RISK ASSESSMENT FORM

VI. Field Review (cont.)

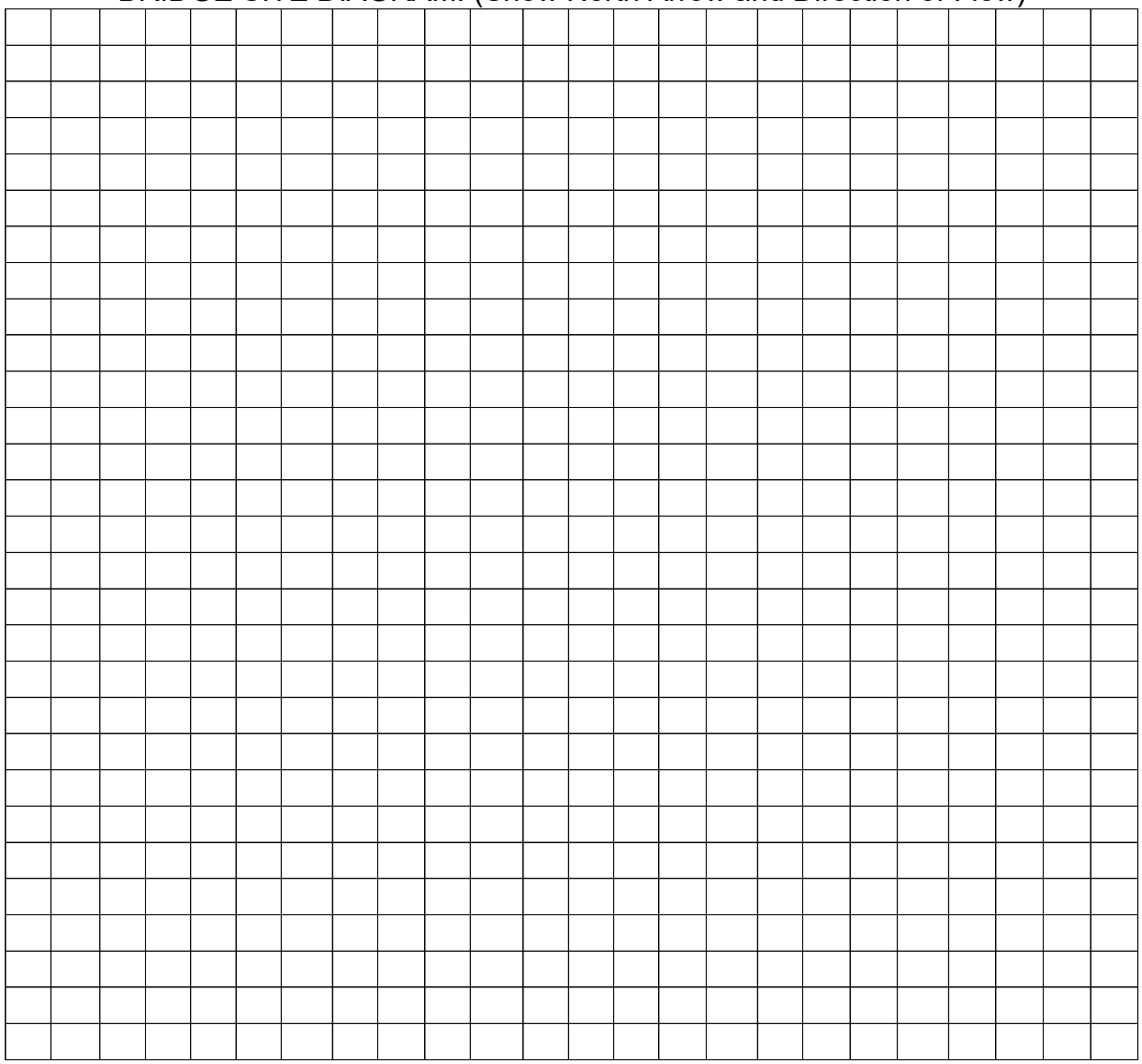
A. Proposed Bridge Recommendation:

Length: TBD ft. Width: 42 ft. Elevation: TBD ft.

Span Arangement: TBD

Notes: To be Determined

BRIDGE SITE DIAGRAM: (Show North Arrow and Direction of Flow)



Performed By: Richard Hinton, PE

Appendix D: Floodplains Checklist

South Carolina Department of Transportation
Location and Hydraulic Design of Encroachments on Floodplains Checklist

23 CFR 650, this regulation shall apply to all encroachments and to all actions which affect base floodplains, except for repairs made with emergency funds. Note: These studies shall be summarized in the environmental review documents prepared pursuant to 23 CFR 771.

I. PROJECT DESCRIPTION

SCDOT proposes to replace the structurally deficient bridge crossing Middle Saluda along S-23-41 (Gap Creek Road) in Greenville County.

A. Narrative Describing Purpose and Need for Project
   a. Relevant Project History:
   b. General Project Description and Nature of Work (attach Location and Project Map):
   c. Major Issues and Concerns:

The purpose of this project is to correct the load restriction placed on the bridge and restore all components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition. Roadway improvements are based on the proposed new structure.

The project crosses Middle Saluda River which is shown on the Flood Insurance Map (FIRM) Panel 45045C0200E. The project is designated as Zone A without known base flood elevations within the vicinity of the project.. The project is not expected to be a significant or longitudinal encroachment as defined under 23 CFR 650A, nor is it expected to have an environmental impact on the base flood

B. Are there any floodplain(s) regulated by FEMA located in the project area?
   Yes☐ No■

C. Will the placing of fill occur within a 100-year floodplain?
   Yes☐ No☐

D. Will the existing profile grade be raised within the floodplain?

The proposed bridge will need to be raised to accomodate the thickness of the new bridge and meeting freeboard requirements.

E. If applicable, please discuss the practicability of alternatives to any longitudinal encroachments.

N/A

F. Please include a discussion of the following: commensurate with the significance of the risk or environmental impact for all alternatives containing encroachments and those actions which would support base floodplain development:

a. What are the risks associated with implementation of the action?

Risks are minimal. The project will replace the existing bridge with a larger bridge opening and it will not impact the BFE's along the floodplain.

b. What are the impacts on the natural and beneficial floodplain values?

The project is not expected to impact the floodplain values, as the hydraulics will be retained/improved.

c. What measures were used to minimize floodplain impacts associated with the action?

Reduced number of piers within channel.

d. Were any measures used to restore and preserve the natural and beneficial floodplain values impacted by the action?

N/A

G. Please discuss the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

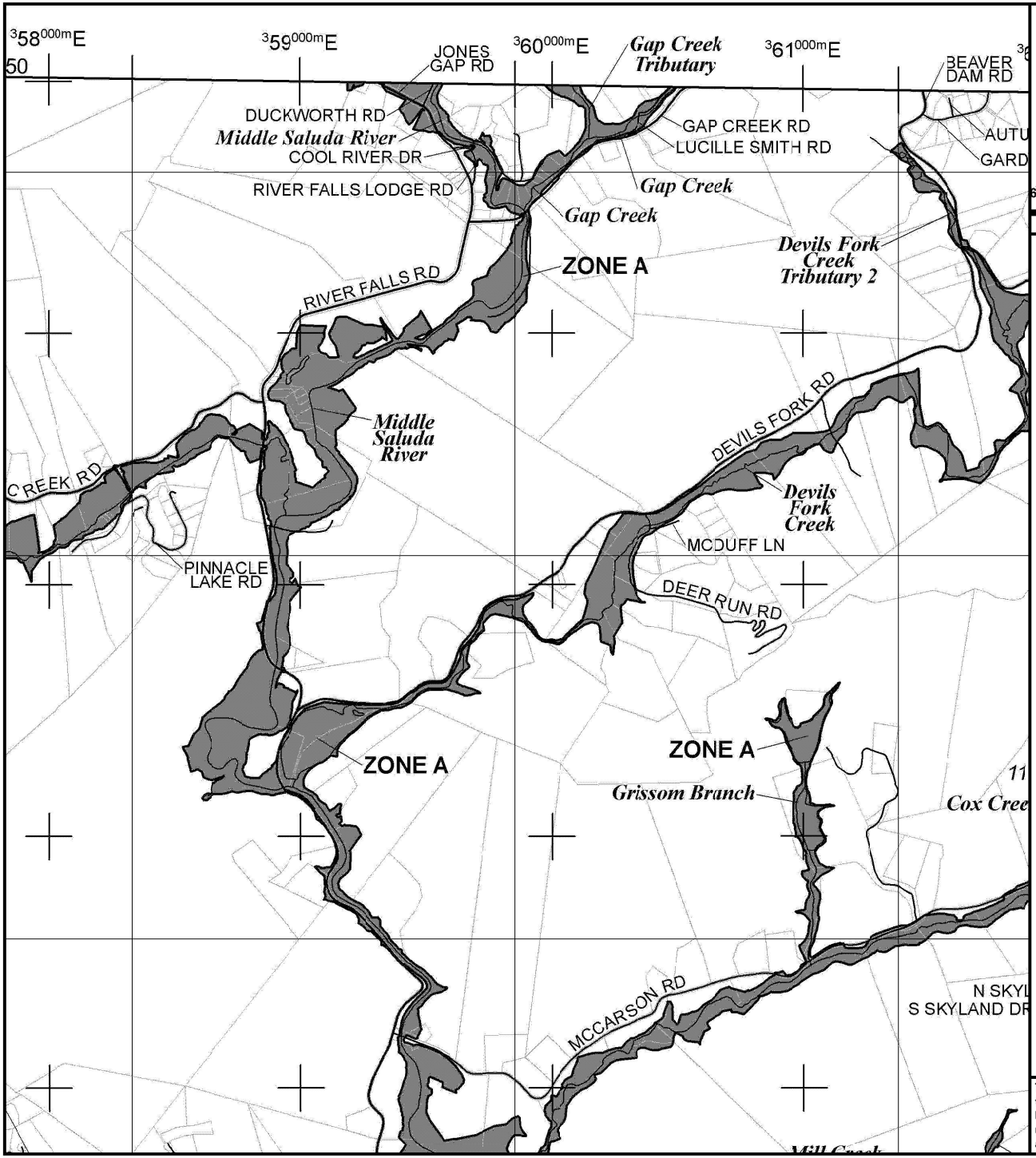
The impacts are not significant encroachments and would not result in a negative impact to the base flood elevations nor potential development.

H. Were local, state, and federal water resources and floodplain management agencies consulted to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected? Please include agency documentation.

All analysis was performed in accordance with SCDOT, FEMA, and local regulations. As the project progresses to final design, the hydraulic modeling will be updated based on the final bridge layout.

_____ _____

SCDOT Hydraulic Engineer Date



MAP SCALE 1" = 2000'

1,000 0 1,000 2,000 3,000 4,000 FEET

600 0 600 1,200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0200E

FIRM

FLOOD INSURANCE RATE MAP

GREENVILLE COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

PANEL 200 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GREENVILLE COUNTY	450089	0200	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
45045C0200E

MAP REVISED
AUGUST 18, 2014

Federal Emergency Management Agency

Appendix E: Public Comments

Full Name	Comment	Response
Shane L Walton	Michael, I received the information about the upcoming bridge repairs starting in 2025. Our fire station is located at the corner of River Falls Rd and Gap Creek Rd and I am reaching out to find out if the bridge will be completely shut down or if one lane will stay open so I can make arrangements with the next closest fire department to help with emergency responses. I look forward to hearing back from you. Regards,	Mr. Walton, Thank you for your email. SCDOT is proposing a full replacement of the existing S-23-41 bridge on Gap Creek Road over the Middle Saluda River to address functional and structural deficiencies, correct current load restrictions, and restore all bridge components to good condition. The bridge is anticipated to be closed and detoured during construction to minimize the construction duration. SCDOT will coordinate with you and the River Falls Fire Department as the bridge design and construction progresses to ensure emergency response times can be maintained during construction and River Falls FD is kept informed of the construction schedule.
Paul Wright	Dear Engineer Pitts, I recognize that I do not have the same information as you and your colleagues, but with that caveat I am surprised that SCDOT chose the Gap Creek Road bridge as a higher priority than the River Falls Road bridge that crossed the Middl;e Saluda downstream, southwest of Devils Fork Road at Tankersly Lake. My perspective as a resident / regular driver is that the bridge at Tankersly Lake is a particularly dangerous portion of River Falls Road. For example, I sometimes have to avoid vehicles that cross the centerline on the bridge while traveling north, from US276/Hwy11 toward Jones Gap State Park. I appreciate that this bridge is perpendicular to the centerline of the river, but the elevated area on the western side of the river and Tankersly Lake on the east side of the river orient the roadway so the bridge is part of a very sharp turn. The bridge between Devils Fork Road and Oil Camp Creek Road is less of a problem in this regard, but still a problem in my perspective. I am not seeking an explanation, I just wanted to highlight my concern about the bridge downstream of the S-41 project.. Paul Wright paul.wright@1979.usna.com	Paul Wright, Thank you for your interest and comment on the proposed replacement of the S-23-41 bridge on Gap Creek Road in Greenville County, South Carolina. SCDOT is proposing to replace S-23-41, along with 7 other bridges in Greenville and Pickens counties, so the new structure will meet current design and safety standards and correct the load restrictions and return all bridge components to good condition. The S-41 bridge you mentioned on River Falls Road has been identified for replacement in the future but is not part of the same package of bridge replacements as the bridge on Gap Creek Road. For more information on that project please call SCDOT at 1-855-GO-SCDOT.

From: Pitts, Michael E.
To: paul.wright@1979.usna.com
Cc: Nicole Weirich; McGoldrick, Will
Subject: SCDOT Bridge Package 19 - Public Comment Response
Date: Friday, August 30, 2024 9:12:49 AM
Attachments: image001.png

Paul Wright,

Thank you for your interest and comment on the proposed replacement of the S-23-41 bridge on Gap Creek Road in Greenville County, South Carolina. SCDOT is proposing to replace S-23-41, along with 7 other bridges in Greenville and Pickens counties, so the new structure will meet current design and safety standards and correct the load restrictions and return all bridge components to good condition. The S-41 bridge you mentioned on River Falls Road has been identified for replacement in the future but is not part of the same package of bridge replacements as the bridge on Gap Creek Road. For more information on that project please call SCDOT at 1-855-GO-SCDOT.

Thanks,

LEAD 2024 Facilitating SUCCESS

Michael E. Pitts, P.E., Assoc. DBIA
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